



U.S. Army Corps  
of Engineers  
Buffalo, Huntington,  
and Pittsburgh  
Districts

# Public Notice

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Applicant: Ecological Resource Partners LLC      Published: June 9, 2017  
Expires: July 10, 2017

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Application No: LRB-2017-00473, LRH-2016-01002,  
LRP-2017-00617  
Section: OH

All written comments should reference the above Application No. and be addressed to:  
**US Army Corps of Engineers, Buffalo District**  
**Regulatory Branch (Attn:) Peter Krakowiak**  
**1776 Niagara Street**  
**Buffalo, NY 14207**

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**THIS NOTICE ANNOUNCES A PROSPECTUS THAT HAS BEEN SUBMITTED FOR THE DEVELOPMENT OF A WETLAND AND STREAM UMBRELLA MITIGATION BANK INSTRUMENT COVERING ALL OF OHIO WITH AN INITIAL MITIGATION BANK SITE, REFERRED TO AS THE GRAFTON SWAMP WETLAND MITIGATION BANK, PURSUANT TO 33 CFR 332, COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES (FEDERAL REGISTER: APRIL 10, 2008, EFFECTIVE JUNE 9, 2008).**

**BANK SPONSOR:** Ecological Resource Partners LLC  
3970 Bowen Road  
Canal Winchester, Ohio 43110

**LOCATION:** The Bank Sponsor is proposing the development of an Umbrella Mitigation Bank Instrument (UMBI) to cover the State of Ohio. The Bank Sponsor proposes the establishment and management of one initial mitigation bank known as the Grafton Swamp Wetland Mitigation Bank.

The approximately 267.1-acre Grafton Swamp Wetland Mitigation Bank would be located within the Corps, Buffalo District regulatory boundary in the Black- Rocky River 8-digit Hydrologic Unit Code (HUC): 04110001, in the Village of Grafton, Lorain County, Ohio (latitude 41.27991, longitude -82.03633). This proposal has been assigned Department of the Army (DA) file numbers LRB-2017-00473, LRH-2016-01002, and LRP-2017-00617.

**GENERAL INFORMATION:** Mitigation banks are defined as a site, or suite of sites, where aquatic resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced,

and/or preserved for the purpose of providing compensatory mitigation for impacts authorized by DA permits pursuant to Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act. In general, units of restored, established, enhanced or preserved wetlands or streams are expressed as “credits” which may subsequently be withdrawn to offset “debits” incurred at a permitted project site. In this way, a permit requirement to provide compensatory mitigation can be transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are governed by an approved mitigation banking instrument (MBI). The MBI is the legal document for the establishment, operation and the use of a mitigation bank. The initially proposed bank site is intended to be a private commercial bank. The sponsor would be responsible for the successful development of the mitigation bank sites including monitoring and reporting requirements.

As indicated in the Corps regulations (33 CFR 332.8(b)), the district engineer will establish an Interagency Review Team (IRT) to review documentation for the establishment and management of mitigation banks and in-lieu fee (ILF) programs. The primary role of the IRT is to facilitate the establishment of mitigation banks and/or ILF programs through the development of mitigation banking or ILF program instruments. The IRT reviews draft prospectuses, prospectuses, instruments, and other documents and provides comments to the Corps. The Ohio IRT consists of the following federal and state resource agencies: Corps, Buffalo, Huntington, and Pittsburgh Districts, U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture’s Natural Resources Conservation Service, OEPA, and Ohio Department of Natural Resources.

The approval for the use of the bank for specific projects is the decision of the USACE pursuant to Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act and/or the Ohio Environmental Protection Agency (OEPA) pursuant to Section 401 of the CWA and/or applicable state of Ohio statute(s) and regulation(s). The USACE and OEPA provide no guarantee that any particular individual or general permit would be authorized in order to use the bank for compensation.

**PROJECT DESCRIPTION:** The Bank Sponsor has submitted a prospectus to the Corps Buffalo, Huntington and Pittsburgh Districts to establish a stream and wetland UMBI in the State of Ohio with one initial proposed mitigation bank known as the Grafton Swamp Wetland Mitigation Bank. A complete copy of the Prospectus is available for review upon request. The proposed UMBI would provide compensatory mitigation for projects resulting in unavoidable impacts to streams and wetlands within service areas where a mitigation bank is located. Each mitigation bank proposed under the UMBI would include a corresponding service area. The proposed service area for the Grafton Swamp Wetland Mitigation Bank includes the following: 1) the entire Ohio portion of the Buffalo Corps District for impacts to jurisdictional and isolated Category 1 wetlands of any size and isolated Category 2 wetland of 0.5 acre and less, 2) for all other wetland impacts, the Grafton site’s service area will encompass the entire Black-Rocky 8-digit HUC watershed. The sponsor also proposes that the use of the Grafton Swamp Wetland Mitigation Bank for compensatory mitigation of impacts to wetlands outside of the geographic service area be considered by the Corps and OEPA on a case-by-case basis consistent with applicable state and federal regulations.

The objective of the proposed mitigation banks is to generate compensatory mitigation credits to offset unavoidable adverse effects to wetlands within the mitigation bank service area. Wetland credits would be generated through the restoration (re-establishment and rehabilitation), establishment, enhancement and/or preservation of wetlands and the restoration and/or preservation of upland buffers within the boundaries of the mitigation banks.

The Bank Sponsor proposes to generate wetland credits at the Grafton Swamp Wetland Mitigation Bank through the re-establishment of 24.0 acres of non-forested wetlands and 25.3 acres of forested wetlands, rehabilitation of 7.0 acres of existing, Category 1 emergent wetlands, restoration of 37.2 acres of upland forest, and preservation of 170.7 acres of a mosaic of Category 3 wetlands and associated uplands (including 73.189 acres of wetlands and 97.511 acres of uplands).

Upon approval of the proposed mitigation bank site under the UMBI, the Bank Sponsor would encumber the proposed mitigation bank's acreage with a permanent third-party conservation easement held by an entity meeting the requirements of Ohio Revised Code 5301.69. A designated third party manager would be responsible for long-term maintenance after bank closure. The third party financial assurance designee would be identified in the final mitigation banking instrument. Revenues generated by the sale of mitigation credits would allow the Bank Sponsor to establish a long-term monitoring and maintenance fund for the mitigation banks to provide for the long-term quality and viability of the restored ecosystems.

The entire prospectus for the umbrella mitigation bank instrument and the initial bank site is found on the Buffalo District's website along with this Public Notice:  
<http://www.lrb.usace.army.mil/Missions/Regulatory/Public-Notices/>

Location and details of the proposed initial mitigation bank project are shown on the attached documents (Sheets 1 of 7 through 7 of 7).

**WATER QUALITY CERTIFICATION:** A Section 401 Water Quality Certification may be required from the OEPA in conjunction with the proposed establishment of mitigation sites.

**HISTORIC AND CULTURAL RESOURCES:** This undertaking (proposed umbrella mitigation bank instrument and initial mitigation bank site) must be reviewed to determine any potential effect to properties that may be eligible for or listed on the National Register of Historic Places (NRHP), in accordance with Section 106 of the National Historic Preservation Act. The NRHP has been consulted, and it has been determined there are no historic properties currently listed on the NRHP within the area to be affected by the proposed initial mitigation bank project. The Corps is soliciting comments from the public, Federal, state, and local agencies and officials, Indian Tribes and other interested parties in order to consider and evaluate the potential effects on historic properties. If you wish to provide comments or objections regarding the effect of the proposed mitigation bank projects on historic properties, please provide this information to our office prior to the close of the comment period.

**THREATENED & ENDANGERED SPECIES:** Pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the Corps of Engineers is consulting, under separate cover, with

the USFWS to evaluate any potential impacts associated with the initial mitigation bank site to: Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), Kirtland's warbler (*Setophaga kirtlandii*), piping plover (*Charadrius melodus*), and rufa red knot (*Calidris canutus rufa*) and to ensure that the proposed activity is not likely to jeopardize their continued existence or result in the destruction or adverse modification of critical habitat.

**COMMENT PERIOD:** Written statements received in this office within 30 days from the date of this notice will become a part of the record and will be considered in the determination. Comments or questions pertaining to the work described in this notice should reference the Application Number and be directed to the attention of Peter Krakowiak, who can be contacted at the above address, by calling (716) 879-4363, or by e-mail at: Peter.j.krakowiak@usace.army.mil. A lack of response will be interpreted as meaning that there is no objection to the work as proposed.

**EVALUATION:** After the end of the comment period, the district engineer will review all comments received and make an initial determination as to the potential of the proposed project to provide compensatory mitigation for activities authorized by Department of the Army permits.

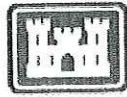
USACE is soliciting comments from the public; Federal, State, and local agencies and officials; American Indian Tribes; and other interested parties in order to consider and evaluate the proposed activity. All comments received will be considered by USACE during the formulation of the initial determination of potential for the proposed activity.

**REQUEST FOR PUBLIC HEARING:** Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

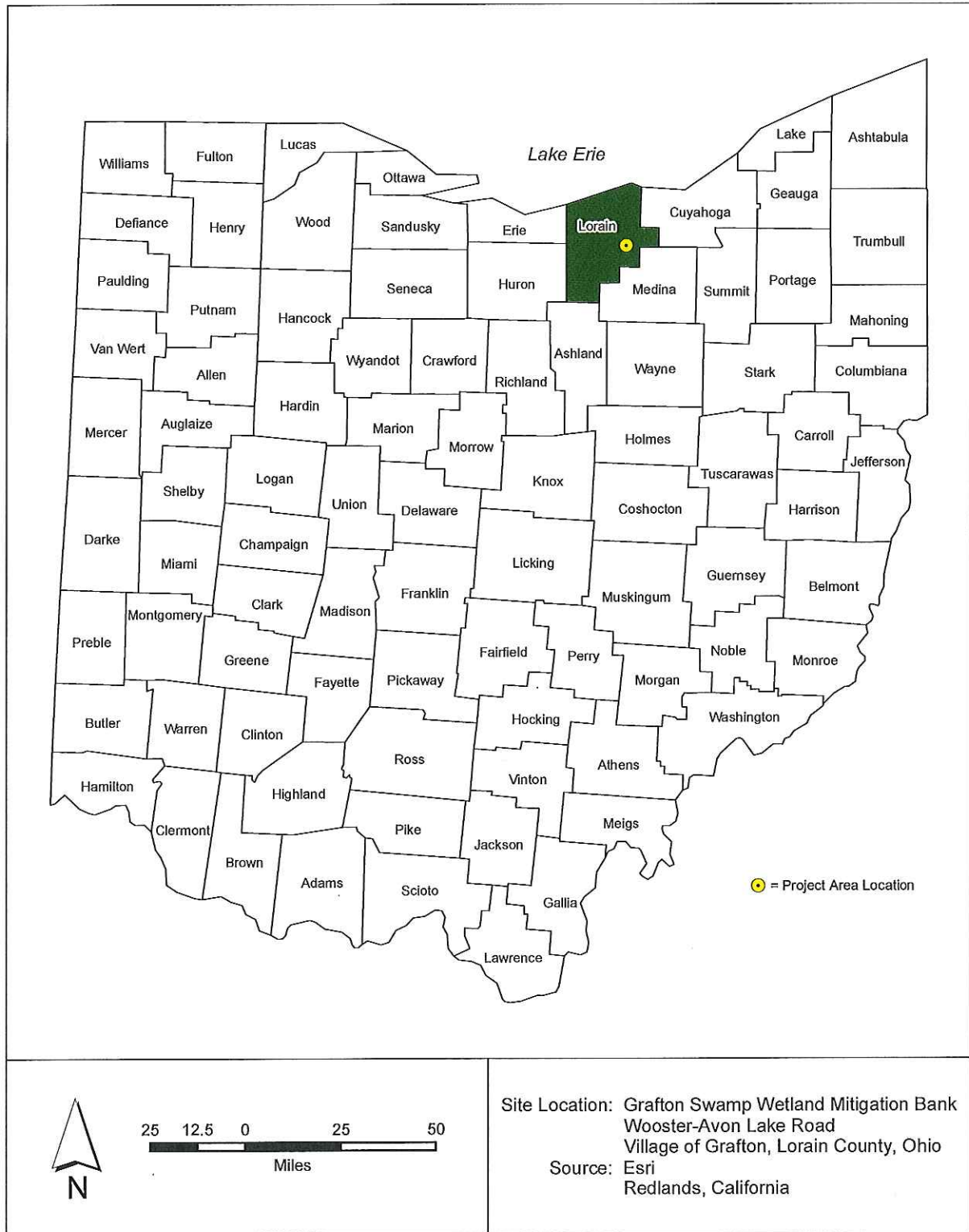
**SIGNED**

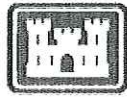
Diane C. Kozlowski  
Chief, Regulatory Branch

**NOTICE TO POSTMASTER:** It is requested that this notice be posted continuously and conspicuously for 30 days from the date of issuance.

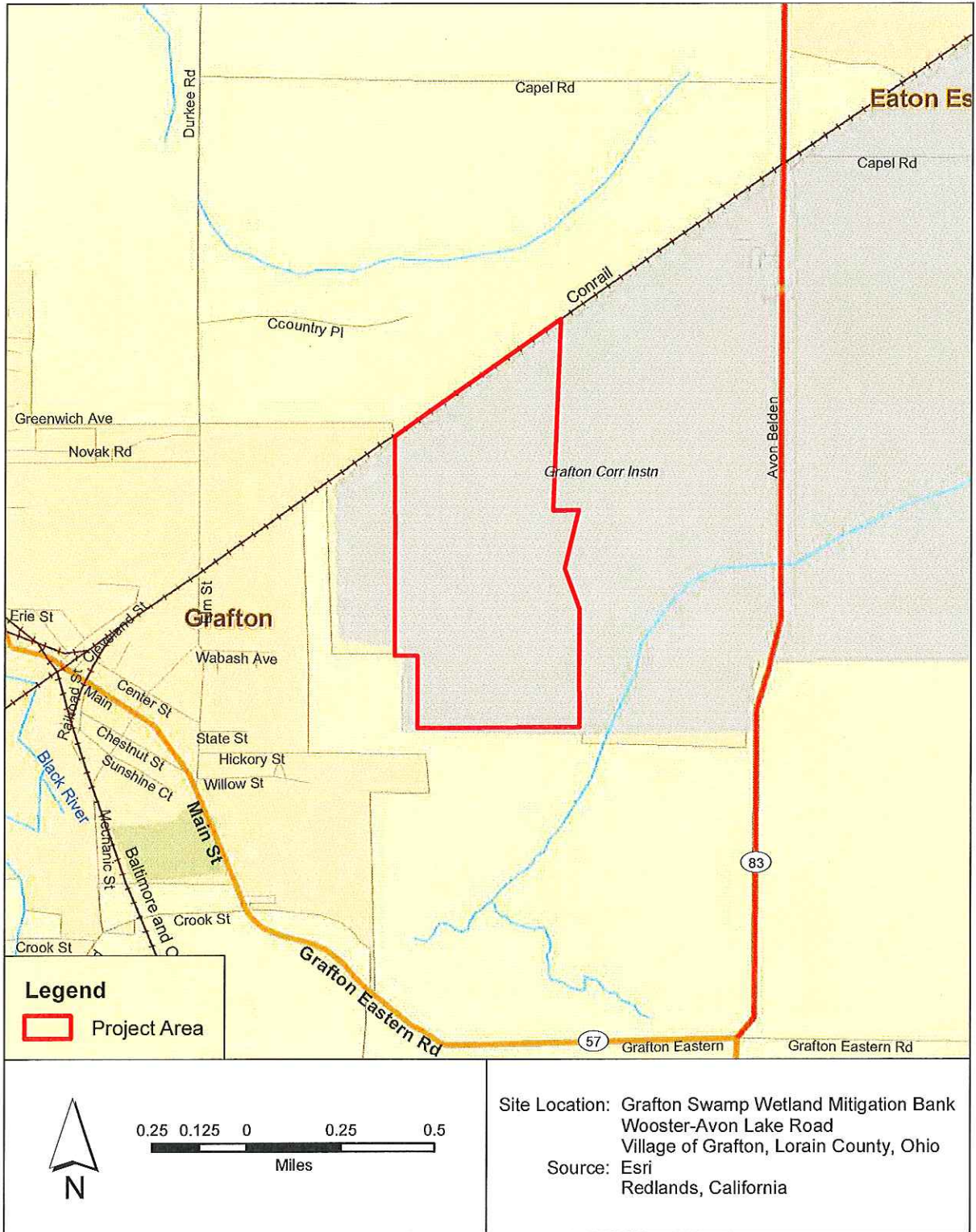


## Appendix A Location of Lorain County on Ohio County Map
















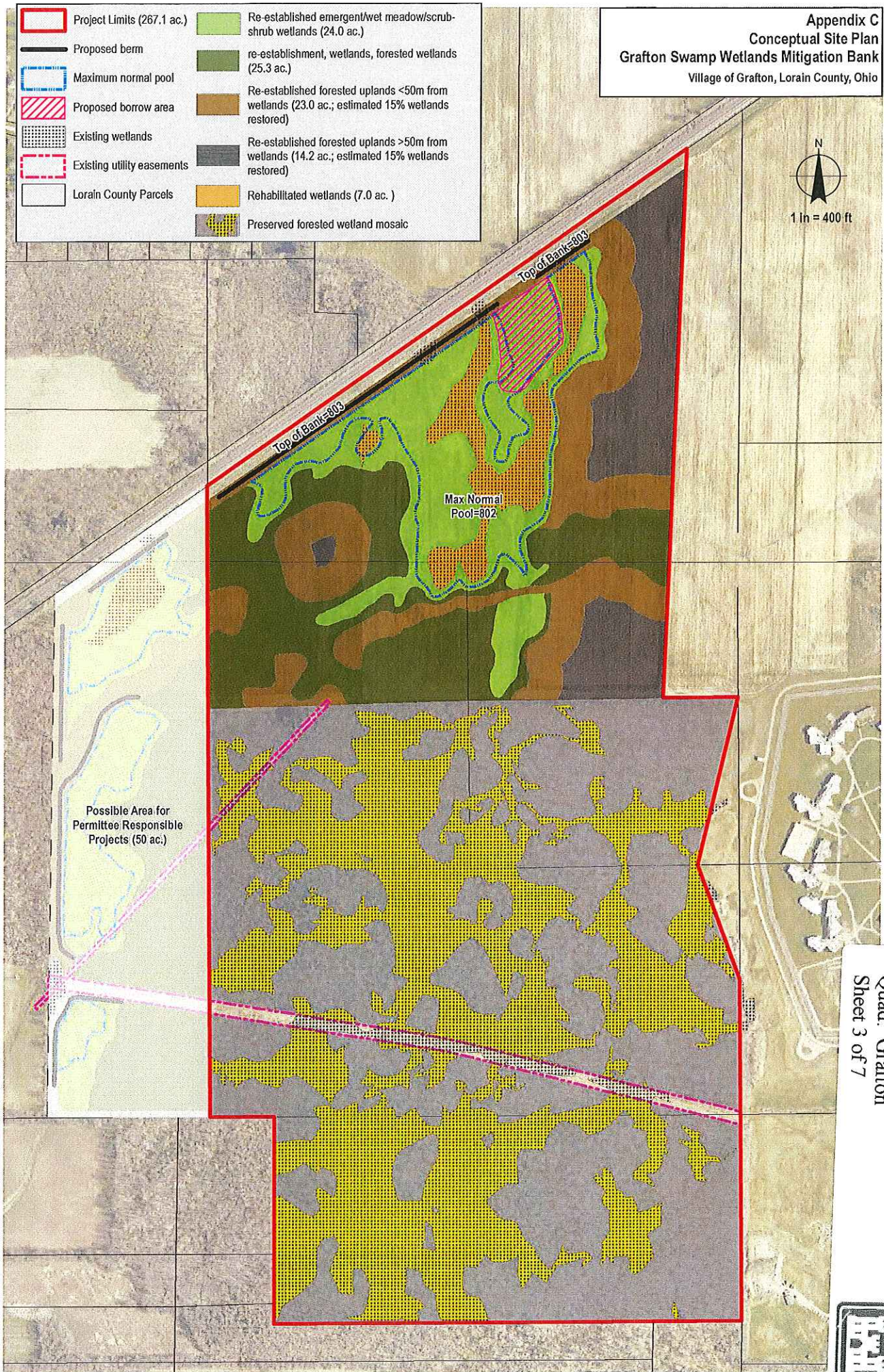


## Appendix B Location of Project Area on Highway Map



Appendix C  
 Conceptual Site Plan  
 Grafton Swamp Wetlands Mitigation Bank  
 Village of Grafton, Lorain County, Ohio

-  Project Limits (267.1 ac.)
-  Proposed berm
-  Maximum normal pool
-  Proposed borrow area
-  Existing wetlands
-  Existing utility easements
-  Lorain County Parcels
-  Re-established emergent/wet meadow/scrub-shrub wetlands (24.0 ac.)
-  re-establishment, wetlands, forested wetlands (25.3 ac.)
-  Re-established forested uplands <50m from wetlands (23.0 ac.; estimated 15% wetlands restored)
-  Re-established forested uplands >50m from wetlands (14.2 ac.; estimated 15% wetlands restored)
-  Rehabilitated wetlands (7.0 ac. )
-  Preserved forested wetland mosaic



Ecological Resource Partners LLC UMBI/Graft  
 D/A Processing No. 2017-00473  
 Lorain County, Ohio  
 Quad: Grafton  
 Sheet 3 of 7



**Appendix E**  
**Water Resources Map**



- = Mitigation Bank area (267.3 acres)
- = Ephemeral stream (380 linear feet)
- = Direction of flow
- = Areas of wetlands delineated within study area (80.444 acres)



Ecological Resource Partners LLC UMBI/Graft  
 D/A Processing No. 2017-00473  
 Lorain County, Ohio  
 Quad: Grafton  
 Sheet 4 of 7



Stream 1  
 (380 linear feet,  
 average bankfull  
 width 4 feet)

The information presented is not a survey or engineering product, and should not be used for any purpose provided by applicable law or regulation that requires a surveying or engineering license.

Prepared by  
**DAVEY**  
 RESOURCE GROUP  
 A Division of The Davey Tree Expert Company

Prepared for  
**Ecological Resource Partners, LLC**

Grafton Swamp Mitigation Bank  
 Wooster-Avon Lake Road  
 Grafton Township  
 Lorain County, Ohio

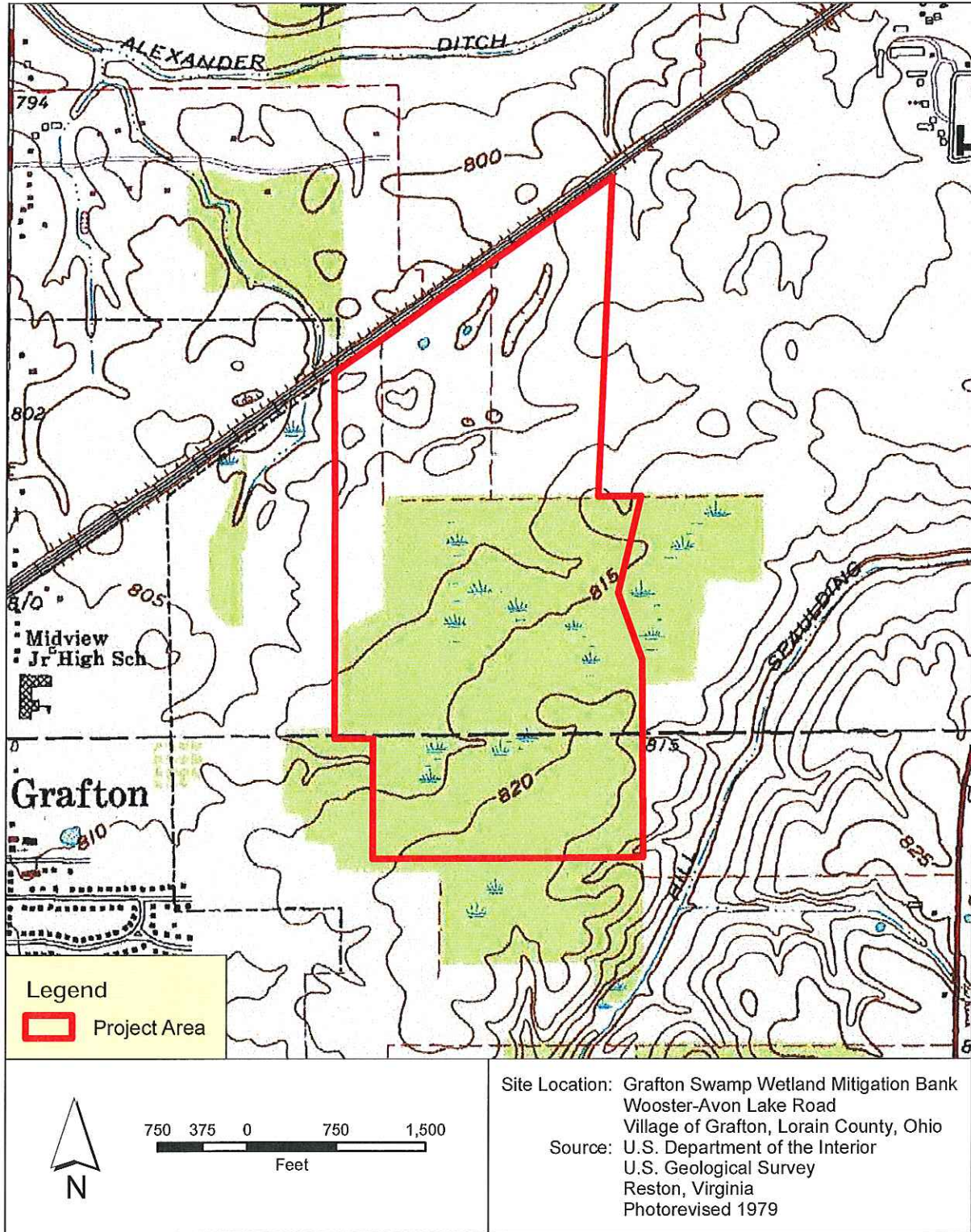
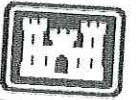
Data used to produce this map were collected on June 10 and 11, 2015 and April 6, 2017

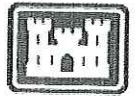
Map View 1  
 of 1



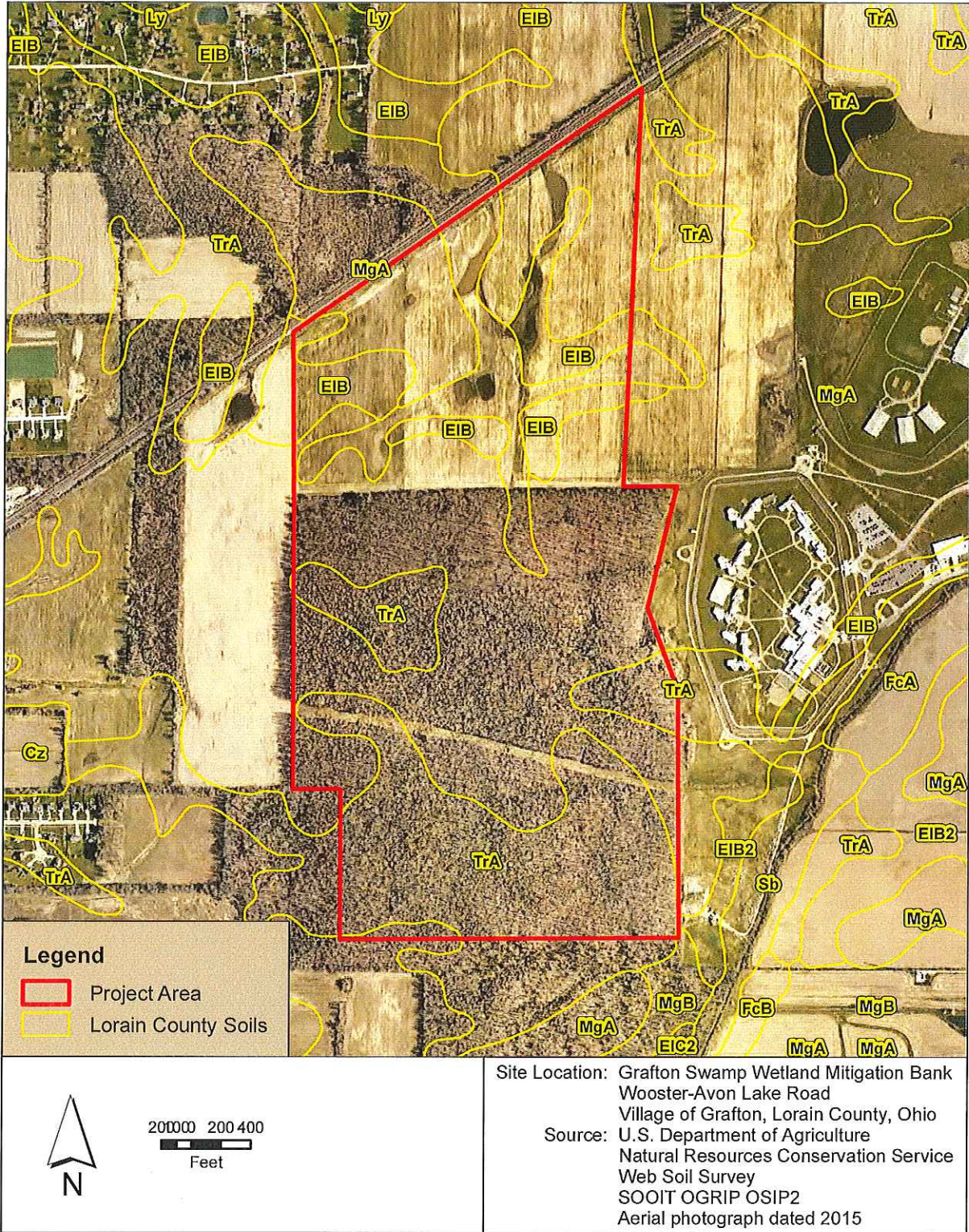
Appendix G  
Location of Project Area on  
USGS 7.5-Minute Topographic Map  
(Grafton Quadrangle)

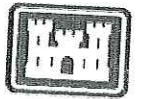
Ecological Resource Partners LLC UMBI/Graft  
D/A Processing No. 2017-00473  
Lorain County, Ohio  
Quad: Grafton  
Sheet 5 of 7



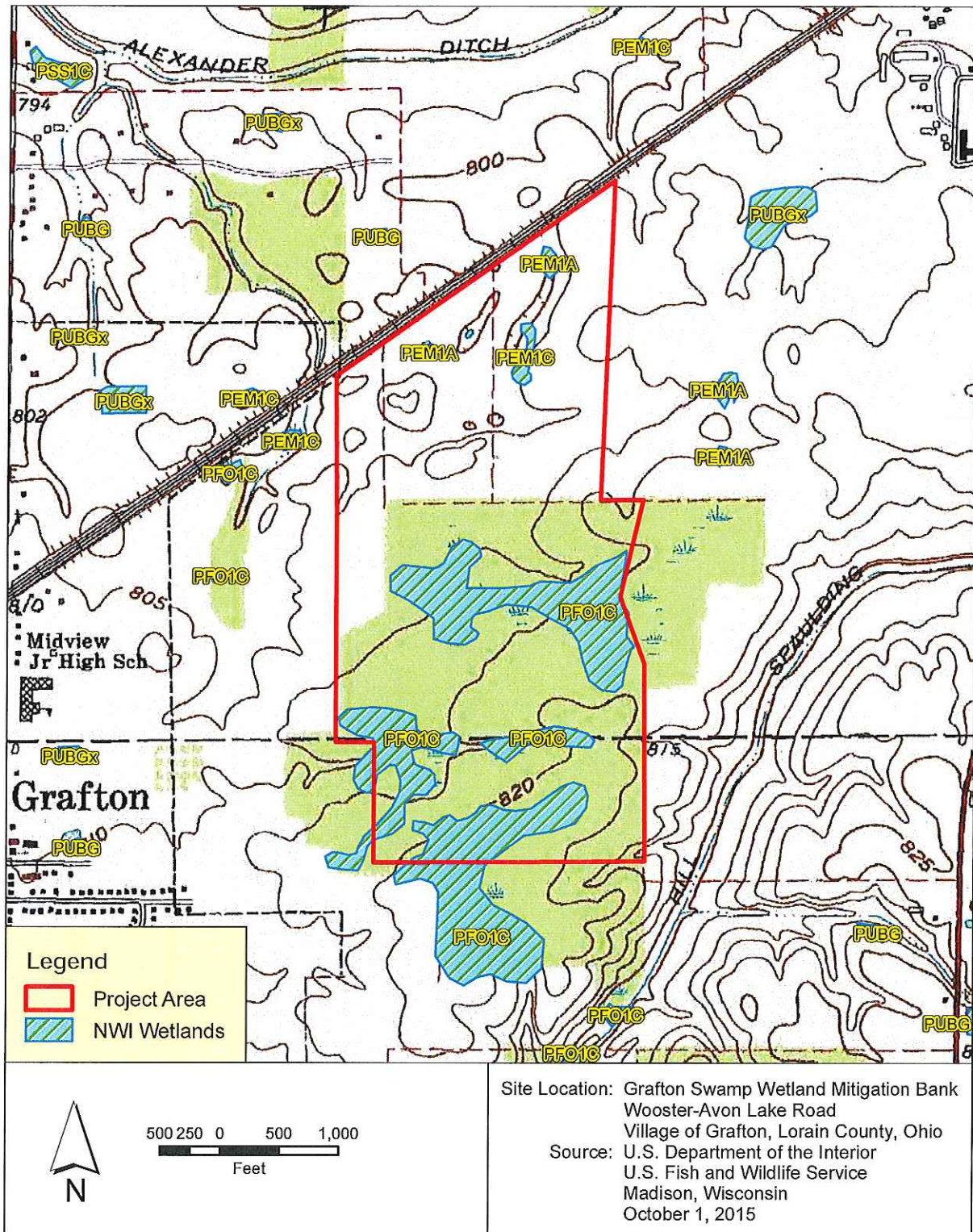


**Appendix H**  
**Location of Project Area on**  
**Lorain County Soil Survey Map**





# Appendix I Location of Project Area on National Wetlands Inventory Map (Grafton Quadrangle)





# Wetland Mitigation and Monitoring Plan Grafton Swamp Wetland Mitigation Bank

## Village of Grafton, Lorain County, Ohio

**April 2017**

**Prepared for:**

Ecological Resource Partners, LLC  
3970 Bowen Road  
Canal Winchester, Ohio 43110

**Prepared by:**

Davey Resource Group  
a division of The Davey Tree Expert Company  
1500 North Mantua Street  
Kent, Ohio 44240  
800-828-8312



*A Division of The Davey Tree Expert Company*

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## Introduction

Ecological Resource Partners, LLC (ERP) is the sponsor of the proposed Grafton Swamp Wetlands Mitigation Bank (Grafton). The proposed bank site encompasses approximately 267.1 acres and is generally located west of SR 83 (Wooster-Avon Lake Road) and south of the CSX railroad in the Village of Grafton, Lorain County, Ohio (Appendices A and B). The project site is situated west of the Grafton Correctional Institution operated by the Ohio Department of Rehabilitation and Corrections (ODRC).

This *Mitigation and Monitoring Plan* was prepared for ERP by Davey Resource Group, a division of The Davey Tree Expert Company, using the U.S. Army Corps of Engineers (USACE) rule for compensatory mitigation for losses of aquatic resources. Specifically, this document complies with 33 CFR 332.4 and includes the components listed in paragraphs (c)(2) through (c)(14) of this section of the mitigation rule. The Grafton Swamp Wetland Mitigation Bank will function as a mitigation project implemented under ERP's Ohio Umbrella Mitigation Bank Instrument.

The Grafton site is located in the Black-Rocky 8-digit Hydrologic Unit Code (HUC) watershed (04110001). In accordance with Corps and Ohio Interagency Review Team (IRT) guidance and 33 CFR 332.8(d)(6)(ii), the geographic service area for the Grafton Swamp Wetlands Mitigation Bank includes the entire Ohio portion of the Buffalo Corps District for impacts to jurisdictional and isolated Category 1 wetlands of any size and isolated Category 2 wetlands of 0.5 acre and less. For all other wetland impacts, the Grafton site's service area will encompass the entire Black-Rocky 8-digit HUC watershed (Figure 1). The use of the Grafton site for compensatory mitigation of impacts to wetlands outside of this geographic service area may be considered by U.S. Army Corps of Engineers (USACE) and/or Ohio Environmental Protection Agency (EPA) on a case-by-case basis consistent with applicable state and federal regulations (e.g. 33 CFR 332, Ohio Revised Code [ORC] 6111, and Ohio Administrative Code [OAC] 3745-1-54).

## Objectives

The primary objectives of the Grafton Swamp Wetlands Mitigation Bank include: restore 41.4 acres of wetlands through re-establishment, rehabilitate 7.0 acres of low-quality, Category 1, emergent wetland, restore 30.4 acres of upland forest, and preserve a mosaic of 165.6 acres of high quality, Category 3, primarily forested wetlands and their associated uplands. Specifically, the Grafton Swamp Wetlands Mitigation Bank will be designed, constructed, and managed to attain the following basic goals:



**Figure 1.** The Grafton Swamp Wetland Mitigation Bank will provide wetland mitigation in the Black-Rocky 8-digit Hydrologic Unit Code watershed.

- **Re-establish approximately 24.0 acres of non-forested wetlands and 25.3 acres of forested wetlands.** Restoration of high-quality wetlands will take place across the majority of the site's active restoration area. To accomplish this goal, hydrology restoration, microtopography restoration, and installation of native trees, shrubs, and seed mixes will take place. Forested, scrub/shrub, shallow emergent marsh, and deep emergent marsh wetland plant communities are anticipated to develop across the site depending on restored hydrology and existing site topography. The site will be designed, constructed and planted with the aim of restoring the maximum amount of forested wetlands practicable. These restoration activities, more fully described in the *Mitigation Work Plan* section of this document, will re-establish a diverse wetland system to an area that likely once supported forested wetlands prior to the conversion of the land to agricultural use. In accordance with 33 CFR 332.2, re-establishment of these areas will result in *rebuilding a former aquatic resource and will result in a gain of aquatic resource area and functions.*
- **Rehabilitate 7.0 acres of existing, Category 1, emergent wetland.** Wetlands located in the existing agricultural fields have been periodically disturbed by farming activities, provide poor habitat for wildlife, and are dominated by non-native invasive and/or naturalized ruderal vegetation. In dry years, these areas are likely planted in crops. Existing wetlands within the agricultural fields will be improved through hydrology restoration, microtopography restoration, and installation of native trees, shrubs, and seed mixes. Non-native invasive vegetation growing in these areas will be controlled through appropriate physical or chemical means (e.g. mowing, herbicide applications). In accordance with 33 CFR 332.2, rehabilitation of these areas will result in *a gain in aquatic resource function, but will not result in a gain of aquatic resource area.*
- **Restore approximately 37.2 acres of upland forest.** Portions of the bank's active restoration area in the existing agricultural field that do not convert to wetland will be restored to upland forest. These areas will provide valuable habitat adjacent to re-established and rehabilitated wetlands, similar to the mature woods located within the mosaic of forested wetlands in the site's preservation area. As portions of the upland restoration area are underlain by soils with hydric inclusions, these areas of the site will receive similar restoration treatments to the re-establishment areas described above. A mosaic of wetlands is anticipated to develop within the upland forest restoration areas. The restored upland forests will be planted and seeded with native species at similar densities to the re-established and rehabilitated wetlands; however, species will be chosen whose individual hydrology tolerances are suited to drier soil conditions.
- **Preserve 170.7 acres of a mosaic of Category 3 wetlands and associated uplands.** Preservation of a mosaic of high quality, Category 3 wetland and associated uplands located within the existing woodlot south of the bank's restoration area will be accomplished through recordation of a permanent third-party conservation easement. Preservation of this wetland complex meets the requirements of 33 CFR 332.3(h) and OAC 3745-1-54, with additional information regarding those conditions provided in the *Site Selection* portions of this document. In accordance with 33 CFR 332.2, preservation of these areas will *not result in a gain of aquatic resource area or functions.*

The report section entitled *Performance Standards* contains details on how the success of the wetland mitigation bank will be measured. A copy of the bank's conceptual site plan is provided in Appendix C.

## Site Selection

The Grafton site is owned and managed by ODRC. Staff at ERP have worked extensively with ODRC on previous permittee-responsible mitigation projects conducted on ODRC property, most notably the Candy Run East and Scioto River and Candy Run West projects that are components of the compensatory stream mitigation being provided by Ohio Department of Transportation for Phases 2 and 3 of the Portsmouth Bypass project in Scioto County, Ohio (SCI-823-0.00, PID 19415, Department of Army #2011-646-OHR, Ohio EPA ID No. 134161). This property was identified as well suited for wetland mitigation due to the physical characteristics of the site (size, soils, access) and the presence of a mosaic of high-quality, mature forested wetlands and associated uplands that can be effectively preserved through implementation of the mitigation plan.

The Black River Watershed Action Plan (Lorain County Community Development Department 2011) specifically identifies wetland preservation and restoration as important components for protecting the water quality within the Black River watershed:

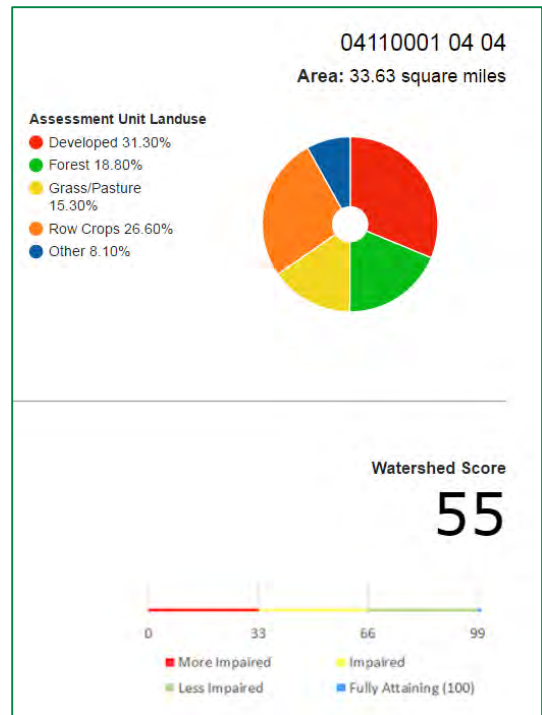
*“...extant wetlands over 5 acres in size contribute vital hydrological functions to their surrounding area and should be identified and preserved.”*

*“...wetland restoration...has good potential for making progress on several identified impairments in the Black River watershed. The nature of restoration projects also typically involves the establishment or preservation of riparian corridors and associated wetlands and floodplains”*

According to Ohio EPA’s 2014 *Integrated Water Quality Monitoring and Assessment Report* (Ohio EPA 2014), the Jackson Ditch-East Branch Black River watershed assessment unit (12-digit HUC 04110001-04-04) is listed as impaired, with causes including sedimentation and siltation (Figure 2). Restoration and preservation of high-quality wetlands within this 12-digit HUC watershed will aid in preventing future additional impairment in this assessment unit.

Preservation of high-quality wetlands on the Grafton site meets the requirements of preservation as presented in 33 CFR 332.3(h) and OAC 3745-1-54, specifically:

- **Important Functions:** Due to the nature and size of the existing wetlands on the Grafton site, they provide a number of important functions and values related to water quality (flood storage, sediment filtration, nutrient accumulation) and wildlife habitat (extensive high-quality vernal pool complexes and diverse herbaceous and woody vegetation are found throughout the wetland). The wetlands proposed to be preserved on the site represent historic conditions in Lorain County and this portion of Ohio; prior to settlement and being cleared and drained for agriculture, mosaics of forested wetland extended across the landscape. The wetlands on the Grafton Site are mature, impressive remnants of this ecosystem.



**Figure 2.** The watershed where the Grafton Swamp Wetland Mitigation Bank is located is impaired.



- **Threat of Destruction:** The majority of the ODRC property at Grafton is maintained as agriculture and pasture to provide a source of revenue for the Department. Although this portion of the property has not been logged recently, such activities are an integral component of land management of the site, and could occur again in the future. It is also important to note that ODRC has recently been exploring opportunities to sell land to private entities as a means of generating additional funds for the Department. Implementation of this project will effectively prevent threats of this nature.
- **Permanent Protection:** The existing woodlot, including the mosaic of high-quality wetlands and their associated uplands, will be permanently protected (along with the entirety of the bank) by a permanent conservation easement held by an entity meeting the requirements of ORC 5301.69.
- **High Quality:** The wetland complex to be preserved on the Grafton site received a quantitative score of 73 on the Ohio Rapid Assessment Method (ORAM) v. 5.0, as developed by Ohio EPA (Mack 2001), placing the wetland into Category 3.

Preservation of this wetland complex presents a unique opportunity within the watershed due its size, high-quality, and impressive functions and values. Few wetlands of this extent and pristine nature remain on the landscape within Lorain County.

## Site Protection Instrument

The entire Grafton site will be afforded long-term protection through recordation of a permanent third-party conservation easement to be held by an entity meeting the requirements of Ohio Revised Code 5301.69. Please see Appendix D for draft conservation easement text.

## Baseline Information

A wetland delineation at the Grafton Swamp Wetlands Mitigation Bank was conducted on June 10 and 11, 2015 and January 12, 2017. Four wetlands and one stream were mapped within the limits of the bank (Tables 1 and 2). The wetland delineation map for the site and the ORAM form for the Category 3 wetland is provided in Appendix E. The delineation covering the preservation portion of the site was verified by staff from USACE Buffalo on June 17, 2015, while the ORAM for the Category 3 wetland was verified by Ohio EPA, Division of Surface Water staff on July 21, 2015.

Table 1. Wetlands Delineated on the Site

Wetlands	Cover Type	Connectivity to Waters of the U.S.	Area (Acres)	ORAM Score	ORAM Category
A	forested, emergent	non-isolated	73.189	73	3
B	emergent	non-isolated	6.996	17.5	1
C	emergent	non-isolated	0.259	12	1
D	emergent	non-isolated	0.203	12	1
Total			80.444		

Table 2. Drainageways Delineated on the Site

Stream	Flow Regime	Length (Feet)	Average Bankfull Width (Feet)
1	ephemeral	380	4
Total		380	



**Photograph 1** (5-12-15). High-quality vernal pools on the site provide important habitat for amphibians. These areas are dominated by large oaks and maples.

The preservation area at the Grafton site contains high-quality, primarily forested wetlands and associated uplands within a mosaic complex (Photo 1). Vegetation within the preservation area consists of potential old growth forest with dominant tree species typical of mesic sites in Ohio. Within the wetland areas, mature *Quercus bicolor* (swamp white oak, FACW), *Acer rubrum* (red maple, FAC), *Carya laciniosa* (shell-bark hickory, FACW), *Q. palustris* (pin oak, FACW), and *Ulmus americana* (American elm, FACW) are common. *Fraxinus pennsylvanica* (green ash, FACW) was once abundant within the forested wetlands, but most of these trees have since succumbed to damage from emerald ash borer (*Agilus planipennis*). Upland areas primarily consist of *Fagus grandifolia* (American beech, FACU), *Carya ovata* (shagbark hickory, FACU), and *A. rubrum*. Many of the trees within the site are greater than 35" diameter at breast height (DBH, Photo 2).



**Photograph 2** (5-12-15). The existing, Category 3 wetlands on the Grafton Site contain mature trees, including this 36" DBH *Quercus bicolor* (swamp white oak).

Within the understory of these trees, shrubs, sedges, and forbs are abundant. Common species include *Lindera benzoin* (northern spicebush, FACW), *Carex bromoides* (brome-like sedge, FACW), *Carex crinita* (fringed sedge, OBL), *Caltha palustris* (yellow marsh marigold, OBL), *Saururus cernuus* (lizard's-tail, OBL), *Geranium maculatum* (spotted crane's-bill, FACU), *Viola cucullata* (marsh blue violet, OBL) and *Epifagus americana* (beech drops, UPL). See Photographs 1-3 for representative views of the vegetation and wetlands within the preservation portion of the site. Definitions of wetland vegetation indicator statuses are provided in Appendix F.

In addition to a diverse vegetation community, the preservation wetlands also contain impressive habitat features, including vernal pools (Photos 1 and 4), tussucks, hummocks, coarse woody debris, and standing dead snags. These features provide slight differences in hydrology that allow plant species of varied ecological niches to become established within their specific abiotic tolerances, increasing vegetative diversity within the wetlands. Additionally, these features also allow for utilization of the site by a diverse assemblage of wildlife that requires such habitat for completion of their life cycles.



**Photograph 3** (5-12-15). Sedges and forbs, including many high-quality, ecologically sensitive species, are abundant within the understory of the existing wetlands within the preservation area.



**Photograph 4** (5-12-15). This is another view of the existing Category 3 forested wetlands at the Grafton site.



**Photograph 5** (1-12-17). Several low-quality, emergent wetlands are present in the agricultural fields on the site. These wetlands are periodically disturbed by normal farming activities.

The active restoration area in the north of the site is currently utilized for the production of soybeans and corn and is cropped annually. Several small, low quality wetlands are located in this field (Photograph 4). These wetlands are periodically disturbed by farming activities, provide poor habitat for wildlife, and are dominated by non-native invasive and/or naturalized ruderal vegetation. Dominant species within these wetlands include: *Phalaris arundinacea* (reed canary grass, FACW), *Bidens aristosa* (bearded beggarticks, FACW), *Persicaria pensylvanica* (pinkweed, FACW), *Xanthium strumarium* (rough cocklebur, FAC), *Juncus effusus* (lamp rush, OBL), and *Typha* spp. (cattails, OBL).

Drainage from the site flows both north and south from the property. The agricultural field and approximately the northern half of the preservation area drains to the north, eventually entering a culvert that flows beneath the CSX railroad along the northern property line. This water enters Alexander Ditch (Warmwater Habitat, OAC 3745-1-27), a tributary to the East Branch Black River. The southern portion of the preservation area drains south and eventually enters Hill Spaulding Ditch, which is also a tributary to the East Branch Black River. The nearly level topography of the site ranges in elevation from 800 feet to 820 feet, with the lower areas centered in the north of the existing agricultural field. The property is shown on the Grafton quadrangle of the United States Geological Survey (USGS) map (Appendix G).

A map showing soil types located on and adjacent to the Grafton site from the Lorain County Soil survey is in Appendix H. The mitigation site is underlain by Mahoning silt loam, 0 to 2 percent slopes (MgA), Trumbull silty clay loam, 0 to 2 percent slopes (TrA), and Ellsworth silt loam, 2 to 6 percent slopes (EIB). According to the Natural Resources Conservation Service (NRCS) hydric soils list for Lorain County, Mahoning and Ellsworth silt loams are non-hydric soils with hydric inclusions, while Trumbull silty clay loam is a hydric soil. NRCS describes Mahoning silt loam as somewhat poorly drained, Trumbull silty clay loam as poorly drained, and Ellsworth silt loam as moderately well drained. These soils support an extensive and diverse wetland complex within the preservation area and lower quality wetlands within the agricultural field on the site; they are suitable for successful wetland re-establishment.

The National Wetlands Inventory (NWI) map of the site is in Appendix I. Several NWI-mapped wetlands are located in the proposed preservation area. Within the woodlot, large palustrine, forested, broadleaf deciduous, seasonally flooded (code PFO1C) wetland systems are identified. The low-quality wetlands within the active agricultural fields are mapped as palustrine, emergent, persistent, temporarily flooded or seasonally flooded (codes PEM1A and PEM1C).

## Determination of Credits

The Grafton Swamp Wetland Mitigation Bank is anticipated to generate approximately 103.1 wetland mitigation credits through wetland re-establishment, rehabilitation, and preservation, and upland forest restoration. A summary of the credits anticipated to be generated by the project is provided in Table 3. Accounting of mitigation credits produced from mitigation activities undertaken by ERP will be dependent upon monitoring data, including wetland delineations, collected at the time of credit release or at project closure per the monitoring activity schedule described in the *Monitoring Requirements* section of this document. Periodic wetland delineations conducted over the course of ecological monitoring will determine the exact acreage of wetlands that have developed on the site; these acreages may exceed or be less than the values presented in Table 3 and Appendix C. Credit calculation methodology presented in Table 3 are based, in part, upon the suggested ratios presented in the Guidelines for Wetland Mitigation Banking in Ohio as produced by the Ohio IRT in 2011.

Table 3. Anticipated Wetland Mitigation Credits to be Generated by the Site

	Mitigation Type	Resource Type	Size (acres)	Credit Ratio (percentage)	Credits
Wetlands	Re-establishment	non-forested wetland	24.0	1:1 (100%)	24.0
	Re-establishment	forested wetland	25.3	1:1 (100%)	25.3
	Re-establishment	forested upland (< 50m from wetland)	23.0	1:4 (25%)	5.8
	Re-establishment	forested upland (> 50m from wetland)	14.2	1:8 (12.5%)	1.8
	Rehabilitation	Category 1 wetland	7.0	1:2 (50%)	3.5
	Preservation	Category 3 wetland and upland mosaic	170.7	1:4 (25%)	42.7
<b>Total Wetland Credits</b>					<b>103.1</b>

## Credit Release

Release of credits requires the consensus of the IRT that a credit release is warranted based on development of the site and its trajectory towards meeting the performance standards within the monitoring period. When consensus of the IRT cannot be reached, credit releases will require the approval of USACE. Credit release will follow the schedule outlined below.

The first credit release will total 59.7 credits; this value includes 30 percent of the total wetlands and upland credits generated by re-establishment and 100 percent of the credits generated by preservation of the existing mosaic of Category 3 wetland and their associated uplands. The initial credit release will occur upon signature of the instrument modification for the Grafton Swamp Wetland Mitigation Bank by USACE and Ohio EPA, recordation of the conservation easement, and implementation of financial assurances. Construction of the project will occur as soon as practicable after approval of the project, and no later than the first full construction season after the first debit of credits at the bank. Final earthwork adjustments, mass plantings, and seeding will occur during the first spring after completion of construction.

Subsequent credit releases, up to 75 percent of the total credits that have developed at the site, may be made after the initial 30 percent of restoration credits released meet established wetland criteria and all other applicable performance standards established in the Mitigation Plan, or the initial 30 percent of credits released meet the established wetland criteria and it can be demonstrated the site is making satisfactory progress and it will likely meet all other performance standards within the monitoring period.

To demonstrate the site is making satisfactory progress towards meeting the performance goals within the allotted monitoring period, data supporting the credit release request will be submitted by ERP to the IRT for review. The data to be submitted will include:

1. A review of individual performance standards, and the degree to which each performance standard has been met based upon data collected during the most recent monitoring event.
2. A table summarizing the VIBI scores, percent cover of native perennial hydrophytes, and percent cover of invasive species for all Vegetation Index of Biotic Integrity (VIBI) focus plots.
3. A table summarizing the woody stem data generated from the VIBI data for all focus plots. Woody stem data presented will include frequency, density, and dominance for each species located within the focus plot

The release of credits requires the approval of USACE, in consultation with the IRT. The last 25 percent of the total credits that have developed at the Grafton Swamp Wetlands Mitigation Bank through habitat restoration efforts will be released upon demonstration that the performance standards have been met or are on a strong trajectory to being met.

## Mitigation Work Plan

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### Hydrology Restoration

**Tile Search.** Prior to initiating mass grading earth work, a search for drainage tiles will be made throughout the proposed restoration area. The goal of the tile search is to disrupt and disable all subsurface tile drainage systems to facilitate the restoration of pre-agricultural historical hydrology to the site. A track hoe or similar piece of construction equipment will be used to excavate a trench to a depth of at least 4 feet. Tiles discovered in the search will be crushed and disabled. Once disabled, tile lines will be excavated for approximately 15 feet inward from the trench and refilled to create compacted clayey soil plugs that will block the flow of water through the lines.

**Earth Embankment Construction and Microtopography Restoration.** Several broad, low earth embankments (0 to 3 feet high with 15:1 slopes) will be created near the center of the project area as shown on the conceptual site plans in Appendix C. The primary berm will allow for a design maximum 20.4-acre pool of water to remain inundated on the site. However, the water control structure to be installed within the berm will often be set below this maximum elevation. Approximately 75 percent of the pool area will have a water depth of 12 inches or less. Within the maximum normal pool impounded by the berm, extensive micro-topography restoration will be completed using larger hummocks. The top of the hummocks will be constructed at or just above the maximum water elevation above the berm, thereby providing planting locations for native trees and shrubs. Additionally, the hummocks will serve to dissipate wind and associated wave action; they should aid in the establishment of submerged and floating leaved aquatic vegetation in this portion of the restoration area. Approximately 0.4 acre of existing, Category 1 emergent wetlands will be impacted during construction of the primary berm on the site.

A few depressions in the pool, not to exceed 25 percent of the total pool area, will provide a maximum water depth of 24 inches; however, actual water depths will vary in accordance with hydrologic and precipitation patterns. These areas of inundation will provide standing water for a long enough period of time to establish adequate habitat for salamanders and other amphibians. In order to improve habitat heterogeneity within the re-established and rehabilitated wetlands, ruts caused by the movement of construction equipment through the site will be encouraged and left ungraded so that micro-topographic features and small pools can be restored to this area. Small areas of gentle excavation and mounding will be created across the active restoration area to mimic natural pit and mound topography. Microtopography restoration will be accomplished with bulldozers and excavators.

### Revegetation

**Planting Plan.** To facilitate the successful return of diverse vegetation communities to the restored wetlands and uplands on the site, the active restoration area will be planted with native woody trees and shrubs and seeded with native seed mixes. In order to attain stem density goals, a minimum of 600 bare root stems per acre will be planted the first spring after construction is completed. The density of shrubs and trees will ultimately be dependent on post construction hydrology and designed habitat goals.

In the restored forested wetlands, planting will include 400 trees and 200 shrubs of varying species. In the restored non-forested wetlands, this composition will generally be reversed to 400 shrubs and 200 trees per acre. Seed mixes will be custom blended to include a diversity of perennial hydrophytes with a variety of hydrologic preferences, and will incorporate sedges, grasses, forbs and woody species (e.g. buttonbush, dogwoods).

The species under consideration for installation and seeding are provided in Appendix J. At a minimum, eight species of trees, representing four genera, and six species of shrubs, representing three genera will be planted to ensure species diversity on the site. The species planted will be native to the region as described in Braun, 1967; Furlow, unpublished; Cooperider, 1995; and Fisher, 1988.

**Planting Methods.** Planting will generally be performed by hand in early spring when soil conditions are suitable for planting. Some planting of larger stock may occur in the fall season as appropriate per species and soil conditions, but smaller bare root stock will be planted in the spring to minimize frost heave. Where possible, planting will occur while plants are still dormant and prior to bud break. No soil amendments will be used or added during planting.

Areas disturbed during construction and not immediately planted will be seeded. A diverse native seed mix of grasses, sedges, and forbs will be sown to stabilize soils, minimize compaction, and improve overall plant diversity within restored wetlands and emergent areas. A list of potential species to be included in the seed mixes is provided in Appendix J. These seed mixes will also be applied in portions of the restored scrub/shrub and forested wetlands areas to supplement and improve the diversity of the interim wetlands plant communities that will develop prior to establishment of mature forests on the site. Upland disturbed areas will be sown with a seed mix that includes: *Elymus virginiana* (Virginia wild-rye), *E. canadensis* (Canada rye), *E. riparius* (riverbank wild-rye), and *E. hystrix* (bottlebrush grass).

Because the goal is to recreate a natural ecosystem, planting will be done randomly to mimic what is found in the existing woodlot in the preservation area. Some areas may not be planted and will be left for natural regeneration as the planted trees and shrubs become large enough to set seed. Each plant will be located according to that species' habitat preferences.

## Maintenance Plan

Tree planting areas will be monitored for excessive grass and herbaceous plant growth. These types of plants compete with trees for nutrients and water and can, therefore, slow establishment and growth. Pre-emergent and post-emergent herbicides in combination with mulch will be applied as needed. It is anticipated that neither supplemental watering nor supplemental fertilization will be needed after planting. Insect and disease problems will be assessed and dealt with appropriately, if necessary.

Invasive plant treatments will occur annually, as needed to meet the stated performance standards. Invasive plants species, listed in Table 4, identified within and around the restoration area will be treated with an herbicide before they are able to set seed. Foliar application rates will be in accordance with label specifications.

Post-construction maintenance may also include corrective earthwork upon discovery of any additional swales, failed ditch plugs, or operational subsurface tiles found to be negatively affecting the restoration area's hydrology.

Table 4. Invasive Plant Species

Species	Common Name
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Alliaria petiolata</i>	garlic mustard
<i>Berberis thunbergii</i>	Japanese barberry
<i>Butomus umbellatus</i>	flowering rush
<i>Celastrus orbiculatus</i>	Asian bittersweet
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Elaeagnus umbellata</i>	autumn olive
<i>Euonymus alatus</i>	winged euonymus
<i>Euonymus fortunei</i>	wintercreeper
<i>Iris pseudacorus</i>	yellow flag
<i>Ligustrum vulgare</i>	common privet
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lonicera maackii</i>	amur honeysuckle
<i>Lonicera morrowii</i>	Morrow honeysuckle
<i>Lonicera tartarica</i>	tartarian honeysuckle
<i>Lythrum salicaria</i>	purple loosestrife
<i>Myriophyllum spicatum</i>	European milfoil
<i>Najas minor</i>	lesser naiad
<i>Nasturtium officinale</i>	watercress
<i>Phalaris arundinacea</i>	reed canary grass
<i>Phragmites australis</i>	common reed
<i>Polygonum cuspidatum</i>	Japanese knotweed
<i>Potamogeton crispus</i>	curly pondweed
<i>Ranunculus ficaria</i>	lesser celandine
<i>Rhamnus cathartica</i>	common buckthorn
<i>Rhamnus frangula</i>	glossy buckthorn
<i>Rosa multiflora</i>	multiflora rose
<i>Typha angustifolia</i>	narrow-leaved cattail
<i>Typha x glauca</i>	hybrid cattail
<i>Viburnum opulus</i> var. <i>opulus</i>	European cranberry-bush
<i>Vinca minor</i>	periwinkle

## Performance Standards

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The long-term objectives of Grafton Swamp Wetland Mitigation Bank are to ensure that high-quality wetlands and uplands are re-established and restored across the active restoration area and that the existing high-quality Category 3 wetland mosaic is effectively preserved. Given the long-term nature of forest succession (multi-decadal), it is understood that a high-quality forest will not be fully developed by the end of the monitoring period within the active restoration area. Performance standards for the bank are provided below.

1. **Re-established forested and scrub/shrub wetlands and marshes** (*i.e.*, restored depressional wetlands, including swamp forest, marsh, and shrub swamp) shall meet a **minimum VIBI score of 61** (Category 2, EOLP region). All **other re-established depressional wetlands** (*i.e.*, wet meadows, including prairies and sedge grass communities not on slopes) will meet a **minimum VIBI score of 60** (Category 2, EOLP region). All **rehabilitated wetlands shall achieve a minimum VIBI score of 61** (Category 2, EOLP region).
2. The mitigation wetlands shall have **less than 10 percent of its total area as unvegetated open water**. Unvegetated open water is defined as permanently or regularly inundated areas where there is no or minimal emergent, rooted aquatic bed (*e.g.*, *Nuphar advena*, *Nymphaeae odorata*, *Potamogeton* spp.), or submersed or floating non-rooted aquatic bed (*e.g.*, *Utricularia* spp., *Ceratophyllum* spp., excluding species in the family *Lemnaceae*) vegetation growing in the area of inundation, but does not include inundated areas where there is a closed canopy of living trees or shrubs over the area of inundation.
3. The goal is to **re-establish approximately 49.3 acres of wetlands, rehabilitate 7.0 acres of wetlands, preserve 170.7 acres of Category 3 wetland mosaic, and restore approximately 37.2 acres of upland forest**. Wetlands delineations will be completed per the 1987 *Corps of Engineers Wetlands Delineation Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*. It is anticipated that delineations will be performed in Years 1, 3, 5, 7, and 10 after construction and planting. Variance from this schedule may be made by ERP in consultation with the IRT and as needed to facilitate credit release request. Due to the dynamic nature of wetland restoration projects, approximate acreages are included in this performance standard based upon what is reasonably expected to develop on the site after completion of construction and planting activities.
4. For wetlands anticipated to become dominated by forested and scrub/shrub vegetation communities and for upland forest restoration, the goal will be **400 vigorously free growing and healthy woody plants per acre, of which 200 must be tree species**. Vigorous and healthy woody plants within the reforested areas should exhibit twig elongation and foliage typical for its species. Free growing is defined as those woody plants that have breached the existing herbaceous layer and are no longer being negatively influenced by this vegetation layer. To demonstrate that these areas are on a trajectory to being forested and scrub/shrub communities, frequency, density, and dominance data will be recorded from the established VIBI plots. This information as well as importance values will be graphed against time.
5. There will be **less than 10 percent relative cover of *Typha* spp. and less than 5 percent relative cover** of all other invasive plant species listed in Table 4 of this document in the rehabilitated, re-established, and preserved wetlands and upland areas that are receiving mitigation credit. These species will be managed through active methods of invasive plant control, as necessary.



6. There will be **at least 75 percent relative cover of native hydrophytes within the re-established and rehabilitated wetlands**. If it appears during the monitoring period that the project is not on a strong trajectory to meet this goal, appropriate planting measures will be implemented.

## Monitoring Requirements

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Because forested wetlands take many years to develop, monitoring will occur over 10 years. Monitoring data will be collected in at least five of the growing seasons over the 10 year monitoring period. Monitoring years may be adjusted by ERP based on the rate of progress towards meeting performance goals. It is anticipated that monitoring will occur 1, 3, 5, 7, and 10 years after construction and planting. Adjustments to the monitoring schedule may be made by ERP in consultation with the IRT to facilitate a credit release request. Site meetings will be scheduled at the site with the IRT throughout the monitoring period as needed to address a credit release request or to determine if remedial measures are necessary. Upon concurrence by USACE and Ohio EPA that the performance standards have been met or that there is a high degree of confidence that they will soon be met, monitoring will cease. If performance standards have not been met, USACE and Ohio EPA may elect to extend the monitoring period.

### VIBI Monitoring

Monitoring protocols will follow the *Integrated Wetlands Assessment Program: Part 9: Field Manual for the Vegetation Index of Biotic Integrity for Wetlands v. 1.4* (Mack, 2007). The Vegetation Index of Biotic Integrity (VIBI) is an intensive statistical wetlands monitoring methodology used by Ohio EPA at mitigation sites. The VIBI measures the ecological condition of wetlands and from that information inferences can be made, given the vegetation and hydrogeomorphic classes of those wetlands, at what level they are performing their corresponding suite of functions. Required results from the VIBI are discussed under the *Performance Standards* section of this document.

Five focus plots will be established over the re-establishment and rehabilitation areas. This number of focus plots will allow for a representative sample of the developing vegetation community within the active restoration area with at least one plot within the rehabilitated wetlands. VIBI scores will be calculated using vegetation data gathered from the focus plots. It is premature at this time to commit to a location of the focus plots until final earthwork is completed and site hydrology is re-established. Focus plots will be staked in the field and mapped using GPS equipment. Data to be collected at the VIBI plots will include soils, hydrology, vegetation information, and stem counts of all woody vegetation present if the plot is located within a reforestation area. From the data collected at each random plot, a determination will be made whether the plot meets wetlands criteria.

To track the survival, health, and growth of the planted trees and shrubs, data will be collected for all planted trees and shrubs identified in the focus plots, including the general mortality/viability, estimated height, caliper, percent cover, basal area, crown characteristics (leaf density and color), and types and frequency of damage.

Caliper will be recorded for trees under four inches DBH, while basal area will be recorded for trees over four inches DBH. All volunteer tree seedlings will also be included in these measurements. These data will be collected in late summer or early fall, in conjunction with VIBI data collection where possible. If it is determined that the VIBI data collected duplicates the values being assessed in this manner, the VIBI data will be used to track the survival, health, and growth of the trees and shrubs. Percent cover and basal area values will be converted to relative values for both herbaceous and woody vegetation to allow for a direct comparison of dominance by species.

## Monitoring Plan

A baseline as-built report will be submitted in a letter format within 90 days of completing construction and planting. It is anticipated that construction will occur in the fall and planting will begin the subsequent spring. The baseline letter report shall include the following information:

- A drawing showing the as-built conditions of the mitigation area. This drawing will include water levels, as applicable. An 11- by 17-inch drawing will be provided.
- Color photographs and a photograph location map.
- A list of all seed mixes applied and a map showing locations and densities of installed trees, shrubs, and/or forbs will be provided. Wetlands Vegetation Indicator Status (Lichvar et al. 2016) and strata (e.g. herb or shrub) will also be included.

Monitoring reports will be prepared and submitted 1, 3, 5, 7, and 10 years from construction or until mitigation goals are met (additional monitoring reports may be completed, if appropriate). The reports will be submitted to the IRT by December 31 of each monitoring year and will include the following information based upon data collected on an annual site visit during the growing season:

- A copy of the as-built map.
- Color photographs and a photograph location map.
- A comprehensive plant species list.
- Water depths and/or hydrological indicators and soil chromas.
- A discussion regarding whether or not the objectives of the mitigation project are being met and a plan with an implementation timetable to correct any deficiencies.

VIBI monitoring protocols will follow the *Integrated Wetlands Assessment Program: Part 9: Field Manual for the Vegetation Index of Biotic Integrity for Wetlands v. 1.4* (Mack, 2007). VIBI monitoring will occur every year (1, 3, 5, 7, and 10) of monitoring, and VIBI scores will be reported in the monitoring reports submitted at the end of those years. Monitoring results, including information on VIBI scores, percent relative cover of native hydrophytes, percent unvegetated open water, and percent relative cover of invasive species will be included in the monitoring reports. A discussion and graphical representation of how data corresponds to the performance standards will be included in each monitoring report for each goal. At minimum, these reports will include graphs of the above parameters graphed against time. Each graph will provide a threshold line representing the performance standard for that parameter.

## Long-Term Management Plan

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A long-term management partner for the Grafton Swamp Wetland Mitigation Bank has not been selected at this time. However, per the requirements of 33 CFR 332.4(11) and 332.7(d), a land stewardship entity will be identified and the bank property transferred to the steward upon completion of monitoring and attainment of performance standards. The long-term management partner may be a public natural resources entity, local park district, or non-profit conservation-oriented organization.

The long-term management partner will provide stewardship of the property consistent with the terms of the *Wetlands Mitigation and Monitoring Plan* and the IRT-approved bank instrument to ensure that the integrity of the restored and preserved resources on the site is maintained. Once a long-term management partner has been selected, a method by which long-term financing to fund management and maintenance of the site will be established. A long-term financing mechanism for the site may include, but is not limited to: non-wasting endowments, trusts, contractual arrangements or other appropriate financial instruments. The long-term financing plan will be coordinated with the IRT and USACE upon selection of a long-term management partner for the property.

## ***Adaptive Management Plan***

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If the mitigation site is not adequately vegetated by the end of the third year, a planting plan will be developed. Plant or seed material will be obtained from commercial plant nurseries or, if possible, from nearby wetlands.

If USACE or Ohio EPA, in consultation with the IRT, determine that the site (or any portion thereof) is failing to establish or that it is not making satisfactory progress towards meeting the performance goals within the monitoring period, ERP will develop a remedial action plan to correct the deficiencies. The remedial action plan must be submitted to the IRT within 90 days of receipt of written notification of deficiencies from USACE or Ohio EPA. Within 60 days of receipt of the remedial action plan, the IRT will provide written acceptance of the submitted plan or a modified plan acceptable to the IRT. The IRT-accepted remedial action plan (as submitted by ERP or as modified by the IRT) will then be returned to ERP and ERP shall implement the measures specified in the remedial action plan within six months or as otherwise provided in the remedial action plan.

## ***Financial Assurances***

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Prior to selling any mitigation credits, ERP will establish a construction performance bond in the amount equal to one third of the estimated cost of construction and planting of the Grafton Wetland Mitigation Bank site. The estimated cost to construct and plant the project is \$750,000. The performance bond shall require ERP to complete the construction and planting of the project within the first full construction season after the first debit of credit at the Grafton Swamp Wetland Mitigation Bank.

For each acre of wetland mitigation credit sold at the Grafton Swamp Wetland Mitigation Bank, ERP will place \$1,000 in a separate escrow fund to be used only for remedial activities necessary to meet the bank's performance standards. If remedial action is necessary at the Grafton Swamp Wetland Mitigation Bank, the expense of preparing and obtaining IRT approval of a remedial action plan as described in the *Adaptive Management Plan* section of this document may be debited against the escrow funds upon written request from ERP and approval of these expenses by USACE. Upon release of the project site from further monitoring by the IRT, the remaining escrow funds will revert to ERP.

## Default

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If the IRT determines that ERP is in material default of any provision of the Umbrella Mitigation Banking Instrument, the IRT, acting through USACE, shall provide notice of the identified default(s) in writing to ERP. If ERP is unable to remedy the default in a timely manner, USACE may notify ERP that the sale or transfer of any credits will be suspended until the appropriate deficiencies have been remedied. Upon notice of suspension of credit sales, ERP agrees to immediately cease all sale or transfer of mitigation credits until USACE informs ERP in writing that sales or transfers may be resumed. If ERP remains in default, the IRT, acting through USACE, may terminate the MBI and any subsequent bank credit sales. Upon termination, ERP agrees to perform and fulfill all obligations under the instrument relating to credits that were sold or transferred prior to termination. If ERP defaults on this obligation, sufficient financial assurances to correct any material default may be utilized to purchase credits from an approved mitigation bank or in-lieu fee program with credits available that is acceptable to the IRT or to implement a remedial action plan by a USACE designee that is acceptable to the IRT.

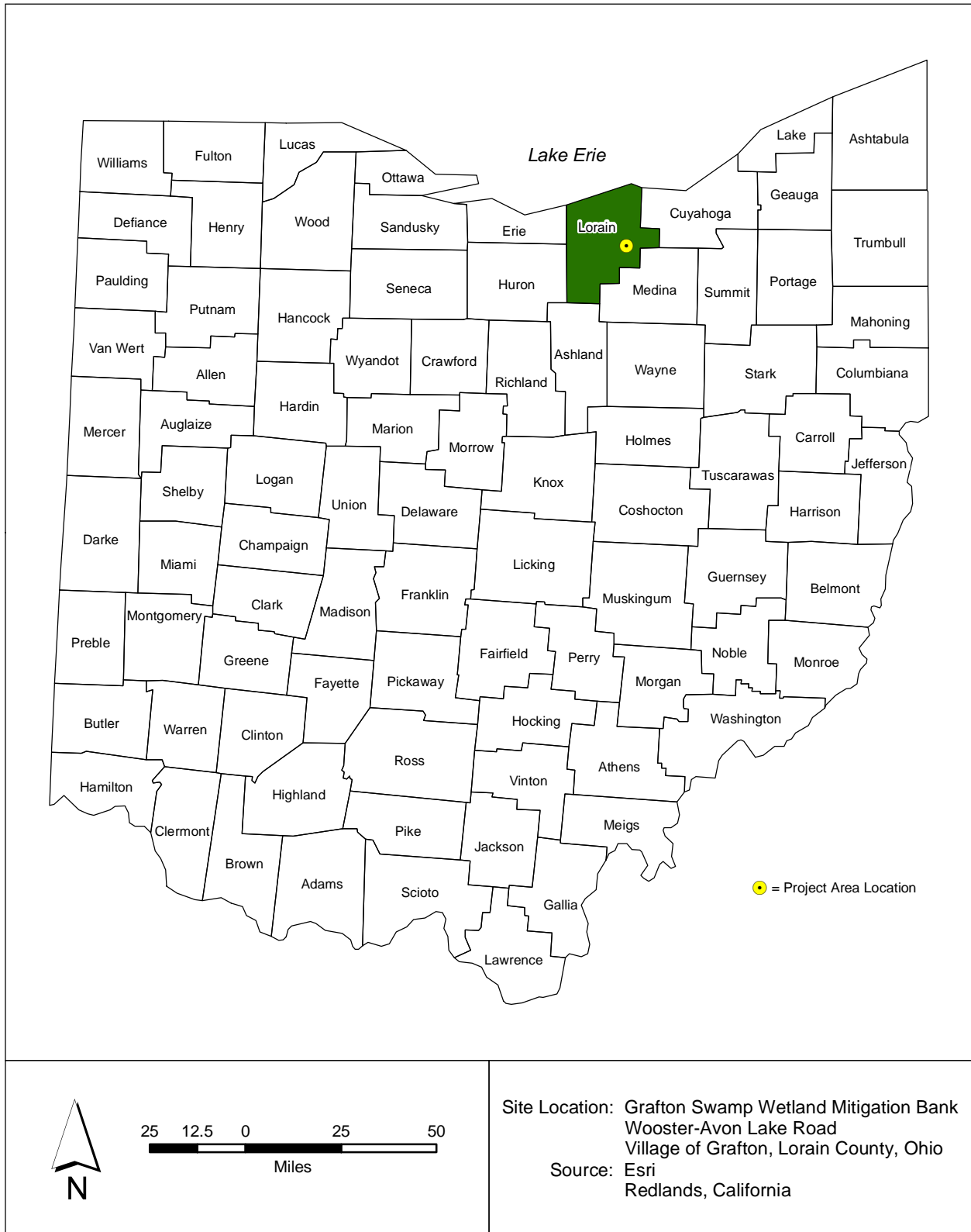
## Closure

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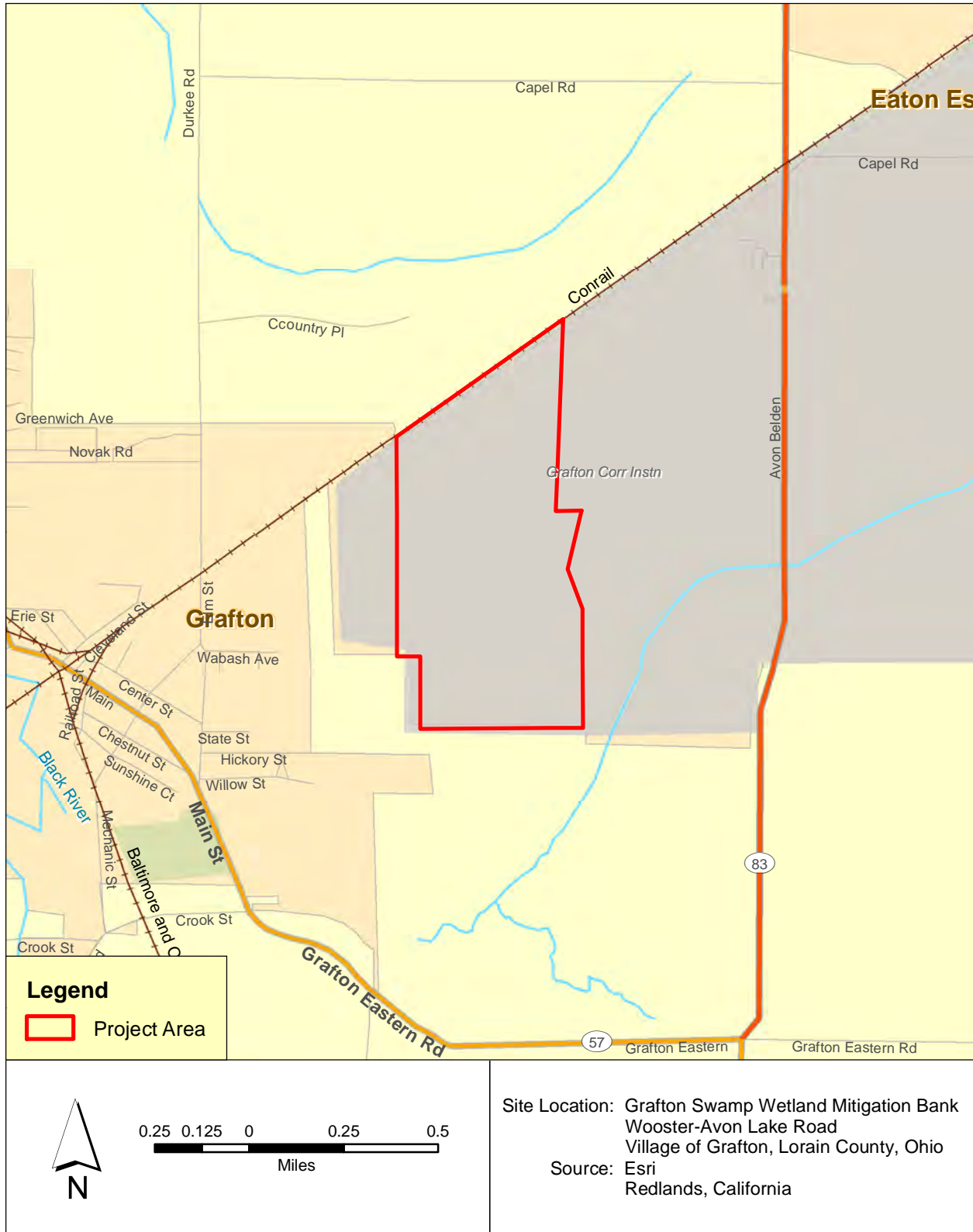
Closure of the Grafton Swamp Wetlands Mitigation Bank may occur after the site has met all performance standards, monitoring has been completed pursuant to the requirements of the site's monitoring plan, and all credits have been sold. Prior to closure, if the IRT concurs that all necessary requirements have been met, ERP will be authorized to transfer the responsibility for the long-term management and maintenance of the Grafton Swamp Wetland Mitigation Bank to the USACE-approved long-term stewardship provider, along with all long-term stewardship funds as required by the monitoring plan. Upon transfer of long-term stewardship funds and site ownership to the long-term management partner and providing written notification of such transfer to the IRT, ERP shall have no further responsibility for the long-term management and maintenance of the site but retains responsibility for providing the mitigation represented by the remaining authorized but unsold credits.






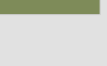

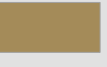





The final release of credits will take place once the IRT concurs that all the performance standards have been met and the final wetland delineation has been verified. The final number of mitigation credits will be based upon a wetlands delineation completed by ERP and verified by USACE following the final monitoring year. ERP is authorized to continue to sell approved mitigation credits after the transfer of long-term stewardship responsibility and site ownership of the Grafton Swamp Wetlands Mitigation Bank to the long-term management partner. Final closure of the Grafton Swamp Wetlands Mitigation Bank will take place after all approved mitigation credits have been sold. ERP shall continue to comply with the sale reporting requirements of the Umbrella Mitigation Banking Instrument until all credits have been sold. In the event ERP requests that the bank be formally closed prior to sale of all released credits, remaining unsold credits will be forfeited by the bank and no further sales may occur.

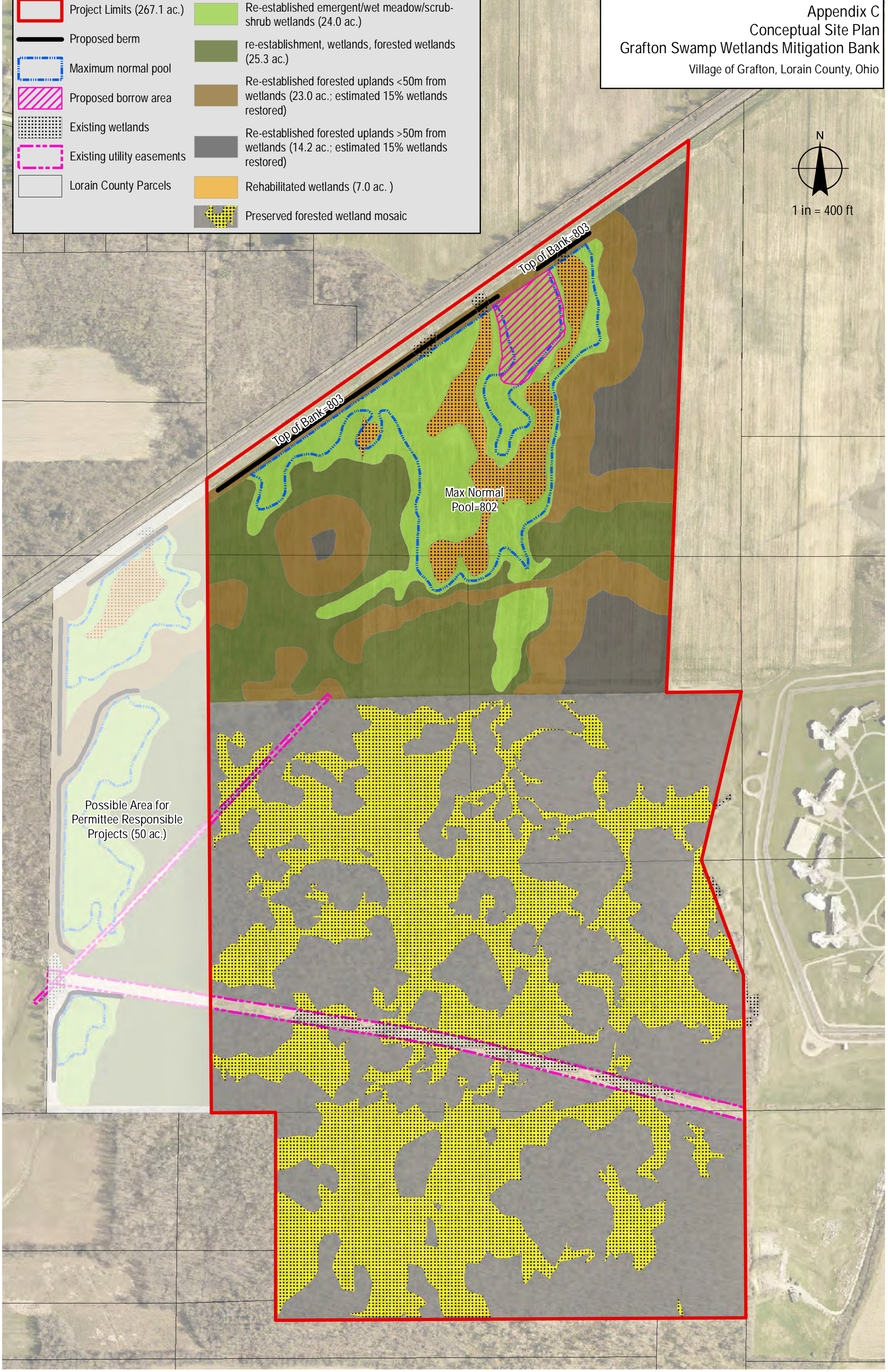
## Appendix A Location of Lorain County on Ohio County Map



## Appendix B Location of Project Area on Highway Map



	Project Limits (267.1 ac.)		Re-established emergent/wet meadow/scrub shrub wetlands (24.0 ac.)
	Proposed berm		re-establishment, wetlands, forested wetlands (25.3 ac.)
	Maximum normal pool		Re-established forested uplands <50m from wetlands (23.0 ac.; estimated 15% wetlands restored)
	Proposed borrow area		Re-established forested uplands >50m from wetlands (14.2 ac.; estimated 15% wetlands restored)
	Existing wetlands		Rehabilitated wetlands (7.0 ac.)
	Existing utility easements		Preserved forested wetland mosaic
	Lorain County Parcels		



# Appendix D

## Draft Conservation Easement

### DEED AND AGREEMENT OF EASEMENT

This Deed and Agreement of Easement is made this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by and between \_\_\_\_\_ (Grantor), having and address at \_\_\_\_\_ and \_\_\_\_\_ (Grantee), having an address at \_\_\_\_\_

**WHEREAS**, \_\_\_\_\_ is engaged in the business of providing mitigation credits to clients in order for them to obtain 401 Water Quality Certification and a 404 Permit for their projects; and

**WHEREAS**, in order to protect the quality of the surface waters, the Ohio Environmental Protection Agency (EPA) and the United States Army Corp of Engineers (COE) (herein after referred to as "Agencies") have required that \_\_\_\_\_ as a condition of being issued a 401 Water Quality Certification and a 404 Permit, for \_\_\_\_\_ provide an Easement in and to a portion of the Grantor's real property, which is more specifically identified on Exhibit A, a map showing the easement area of \_\_\_\_\_, for a total of \_\_\_\_\_ acres.

**WHEREAS**, Grantee agrees by accepting this grant to honor the intentions of Grantor stated herein and to preserve and protect the conservation values of the property for the benefit of this generation and generations to come. Grantee will to periodically inspect the Property for compliance with requirements of the Easement.

**NOW THEREFORE**, in consideration of the foregoing premises and the mutual promises and covenants contained herein, the parties hereto agree as follows:

1. **GRANT OF EASEMENT:** Grantor hereby grants and conveys to Grantee, its successors and assigns, an estate, interest, easement and servitude in and to the Property of the nature and character and to the extent hereinafter expresses, to be and to constitute a servitude upon the Property, which estate, interest, easement and servitude will result from the covenants and restrictions set forth herein and hereby imposed upon the use of the Property by Grantor, and to that end and for the purpose of accomplishing the interest of the parties hereto, the Grantor covenants on behalf of himself, his heirs, successors and assigns with the Grantee, its successors and assigns to do and refrain from doing, severally and collectively, upon the Property, the various acts hereinafter described, it being hereby agreed and expressed that the doing and the refraining from said acts, and each thereof, is and will be for the benefit of the Grantee.
2. **TERMS OF EASEMENT:** The easement granted hereunder shall be perpetual and shall have no expiration date.
3. **CONSERVATION VALUES:** The property possesses substantial value in conserving and protecting the physical, biological and chemical integrity and is important for the protection of the existing or designed use of the waters of the state pursuant to section 303 of the Clean Water Act, 33 U.S.C. 1313 and Section 6111.041 of the Ohio Revised Code.
4. **PROHIBITED ACTIONS:** Any activity on or use of the Property inconsistent with the purposes of this Easement or detrimental to the conservation values expressed herein is expressly prohibited. By way of example, and not of limitation, the following activities and uses are explicitly prohibited:
  - a. **Commercial Activities:** Commercial development or industrial activity is prohibited.
  - b. **Construction:** The placement or construction of any man-made modification such as building, structures, fences, roads and parking lots is prohibited; except as provided in Paragraph 6-b;
  - c. **Cutting Vegetation:** Any cutting of trees, ground cover or vegetation, or destroying by means of herbicides or pesticides is prohibited; except as provided in Paragraph 6-e;
  - d. **Land Surface Alteration:** The removal of soil, sand, gravel, Rock, minerals or other materials from the Property, or doing that which would alter the topography of the Property shall be prohibited;
  - e. **Dumping:** Waste, garbage and unsightly or offensive material are not permitted and may not be accumulate on the Property;
  - f. **Water courses:** Natural water courses and streams and adjacent riparian buffers may not be dredged, straightened, filled, channelized, impeded, diverted or otherwise altered;
  - g. **Other Activities:** Each and every other activity or construction project, which might endanger the natural, scenic, biological, or ecological integrity of the Property, shall be prohibited.
5. **RIGHTS OF GRANTEE:** The Grantor confers the following rights upon the Grantee to perpetually maintain the conservation values of the property:
  - a. **Right to Enter:** The right to enter the Property at reasonable times to monitor or to enforce compliance with this Easement; provided that such entry shall be upon prior reasonable notice to Grantor. The



- Grantee may not, however reasonably interfere with the Grantor's use and quiet enjoyment of the Property. The Grantee has no right to permit others to enter the Property. The general public is not granted access to the property under this Easement.
- b. **Right to Preserve:** The right to prevent any activity on or use of the Property that is inconsistent with the terms or purposes of the Easement.
  - c. **Right to Require Restoration:** The right to require restoration of the areas or features of the Property which are damaged by any activity inconsistent with this Easement.
6. **PERMITTED USES:** Grantor reserves to himself, and to all his personal representatives, heirs, successors and assigns, all right accruing from his ownership of the Property, including the right to engage in or permit or invite other to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purposes of this Easement. Without limiting the generality of the foregoing, the following rights are expressly reserved:
- a. **Right to Convey:** The Grantor retains the right to sell, mortgage, bequeath, donate or otherwise convey the Property. Any conveyance shall remain subject to the terms and conditions of the Easement and the subsequent interest holder shall be bound by the terms and conditions hereof.
  - b. **Right to Maintain:** The Grantor retains the right to maintain, renovate and replace any existing structure(s), fence(s), or drainage tile(s), if any, on the Property in substantially the same location and size. Any expansion or replacement may not substantially alter the character or function of the structure, and requires the Grantee's prior written approval.
  - c. **Right to Access:** The Grantor shall retain the right to unimpeded access to the Property.
  - d. **Right to Hunt Wildlife:** The Grantor retains the right to enter upon the Easement property for the purpose of hunting wildlife.
  - e. **Right to Cut Vegetation:** The Grantor specifically retain the right to cut or trim any dead or diseased standing timber that presents a risk to public health or safety to persons outside the conservation easement area. Stump removal is prohibited. Grantor may not sell wood removed from the Easement area.
  - f. **Right to Maintain Paths:** The Grantor specifically retains the right to maintain existing paths. The location of existing paths will be documented in baseline reporting to be completed by the Grantee.
7. **GRANTEE'S REMEDIES:** In the event of a breach of this Easement, the Grantee shall have the following remedies and shall be subject to the following limitation:
- a. **Delay of Enforcement:** A delay in enforcement shall not be construed as waiver of the Grantee's right to enforce the terms of this Easement.
  - b. **Acts Beyond Grantor's Control:** The Grantee may not bring an action against the Grantor for modification occurring to the Property which result causes beyond the Grantor's control. Examples include, without limitation: Unintentional fires, storms, natural earth movement, trespassers, or the Grantor's well-intentioned actions in response to an emergency which results on changes to the Property. The Grantor has no responsibility under this Easement for such unintended modification. The Grantee may, however, bring an action against another party for modifications that impair the conservation values identified in this Easement.
  - c. **Notice and Demand:** If the Grantee determines that the Grantor is in violation of the Easement, or that a violation is threatened, the Grantee shall provide written notice to the Grantor unless the violation constitutes immediate and irreparable harm. The written notice shall identify the violation and request corrective action to cure the violation or restore the Property.
  - d. **Failure to Act:** If, for a twenty-eight (28) day period after the date of written notice provided pursuant to subparagraph c., above, the Grantor continues violating this Easement, or of the Grantor does not abate the violation, begin to implement corrective measures within the foregoing twenty-eight (28) day period requested by the Grantee, or fails to continue diligently to cure such violation until finally cured, the Grantee may bring an action in law or in equity to enforce the terms of the Easement.
  - e. **Unreasonable Litigation:** If the Grantee initiates litigation against the Grantor to enforce this Easement, and if the court determines that the litigation was without reasonable cause or in bad faith, then the court, may require the Grantee to reimburse the Grantor's reasonable costs and attorney's fees incurred in defending the action.
  - f. **Grantor's Absence:** If the Grantee determines that this Easement is or is expected to be violated, the Grantee will make a good faith effort to notify the Grantor. If, through reasonable efforts, the Grantor cannot be notified, and if the Grantee determines that circumstances justify prompt action to mitigate or prevent impairment of the Easement, then the Grantee may pursue its lawful remedies without prior notice and without awaiting the Grantor's opportunity to cure.
8. **OWNERSHIP, COSTS AND LIABILITIES:** In accepting the Easement, the Grantee shall have no liability or other obligation for costs, liabilities, taxes or insurance of any kind related to the Property. The Grantee and its trustees, officers, employees, agents and members have liability arising from injury or death to any person or from physical damage to any other property located on the Property otherwise. The Grantor agrees to defend the Grantee against such claims and to indemnify the Grantee against all costs and liabilities

relating to such claims during the tenure of the Grantor's ownership of the Property. The Grantor is responsible for posting the Property's boundaries and for discouraging any form of trespass that may occur.

9. **CESSATION OF EXISTENCE:** If the Grantee shall cease to be authorized to acquire and hold conservation easements, then this Easement shall become vested in another qualified entity that is eligible to acquire and hold a conservation easement under Ohio Law, upon the mutual consent of Grantee, the U.S. Army Corp of Engineers and Ohio EPA.
10. **TERMINATION:** This Easement may be extinguished only by an unexpected change in condition which causes it to be impossible to fulfill the Easement's purpose, or by exercise of eminent domain.
  - a. **Unexpected Change in Conditions:** If subsequent circumstances render the purpose of this Easement impossible to fulfill, then this Easement may be partially or entirely terminated only by judicial proceedings.
  - b. **Eminent Domain:** If the property is taken, in whole or in part, by power of eminent domain, then the Grantee will be entitled to compensation in accordance with applicable laws and in proportion to the Grantee's interest in the Property at the effective date of this Easement.
11. **RECORDATION:** Grantee shall record this instrument in a timely fashion in the official records of \_\_\_\_\_ County, Ohio, and may re-record this instrument at any time as may be required to preserve its rights in this Easement.
12. **ASSIGNMENT:** This Easement is transferable, but Grantee may assign its rights and obligation hereunder only to an organization or entity that is qualified to hold conservation easements under Ohio Law, and any applicable federal tax law, at the time of transfer. As a condition of such transfer, the Grantee shall require that the conservation purposes that this grant is intended to advance continue to be carried out. The Ohio Department of Transportation will be notified no less than sixty days in advance of the date Grantee intends to assign its rights and obligations hereunder to another organization or entity.
13. **LIBERAL CONSTRUCTION:** This Easement shall be liberally construed in favor of maintaining the conservation value of the Property. The section headings and subheadings identified herein are for reference purposes only and shall not be used to interpret the meaning of any provision hereof.
14. **NOTICES:** For purposes of the Easement, notice may be provided to either party, by personal delivery or by mailing a written notice to that party at the address shown at the outset of this agreement, or at the last known address of the party, by first class mail, postage prepaid. Delivery will be complete upon depositing the properly addressed notice with the U.S. Postal Service.
15. **SEVERABILITY:** If any portion of the Easement is determined to be invalid or unenforceable, the remaining provisions of this agreement will remain in full force and effect.
16. **SUBSEQUENT TRANSFERS:** This Easement shall be a covenant running with the land and shall constitute a burden on the Property and shall run to the benefit of the parties hereto and their successors in interest. All subsequent owners of the Property shall be bound to all provisions of this Easement to the same extent as the current parties. Grantor shall incorporate the terms of this Easement in any deed or other legal instrument by which they divest themselves of any interest in all or a portion of the Property, including, without limitation, a lease hold interest. The Ohio Department of Transportation will be notified no less than sixty days in advance of the date Grantor intends to divest themselves of any interest in all or portion of the Property.
17. **TERMINATION OF RIGHTS AND OBLIGATION:** A party's future rights and obligations under this Easement shall terminate upon the transfer of that party's interest in the Property. Liability for acts or omissions occurring prior to transfer shall survive any such transfer.
18. **APPLICABLE LAW:** This agreement shall be governed by, and construed in accordance with the substantive laws of the State of Ohio, irrespective of its conflict of laws.
19. **ENTIRE AGREEMENT:** This Easement sets forth the entire agreement of the parties and supersedes all prior discussions and understandings.

EXECUTED by us this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

By: \_\_\_\_\_

Its: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

**STATE OF OHIO,**  
**COUNTY OF \_\_\_\_\_, SS:**

On this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, before me, a Notary Public, personally appeared \_\_\_\_\_, know to me to be the person who executed the foregoing instrument, and acknowledged to me that they executed the same.

\_\_\_\_\_  
Notary Public

**STATE OF OHIO,**  
**COUNTY OF \_\_\_\_\_, SS:**

On this \_\_\_\_ day of \_\_\_\_\_ 20\_\_, before me, a Notary Public, personally appeared \_\_\_\_\_, know to me to be the person who executed the foregoing instrument, and acknowledged to me that they executed the same.

\_\_\_\_\_  
Notary Public

***Appendix E***  
***Wetland Delineation Map and 10-page ORAM Form***

# Appendix E Water Resources Map



Wetland D  
(0.203 acre)

Wetland C  
(0.259 acre)

Wetland B  
(6.996 acres)

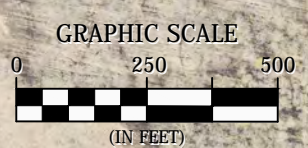
Wetland A  
(73.189 acres)

Wetland A

Wetland A

Stream 1  
(380 linear feet,  
average bankfull  
width 4 feet)

- = Mitigation Bank area (267.3 acres)
- = Ephemeral stream (380 linear feet)
- = Direction of flow
- = Areas of wetlands delineated within study area (80.444 acres)



The information presented is not a survey or engineering product, and should not be used for any purpose provided by applicable law or regulation that requires a surveying or engineering license.

Prepared by  
**DAVEY**  
RESOURCE GROUP  
*A Division of The James M. Hubert Company*

Prepared for  
**Ecological Resource Partners, LLC**

**Grafton Swamp Mitigation Bank**  
Wooster-Avon Lake Road  
Grafton Township  
Lorain County, Ohio

Data used to produce this map were collected on June 10 and 11, 2015 and April 6, 2017

## Background Information

Name:	Greg Snowden
Date:	July 21, 2015
Affiliation:	Davey Resource Group
Address:	295 South Water Street, Suite 300, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8008
E-Mail Address:	greg.snowden@davey.com
<b>Name of Wetland: Wetland A</b>	
Vegetation Communit(ies): Forested, Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.  See Conceptual Mitigation and Monitoring Plan	
Lat/Long or UTM Coordinate:	41.277, -82.035
USGS Quad Name:	Grafton
County:	Lorain
Township:	Grafton
Section and Subsection:	n/a
Hydrologic Unit Code:	04110001
Site Visit:	May 12, 2015 and July 21, 2015
National Wetland Inventory Map:	See Conceptual Mitigation and Monitoring Plan
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Conceptual Mitigation and Monitoring Plan
Delineation Report/Map:	See Conceptual Mitigation and Monitoring Plan

Name of Wetland:	Wetland A
Wetland Size (acres, hectacres)	73.28 acres
<p>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Conceptual Mitigation and Monitoring Plan</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes:</p>	
<b>Final Score:</b> 73	<b>Category:</b> 3

## 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
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	x	
<b>Step 2</b>	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.	x	
<b>Step 3</b>	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>i.e.</i> , areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
<b>Step 4</b>	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.	x	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
<b>Step 6</b>	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.	x	

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	Check One	
1	<b>Critical Habitat.</b> 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).	<input type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status.  Go to Question 2	<input checked="" type="checkbox"/> NO  Go to Question 2
2	<b>Threatened or Endangered Species.</b> Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 3	<input checked="" type="checkbox"/> NO  Go to Question 3
3	<b>Documented High-Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high-quality wetland?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 4	<input checked="" type="checkbox"/> NO  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 5	<input checked="" type="checkbox"/> NO  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> ; or 2) an acidic pond created or excavated on mined lands that have little or no vegetation?	<input type="checkbox"/> YES  Wetland is a Category 1 wetland.  Go to Question 6	<input checked="" type="checkbox"/> NO  Go to Question 6
6	<b>Bogs.</b> 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%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 7	<input checked="" type="checkbox"/> NO  Go to Question 7
7	<b>Ferns.</b> 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%.	<input type="checkbox"/> YES  Wetland is a Category 3 wetland.  Go to Question 8a	<input checked="" type="checkbox"/> NO  Go to Question 8a

8a	<b>“Old Growth Forest.”</b> 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 multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	<input type="checkbox"/> YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="checkbox"/> NO Go to Question 8b
8b	<b>Mature forested wetlands.</b> Is the wetland a forested wetland with 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?	<input checked="" type="checkbox"/> YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input type="checkbox"/> NO Go to Question 9a
9a	<b>Lake Erie coastal and tributary wetlands.</b> Is the wetland located at 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?	<input type="checkbox"/> YES Go to Question 9b	<input checked="" type="checkbox"/> NO Go to Question 10
9b	Does the wetland’s hydrology result from measures designed to prevent erosion and the loss of aquatic plants, <i>i.e.</i> , the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	<input type="checkbox"/> YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input type="checkbox"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland’s primary hydrological influence, <i>i.e.</i> , 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.	<input type="checkbox"/> YES Go to Question 9d	<input type="checkbox"/> NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	<input type="checkbox"/> YES Wetland is a Category 3 wetland. Go to Question 10	<input type="checkbox"/> NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	<input type="checkbox"/> YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input type="checkbox"/> NO Go to Question 10
10	<b>Lake Plain Sand Prairies (Oak Openings).</b> Is the wetland located in 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 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 type of wetland and its quality.	<input type="checkbox"/> YES Wetland is a Category 3 wetland. Go to Question 11	<input checked="" type="checkbox"/> NO Go to Question 11
11	<b>Relict Wet Prairies.</b> 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 ( <i>e.g.</i> , Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties ( <i>e.g.</i> , Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	<input type="checkbox"/> YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<input checked="" type="checkbox"/> NO Complete Quantitative Rating

**Table 1. Characteristic Plant Species**

<b>Invasive/Exotic Spp.</b>	<b>Fen Species</b>	<b>Bog Species</b>	<b>Oak Opening Species</b>	<b>Wet Prairie Species</b>
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis candensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating On Next Page.

<b>Site:</b> Grafton Correctional Institution	<b>Date:</b> July 21, 2015
<b>Wetlands:</b> Grafton Site Preservation Wetland	<b>Rater:</b> Snowden (Davey), Surrena (Ohio EPA)

6	6
Subtotal	Points

**Metric 1. Wetland Area (size). (max 6 pts)**

*Select one size class and assign score.*

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

10	4
Subtotal	Points

**Metric 2. Upland buffers and surrounding land use. (max 14 pts)**

*2a. Calculate average buffer width (select one, do not double check)*

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

*2b. Intensity of surrounding land use (select one or double check & average)*

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

28	18
Subtotal	Points

**Metric 3. Hydrology. (max 30 pts)**

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

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

*3b. Connectivity. Score all that apply.*

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

*3c. Maximum water depth. Select only 1.*

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

*3d. Duration inundation/saturation.*

*(select one or double check & average)*

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

*3e. Modifications to natural hydrologic regime.*

*(select one or double check & average)*

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

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

48	20
Subtotal	Points

**Metric 4. Habitat Alteration and Development. (max 20 pts.)**

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

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

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

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

*4b. Habitat development. Select one.*

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

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

48	subtotal this page
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<b>Site:</b> Grafton Correctional Institution	<b>Date:</b> July 21, 2015
<b>Wetland:</b> Grafton Site Preservation Wetland	<b>Rater:</b> Snowden (Davey), Surrena (Ohio EPA)

**48** subtotal first page

**53** **5**

Subtotal Points

**Metric 5. Special Wetlands. (max 10 pts.)**

Check all that apply and score as indicated

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

**73** **20**

Subtotal Points

**Metric 6. Plant Communities, interspersions, microtopography. (max 20 pts.)**

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- Aquatic bed
- 3 Emergent
- 2 Shrub
- 3 Forest
- Mudflats
- Open water
- Other (list)

6b. Horizontal (plan view) interspersions

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

Small area of *P. australis* near prison facility. Some *P. arundinacea* in ROW.

6d. Microtopography

Score all present using 0 to 3 scale

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

**Vegetation Community Cover Scale**

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

**Narrative Description of Vegetation Quality**

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

**Mudflat and Open Water Class Quality**

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

**Microtopography Cover Scale**

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

**73** **GRAND TOTAL (max 100 pts)**

**End of Quantitative Rating. Complete Categorization Worksheets.**

## ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 1.
	Question 6. Bogs	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 7. Fens	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands-Unrestricted with native plants	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, Category 3
Question 11. Relict Wet Prairies	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	6	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	18	
	Metric 4. Habitat	20	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	20	
	<b>TOTAL SCORE</b>	<b>73</b>	<b>3</b>

Complete Wetland Categorization Worksheet

## Wetland Categorization Worksheet

Choices	Check One		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 3 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, re-evaluate 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 over-categorized by the ORAM.
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<input checked="" type="checkbox"/> YES  Wetland should be evaluated for possible Category 3 status	<input type="checkbox"/> 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.
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<input type="checkbox"/> YES  Wetland is categorized as a Category 1 wetland	<input checked="" type="checkbox"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, re-evaluate 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.
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="checkbox"/> YES  Wetland is assigned to the appropriate category based on the scoring range	<input type="checkbox"/> 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.
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<input type="checkbox"/> YES  Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="checkbox"/> 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)
<p>Does the wetland otherwise exhibit <i>moderate</i> OR <i>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?</p>	<input type="checkbox"/> YES  Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="checkbox"/> NO  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.



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

## Ohio Division of Wildlife

*Scott Zody, Chief*  
2045 Morse Rd., Bldg. G  
Columbus, OH 43229-6693  
Phone: (614) 265-6300

June 1, 2015

Greg Snowden  
Davey Resource Group  
295 S. Water St.  
Kent, OH 44240

Dear Mr. Snowden,

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Grafton Wetland Preservation project area, including a one mile radius, in Eaton and Grafton Townships, Lorain County, Ohio. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within a one mile radius of the project area.

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

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Debbie Woischke".

Debbie Woischke  
Ohio Natural Heritage Database Program



## **Appendix F**

### **Definition of Wetlands Vegetation Indicator Status (from Lichvar et al. 2014)**

**Obligate Wetlands (OBL).** Almost always is a hydrophyte, rarely in uplands.

**Facultative Wetlands (FACW).** Usually is a hydrophyte but occasionally found in uplands.

**Facultative (FAC).** Commonly occurs as either a hydrophyte or non-hydrophyte.

**Facultative Upland (FACU).** Occasionally is a hydrophyte but usually occurs in uplands.

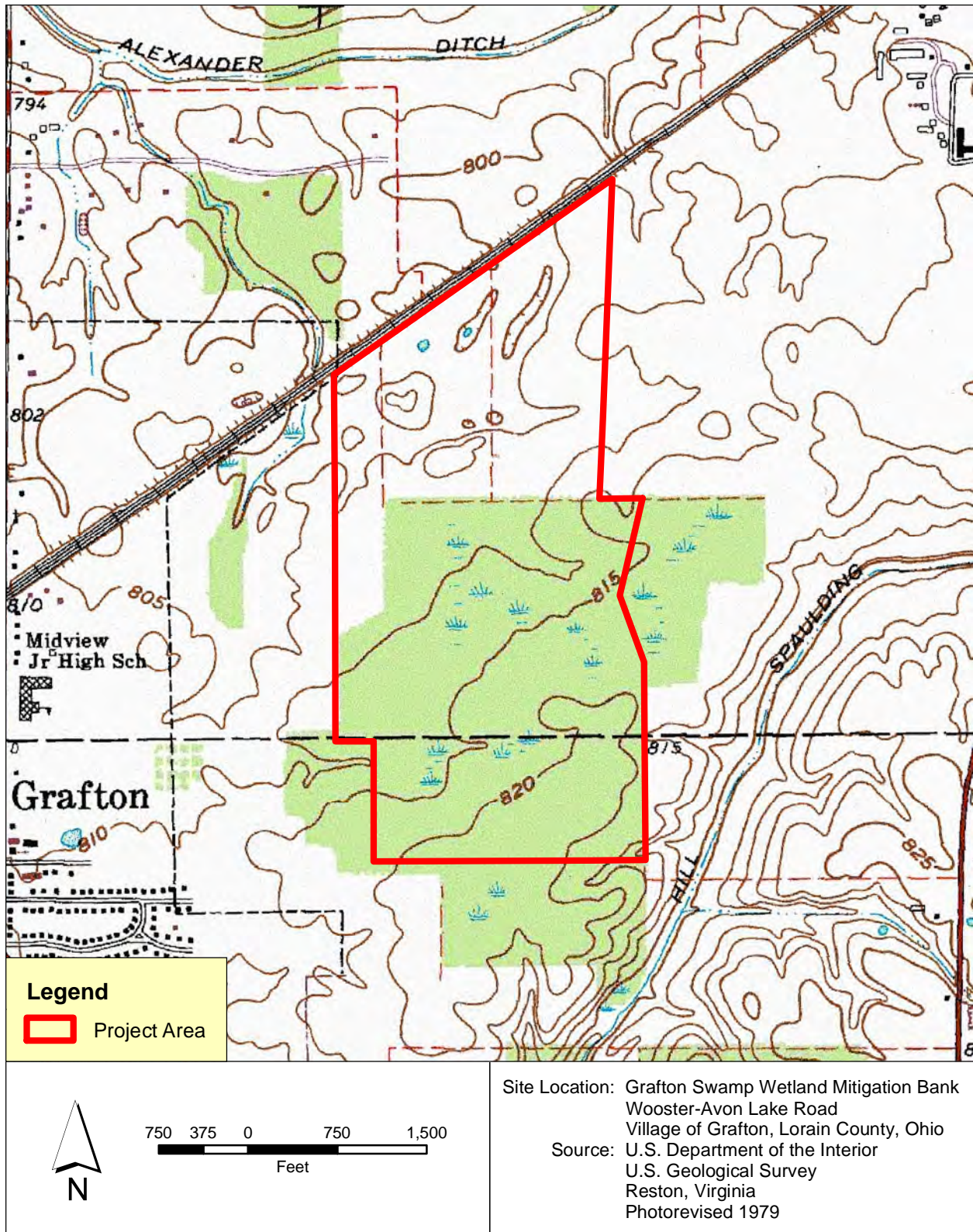
**Obligate Upland (UPL).** Rarely is a hydrophyte, almost always in uplands.

Species for which little or no information was available to base an indicator status were assigned a no indicator (NI) status. An asterisk (\*) after the indicator status indicates that the indicator status was based on limited ecological information.

The wetlands indicator categories should not be equated to degrees of wetness. Many obligate wetlands species occur in permanently or semipermanently flooded wetlands, but a number of obligates also occur, and some are restricted to wetlands that are only temporarily or seasonally flooded. The facultative upland species include a diverse collection of plants that range from weedy species adapted to exist in a number of environmentally stressful or disturbed sites (including wetlands), to species in which a portion of the gene pool (an ecotype) always occurs in wetlands. Both the weedy and ecotype representatives of the facultative upland category occur in seasonally and semipermanently flooded wetlands.

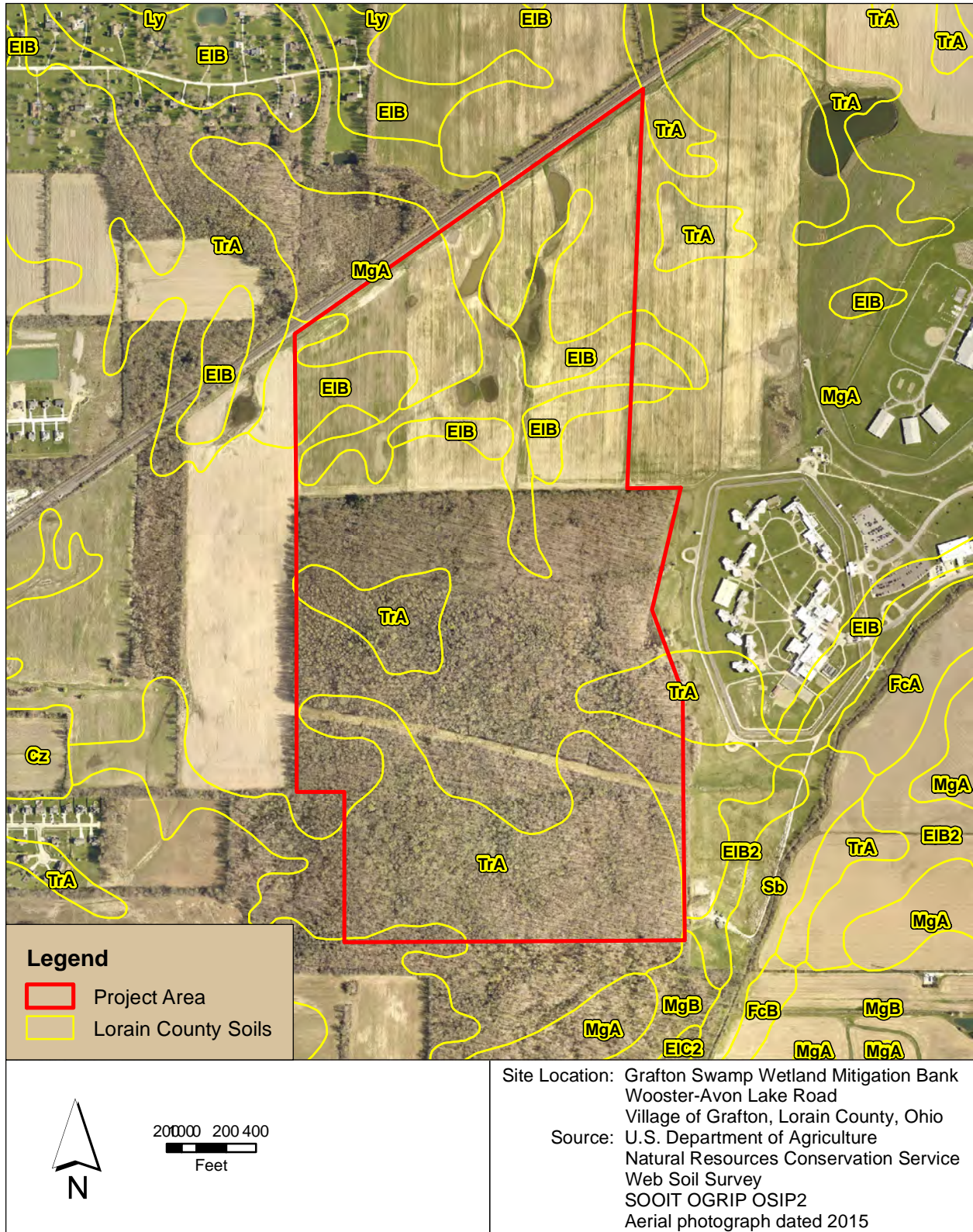
Davey Resource Group has added two additional indicators for situations when plants can only be identified to genus. A Wetlands Indicator Species (WIS) is a plant that is most likely obligate wetlands, facultative wetlands, or facultative. An Upland Indicator Species (UIS) is a plant that is most likely indicative of upland or facultative upland conditions. These additional indicators are used when species identification is not possible. A variety of factors are part of the UIS and WIS assignments. Indicator statuses of all locally occurring members of the genus in question are considered, as are the health and size of the population and the indicator status of nearby plants.

# Appendix G Location of Project Area on USGS 7.5-Minute Topographic Map (Grafton Quadrangle)



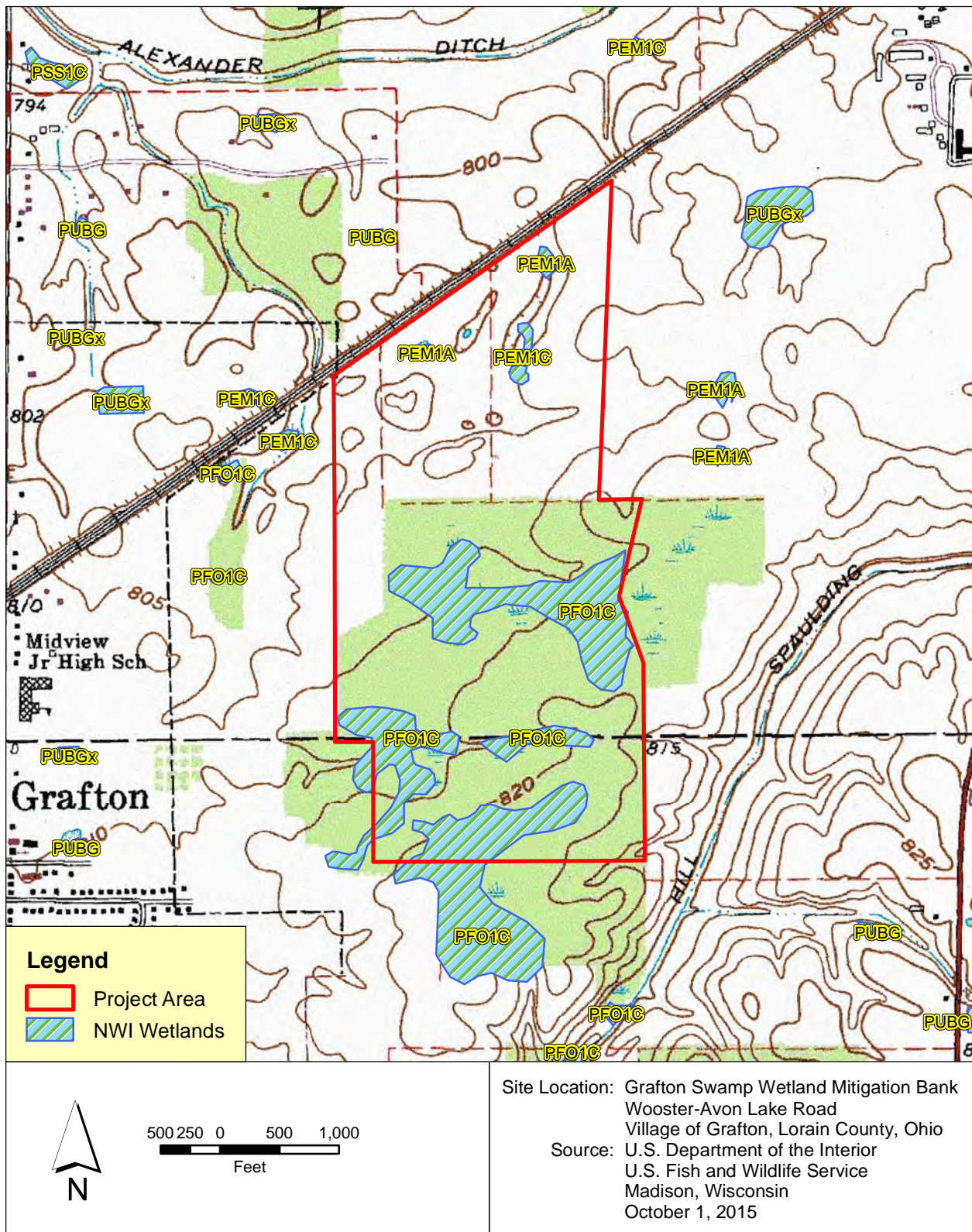
# Appendix H

## Location of Project Area on Lorain County Soil Survey Map



# Appendix I

## Location of Project Area on National Wetlands Inventory Map (Grafton Quadrangle)



## Appendix J

### Planting and Seed Mix Lists

#### Tree and Shrub Species List (Dependent on availability)

Scientific Name	Common Name	Habit	Indicator Status <sup>1</sup>	C of C <sup>2</sup>
<i>Acer rubrum</i>	red maple	tree	FAC	2
<i>Acer saccharinum</i>	silver maple	tree	FACW	3
<i>Acer saccharum</i>	sugar maple	tree	FACU	5
<i>Amelanchier laevis</i>	smooth serviceberry	tree	FAC	5
<i>Aronia melanocarpa</i>	black chokeberry	shrub	FAC	5
<i>Betula populifolia</i>	gray birch	tree	FAC	5
<i>Cephalanthus occidentalis</i>	common buttonbush	shrub	OBL	6
<i>Cornus alba</i>	red osier	shrub	FACW	3
<i>Cornus amomum</i>	silky dogwood	shrub	FACW	2
<i>Hamamelis virginiana</i>	American witch-hazel	shrub	FACU	5
<i>Ilex verticillata</i>	common winterberry	shrub	FACW	6
<i>Larix laricina</i>	American larch	tree	FACW	9
<i>Lindera benzoin</i>	northern spicebush	shrub	FACW	5
<i>Liriodendron tulipifera</i>	tuliptree	tree	FACU	6
<i>Morella pensylvanica</i>	northern bayberry	shrub	FAC	10
<i>Nyssa sylvatica</i>	black tupelo	tree	FACW	7
<i>Platanus occidentalis</i>	American sycamore	tree	FACW	7
<i>Populus heterophylla</i>	swamp cottonwood	tree	OBL	9
<i>Quercus alba</i>	northern white oak	tree	FACU	6
<i>Quercus bicolor</i>	swamp white oak	tree	FACW	7
<i>Quercus macrocarpa</i>	burr oak	tree	FACU	6
<i>Quercus palustris</i>	pin oak	tree	FACW	5
<i>Quercus rubra</i>	northern red oak	tree	FACU	6
<i>Salix bebbiana</i>	gray willow	shrub	FACW	5
<i>Salix nigra</i>	black willow	tree	OBL	2
<i>Salix sericea</i>	silky willow	shrub	OBL	4
<i>Sambucus nigra</i>	black elder	shrub	FACW	3
<i>Spiraea tomentosa</i>	steepleshrub	shrub	FACW	4
<i>Vaccinium corymbosum</i>	highbush blueberry	shrub	FACW	6
<i>Viburnum lentago</i>	nannyberry	shrub	FAC	5

<sup>1</sup> From Lichvar et al. 2016

<sup>2</sup> From Andreas et al. 2004

**Seed Mix Species List**  
(Dependent upon availability)

Scientific Name	Common Name	Indicator Status <sup>1</sup>	C of C <sup>2</sup>
<i>Agrimonia parviflora</i>	harvestlice	FAC	2
<i>Andropogon gerardii</i>	big bluestem	FACU	5
<i>Asclepias incarnata</i>	swamp milkweed	OBL	4
<i>Bidens cernua</i>	nodding burr-marigold	OBL	3
<i>Carex crinita</i>	fringed sedge	OBL	3
<i>Carex frankii</i>	Frank's sedge	OBL	2
<i>Carex lupulina</i>	hop sedge	OBL	3
<i>Carex lurida</i>	shallow sedge	OBL	3
<i>Carex stricta</i>	uptight sedge	OBL	5
<i>Carex vulpinoidea</i>	common fox sedge	OBL	1
<i>Clematis virginiana</i>	devil's-darning-needles	FAC	3
<i>Cornus amomum</i>	silky dogwood	FACW	2
<i>Cornus racemosa</i>	gray dogwood	FAC	1
<i>Elymus virginicus</i>	Virginia wild rye	FACW	3
<i>Eupatorium perfoliatum</i>	common boneset	FACW	3
<i>Euthamia graminifolia</i>	flat-top goldentop	FAC	2
<i>Glyceria septentrionalis</i>	floatin manna grass	OBL	6
<i>Ilex verticillata</i>	common winterberry	FACW	6
<i>Juncus effusus</i>	lamp rush	OBL	1
<i>Leersia oryzoides</i>	rice cut grass	OBL	1
<i>Lindera benzoin</i>	northern spicebush	FACW	5
<i>Lobelia siphilitica</i>	great blue lobelia	FACW	3
<i>Mimulus ringens</i>	Allegheny monkey-flower	OBL	4
<i>Onoclea sensibilis</i>	sensitive fern	FACW	2
<i>Panicum virgatum</i>	wand panic grass	FAC	4
<i>Penstemon digitalis</i>	foxglove beardtongue	FAC	2
<i>Penthorum sedoides</i>	ditch-stonecrop	OBL	2
<i>Pontederia cordata</i>	pickerelweed	OBL	6
<i>Ratibida pinnata</i>	grey-headed coneflower	UPL	5
<i>Sambucus nigra</i>	black elder	FACW	3
<i>Schoenoplectus acutus</i>	hard-stem club-rush	OBL	7
<i>Schoenoplectus tabernaemontani</i>	soft-stem club-rush	OBL	2
<i>Scirpus atrovirens</i>	dark-green bulrush	OBL	1
<i>Scirpus cyperinus</i>	cottongrass bulrush	OBL	1
<i>Solidago patula</i>	round-leaf goldenrod	OBL	6
<i>Sparganium americanum</i>	American burr-reed	OBL	6
<i>Sparganium eurycarpum</i>	broad-fruit burr-reed	OBL	4
<i>Symphotrichum novae-angliae</i>	New England American-aster	FACW	2
<i>Symphotrichum puniceum</i>	purple-stem American-aster	OBL	7
<i>Verbena hastata</i>	sinpler's-joy	FACW	4
<i>Vernonia gigantea</i>	giant ironweed	FAC	2

<sup>1</sup> From Lichvar et al. 2016

<sup>2</sup> From Andreas et al. 2004

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## Statewide Umbrella Mitigation Bank Prospectus

# U.S. Army Corps of Engineers Buffalo, Huntington, and Pittsburgh Districts Ohio

**April 2017**

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- A. Service Area Map

## **Objectives**

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Ecological Resource Partners, LLC (ERP) proposes to establish a statewide umbrella mitigation bank instrument that will govern the function of wetland and/or stream mitigation banks to be constructed on sites located in watersheds within the U.S. Army Corps of Engineers (USACE) Buffalo, Huntington, and Pittsburgh Districts. 33 CFR 332.8(h) describes the process by which a single mitigation banking instrument may provide for future authorization of additional mitigation bank sites.

The purpose of the mitigation banks to be constructed under the ERP umbrella mitigation bank instrument is to provide third-party compensatory for unavoidable impacts to streams and wetlands identified as waters of the United States and waters of the State of Ohio. More particularly, credits generated from mitigation bank sites to be authorized under the umbrella mitigation bank instrument will be used to satisfy the compensatory stream and wetland mitigation requirements of permits issued under Sections 404 and 401 of the Clean Water Act, Section 10 of the Rivers and Harbor Act, and isolated wetland permits issued by Ohio EPA under Ohio's isolated wetland law (Ohio Revised Code 6111). Additionally, mitigation bank credits may also be used to provide compensatory mitigation for environmental impacts to aquatic resources authorized under other programs, such as state or local wetland or stream regulatory programs, the National Pollutant Discharge Elimination System Program, the wetland conservation provisions of the Food Security Act, USACE civil works projects, Superfund remedial actions; and to provide compensatory mitigation for the resolution of local, state, and/or federal enforcement actions, including environmental projects required by orders, settlement agreements, contingency plans, consent decrees or court orders. Use of credits for other programs requires approval of relevant regulatory agency(s), as appropriate.

Per 33 CFR 332.3(b), mitigation bank credits can help to reduce the risk and uncertainty if mitigation success, as well lessen temporal loss of resource functions and services. When considering options for successfully providing required compensatory mitigation, the district engineer shall consider the type and location options in the order presented in paragraphs (b)(2) through (b)(6) of the aforementioned section of the Federal Mitigation Rule; mitigation bank credits are the preferred method for providing compensatory mitigation in this hierarchy.

## **Establishment and Operation**

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ERP will identify, design, construct, and monitor mitigation bank sites implemented under the Instrument in order to provide aquatic resource restoration, establishment, enhancement, and/or preservation. Credits generated from mitigation activities undertaken on the bank sites authorized under the Instrument will be used to satisfy compensatory mitigation requirements for Department of the Army permits, Ohio Water Quality Certifications, Ohio isolated wetland permits, or mitigation requirements of other regulatory programs. This section details procedures and practices that will be established and followed during the operation of the mitigation banks implemented under the umbrella mitigation bank instrument.

## Project Identification and Development

**Project Site Selection.** Mitigation bank projects will target potential sites best suited to replace lost aquatic resource functions. The evaluation of mitigation sites will include requests for input from existing watershed coordinators, Soil and Water Conservation Districts, other watershed-based groups/NGOs, communities, counties, ecological consultants, and other state and federal resource agencies. Input will also be sought from permit applicants and industry groups in order to better understand the potential need for mitigation in the approved primary service areas in the near future.

Geographic spatial data resources will be reviewed (such as National Wetland Inventory Maps, Natural Resources Conservation Service Soil Surveys, U.S. Geological Service StreamStats, and aerial imagery) to help identify and review each potential mitigation site. ERP will request timely feedback from the Interagency Review Team (IRT) concerning potential mitigation sites prior to developing a conceptual mitigation plan.

Emphasis will be placed on identifying properties that are ecologically suited to achieve the objectives of the proposed mitigation bank. Specifically, sites will be given priority that have existing conditions (soils, hydrology, and/or native vegetation) that are conducive to aquatic resource restoration, enhancement, establishment, and/or preservation. For stream mitigation banks, priority properties may include sites where measureable ecological uplift and nutrient assimilation can be achieved, sites that include 303d-listed waters, sites located in sub-watersheds with existing Total Maximum Daily Loads, sites located in sub-watersheds with nutrient impairments, and sites on headwater streams with drainage areas less than 10 mile<sup>2</sup>.

Site specific information regarding prospective mitigation bank project sites will be provided within mitigation plans. All conceptual mitigation plans and instrument modifications regarding the addition of mitigation bank sites will be coordinated with the appropriate District Engineer in consultation with the IRT.

**Mitigation Plan.** A mitigation plan will be developed for each mitigation bank project and will be subject to approval by the IRT. Mitigation plans will be developed and implemented in accordance with 33 CFR 332.4 and will include the following required elements:

1. Project objectives
2. Site selection criteria
3. Site protection instrument
4. Baseline information
5. Credit determination
6. Work plan
7. Maintenance plan
8. Performance standards
9. Monitoring requirements
10. Long-term management plan
11. Adaptive management plan
12. Financial assurances

**Ecological Performance Standards.** ERP will propose performance standards for each mitigation bank site for IRT review and approval. These performance standards will be used to assess whether the project is developing into the desired resource type, providing the expected functions, and meeting any other applicable metrics according to the terms detailed in 33 CFR 332.5. Ecological performance standards will also be based upon criteria included within the *Guidelines for Wetland Mitigation Banking in Ohio* (2011) and the *Guidelines for Stream Mitigation Banking and In-Lieu Fee Programs in Ohio v. 1.1* (2016), or successor documents, as developed by the Ohio IRT.

**Project Approval and Instrument Modifications.** Approved projects or the expansion of a previously approved project site may be added as a modification to the Instrument in accordance with 33 CFR 332.8(g). For modifications of the Instrument, ERP will submit a written request for an instrument modification accompanied by appropriate documentation (e.g. mitigation plan) as detailed in 33 CFR 332.8(d). The process for review and approval of modifications will generally follow the process for instrument approval.

ERP will submit mitigation plans to the appropriate District Engineer that include all applicable items listed in 33 CFR 332.4(c)(2-14). Within 30 days of receipt of ERP's formal request for an instrument modification, the District Engineer will notify ERP whether the instrument modification request is complete under 33 CFR 332.8(d). Within 30 days of receipt of a complete instrument modification request and mitigation plan, the District Engineer will provide public notice of the request. The comment period will be 30 days, unless otherwise determined by the District Engineer. Copies of all comments will be provided to IRT members and ERP within 15 days of the close of the public comment period per 33 CFR 332.8(d)(4). ERP will review the comments and discuss concerns and issues with the IRT. Within 90 days of receipt of the complete amendment by the IRT members, the District Engineer will notify ERP of the status of the IRT review. Specifically, the District Engineer must indicate to ERP if the amendment is generally acceptable and what changes, if any, are needed. If there are significant unresolved concerns that may lead to a formal objection from one or more IRT members to the amendment, the District Engineer will indicate the nature of those concerns. A revised plan may be submitted to the District Engineer and the IRT for additional comments, if necessary.

At any point, ERP may declare that the mitigation plan is a final submission and request approval from the District Engineer. Within 30 days of receipt of the final plan, the District Engineer will notify the IRT members whether or not he or she intends to approve the Instrument amendment. Project approval will be based upon several factors, including: site suitability, long-term sustainability, benefits to rare and endangered natural resources, and other factors. The District Engineer may add specific requirements and restrictions to each proposed mitigation project. These may include conditions on authorizations through the Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbor Act permit process that could be required for a mitigation project.

The District Engineer may use a streamlined modification review process for changes reflecting adaptive management of a mitigation bank, credit releases, changes in credit releases and credit release schedules, and changes that the District Engineer determines are not significant. ERP will work with the District Engineer to identify other non-significant modifications that would be suitable for review under the streamlined modification review process. In this event, the District Engineer will notify the IRT members of this determination and provide them with copies of the proposed modification. IRT members have 30 days to notify the District Engineer if they have concerns with the proposed modification. If IRT members notify the District Engineer of such concerns, the District Engineer will attempt to resolve those concerns. The District Engineer will notify the IRT members of his or her intent regarding the proposed modification within 60 days of providing the notice to the IRT members. If no IRT member objects, the District Engineer will notify ERP of his or her final decision, and if approved, arrange for it to be signed by the appropriate parties per 33 CFR 332.8(g)(2).

**Monitoring and Reporting Protocols.** Monitoring and reporting of mitigation bank projects will be conducted to determine if the project is meeting its performance standards and trending towards success as described in 33 CFR 332.6. Monitoring and reporting for each project will be conducted as described in 33 CFR 332.6, Regulatory Guidance Letter 08-03 dated October 10, 2008, and the “*Guidelines for Stream Mitigation Banking and In-Lieu Fee Programs in Ohio, version 1.1*” and “*Guidelines for Wetland Mitigation Banking in Ohio*”, prepared by the Ohio IRT, as appropriate.

Each project-specific mitigation plan will include a monitoring plan that will describe the performance standards to be monitored, the methods for monitoring, the length of the monitoring period, the dates that the reports must be submitted, and the frequency for submitting monitoring reports. ERP will be responsible for submitting monitoring reports to the IRT based upon terms set forth in each site’s approved mitigation plan. At the request of an authorized representative of USACE or the IRT, ERP shall allow access to mitigation bank project sites to determine compliance with the terms of the Instrument.

The content and level of detail of the monitoring reports will be commensurate with the scale and scope of the mitigation project, as well as the mitigation project type. If appropriate, data for specific performance measures will be graphed against time, with the accompanying graphic included in the monitoring report. Each report shall contain, at a minimum, the following information:

1. Monitoring results with comparisons to performance standards
2. Plans, maps, and photographs to illustrate site conditions
3. A narrative summarizing the condition of the project
4. Recommendations for adaptive management, if needed

### **Credit Accounting Procedures**

ERP shall establish and maintain a ledger of credit development and credit sales for each bank site. The account ledger will include the information necessary to complete the ledger for each mitigation bank in the Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS). Transactions will be tracked in terms of how the credits are generated. Information in the ledger shall also include the beginning and ending balance of available credits and permitted impacts for each resource type, all additions and subtractions of credits, and any other changes in credit availability (e.g. additional credits released, credit sales suspended by USACE, etc.).

### **Legal Responsibility for Mitigation**

The permittee retains responsibility for providing compensatory mitigation until the appropriate number of credits have been secured from ERP and USACE and/or Ohio EPA has received documentation that ERP has accepted the responsibility for providing the compensatory mitigation. The written notification will be provided by ERP to USACE and/or Ohio EPA and will provide the permit number, amount of mitigation required as per terms of the permit(s), and a statement identifying the number of credits purchased by the applicant. This notification may be provided by ERP to USACE electronically (via email or facsimile), by overnight carrier, or by U.S. Mail. ERP, USACE, and Ohio EPA shall establish a point of contact for documentation of all transactions at the time of instrument approval. Revisions to the point of contact shall be made in writing to the appropriate USACE regulatory district or division chief, the Director of Ohio EPA, or to the President of ERP as appropriate.

Per 33 CFR 332.8(d)(6)(ii)(C), ERP assumes all legal responsibility for satisfying the stream and wetland mitigation requirements of the authorized USACE and/or Ohio EPA permits for which credit fees have been paid in full by the permit applicant(s) to ERP. ERP will assume the responsibility for all aspects of mitigation until the Site Closure Letter is issued. Upon the issuance of the Site Closure Letter, ERP may transfer long-term management to a designated entity if such transfer is approved by the IRT.

### *Default Provisions*

If the District Engineer determines that a mitigation bank project is in default of the Instrument, appropriate action will be taken. Default of the Instrument can include failure to meet performance standards, failure to submit monitoring reports, failure to maintain annual and/or individual ledgers, failure to report approved credit transactions and failure to comply with other terms of the instrument. Appropriate remedial actions available to the District Engineer may include, but are not limited to, suspending credit sales for the bank in question, adaptive management, utilizing financial assurances, or terminating the Instrument.

USACE or ERP may terminate the Instrument by providing sixty (60) days written notice to the other parties. In the event that the Instrument is terminated, ERP is responsible for fulfilling any remaining obligations for credits sold, unless the obligation is specifically transferred to another entity as agreed upon by USACE in consultation with the IRT.

### *Project Closure Procedures*

Within ninety (90) days following the end of the monitoring period specified in the mitigation plan for each mitigation bank project site, or following a written request by ERP upon satisfaction of the performance standards for a project site, as determined by the IRT, or USACE on behalf of the IRT, shall issue a written certification of satisfaction to ERP.

Prior to closure of a mitigation project site, the IRT may perform a final compliance inspection to evaluate whether all success criteria have been achieved. Upon the determination by the IRT that:

1. All applicable success criteria have been achieved;
2. All released Credits for that mitigation project site have been debited;
3. A Long-Term Management Plan is in place;
4. The IRT has received a GIS shapefile or similar exhibit depicting the location and extent of the mitigation project;
5. A long-term steward has been secured and provided with long-term management funds as appropriate; and
6. The mitigation project site has complied with the terms of the Instrument and the bank's mitigation plan.

Once a mitigation bank project site closes, and the period of long-term management commences, ERP's responsibility and liability for the mitigation project ceases.

### *Method for Determining Project-Specific Credits*

Project-specific credits for future mitigation bank projects implemented under the Instrument may be determined by the IRT using standard ratios for streams as indicated in the Ohio IRT document, "*Guidelines for Stream Mitigation Banking and In-Lieu Fee Programs in Ohio*" and standard ratios for wetlands as indicated in the Ohio IRT document, "*Guidelines for Wetland*

*Mitigation Banking in Ohio*”, or applicable successor documents. “*Guidelines for Stream Mitigation Banking and In-Lieu Fee Programs in Ohio*” and “*Guidelines for Wetland Mitigation Banking in Ohio*” can be downloaded from the following websites:

[http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/publicnotices/2014December/Guidelines\\_for\\_Stream\\_Mitigation\\_Banking\\_and\\_In-Lieu\\_Fee\\_Programs%20in\\_Ohio\\_Version\\_1.0.pdf](http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/publicnotices/2014December/Guidelines_for_Stream_Mitigation_Banking_and_In-Lieu_Fee_Programs%20in_Ohio_Version_1.0.pdf)

<http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf>

The guidelines may be revised by the Ohio IRT over time and/or replaced by guidance and/or regulations promulgated by USACE or the State of Ohio. ERP will adapt its method of determining project specific credits accordingly over time.

Per 33 CFR 332.8(o)(5)(ii), the cost of compensatory mitigation credits provided by a mitigation bank is determined by the sponsor. Credit cost will be determined for each project implemented under this umbrella instrument and will be reviewed periodically by ERP.

### **Credit Release Schedule**

Per 33 CFR 332.8(o)(8), release of credits from mitigation banks will be tied to performance-based milestones (permitting, site protection, construction, planting, and/or establishment of plant and animal communities). When determining the credit release schedule, factors to be considered may include the type of mitigation project (e.g., restoration, enhancement, rehabilitation, or preservation), the likelihood of success, the nature and amount of work needed to generate the credits, and the aquatic resource type(s) and function(s) to be provided by the mitigation bank. The District Engineer will determine the credit release schedule, including the share to be released only after full achievement of performance standards, after consulting with the IRT. If appropriate, a project’s credit release schedule may follow the schedule described in the “*Guidelines for Stream Mitigation Banking and In-Lieu Fee Programs in Ohio, version 1.1*” and “*Guidelines for Wetland Mitigation Banking in Ohio*” as developed by the Ohio IRT.

The terms of the credit release schedule will be specified each mitigation bank’s approved mitigation plan. When a mitigation bank project is implemented and is achieving the performance-based milestones (interim goals) specified in the credit release schedule, credits are generated in accordance with the credit release schedule per the approved mitigation plan. If a mitigation bank project does not achieve those performance-based milestones, the District Engineer may modify the credit release schedule, including reducing the number of credits.

### **Proposed Service Areas**

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Per the service areas guidelines published by the Ohio IRT in June 2015, service areas for mitigation banks implemented under this umbrella instrument will include: the entire Ohio portion of the Corps District in which each bank site is located for all jurisdictional and isolated Category 1 wetlands of any size and isolated Category 2 wetlands of 0.5 acre and less. For streams and all other wetlands, the service areas will consist of single 8-digit Hydrologic Unit Code (HUC) watersheds. For streams and all other wetlands, the service areas of mitigation banks will be defined by a single 8-digit HUC watershed unless the Ohio Wetland Water Quality Standards have combined multiple 8-digit HUCs into a single watershed; these combined watershed service areas will include:

- Ottawa (041100001), Raisin (04100002), Lower Maumee (04100009)
- St. Joseph (04100003), Upper Maumee (04100005)

- Ashtabula (04110003 minus the Chagrin River), Conneaut (04120101)
- Lower Great Miami (05080002), Whitewater (05080003), Middle Ohio-Laughery (05090203)
- Upper Wabash (05120101), Mississinewa (05120103)

A map showing the 8-digit HUC service areas described in this section is provided in Appendix A.

## ***Need and Technical Feasibility***

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In 2008, the Federal Rule on Compensatory Mitigation: Mitigation for Losses of Aquatic Resources, Final Rule (33 CFR Parts 325 and 332) was published. This rule provides new guidelines for the creation of mitigation banks using a watershed based approach, and established the following order of preference for mitigation types serving as compensation for unavoidable impacts to water resources: 1) credits from mitigation banks; 2) credits from in-lieu fee programs; and 3) permittee-responsible mitigation.

The use of mitigation banks for compensatory mitigation can help to reduce the risk and uncertainty associated with the replacement of lost water resources and associated functions and services. When compared to permittee-responsible mitigation, mitigation banks sites generally provide larger, more ecologically valuable mitigation options. Additionally, these sites must go through a rigorous scientific and technical analysis prior to their acceptance as an authorized mitigation site. When compared to in-lieu fee project sites, mitigation banks provide an additional reduction in temporal loss and uncertainty, as in-lieu fee programs are regularly authorized to sell advance credits before a mitigation project site has been identified and constructed. The proposed statewide umbrella mitigation bank instrument will facilitate construction of mitigation bank sites that will provide the preferred method of compensatory mitigation for projects with unavoidable impacts to Waters of the U.S. or State of Ohio.

Additional mitigation options that will be provided by bank projects undertaken as components of this Instrument will afford the public and regulators with further flexibility when selecting cost-effective compensatory mitigation best suited to offset unavoidable impacts.

## ***Long-Term Management***

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The mitigation bank projects completed by ERP will include an appropriate entity to assure long-term stewardship. Established, restored, enhanced, or preserved aquatic resources and their buffers shall be protected in perpetuity in a site protection instrument that shall run with the land and shall remain in place in the event of transfer of the land. Per 33 CFR 332.8(t)(1), real estate instruments, management plans, or other long-term protection mechanisms used for site protection must be finalized before credits can be released. If portions of acquired properties are not used for compensatory mitigation, those portions may be excluded from the long-term protection mechanisms.

Owners and long-term stewardship providers will typically be units of government including: metropolitan park districts; Soil and Water Conservation Districts; Ohio Department of Natural Resources or other appropriate natural resource/educational entities. In some cases, non-governmental organizations or watershed-based organizations may be engaged to provide long-term stewardship and/or ownership of compensatory mitigation projects. Achieving an ecologically stable mitigation project that achieves the maximum level of aquatic ecosystem



functions and services with the minimum amount of human involvement will be the goal of each mitigation bank project. Each bank's Long-Term Management and Maintenance Plan shall include, at a minimum, provisions for:

1. Periodic inspections to evaluate the site for signs of trespassing or vandalism. Maintenance will include reasonable actions to deter trespassers and repair any damaged features.
2. Monitoring the condition of structural elements and facilities of the site such as signage, water level control structures, fencing, roads, and trails and provisions to repair said structures, if necessary.

ERP will be responsible for developing a Long-Term Management and Maintenance Plan for each mitigation bank site. ERP will enter into an agreement with the long-term management entity/owner. This agreement will be provided to USACE and shall include the requirement that the long-term manager/owner shall manage the site consistent with the terms of the project's mitigation plan. Once a mitigation site has met its performance goals and has been transferred to the site steward, the steward will be tasked with meeting any and all long-term management responsibilities outlined in that site's management and maintenance plan. ERP shall transfer the long-term management funds to the land stewardship entity once USACE and the IRT has concurred that the project has met the established performance goals or IRT approved modified performance goals and monitoring can be stopped. Since the long-term financial needs vary by project, the amount of management funds transferred to the long-term manager/owner will be established in the mitigation plan for each mitigation project.

Per 33 CFR 332.7(a)(3), the real estate instrument, management plan, or other long-term protection mechanism must contain a provision requiring 60-day advance notification to the District Engineer before any action is taken to void or modify the instrument, management plan, or long-term protection mechanism, including transfer of title to, or establishment of any other legal claims over, the compensatory mitigation site.

## ***Sponsor Qualifications***

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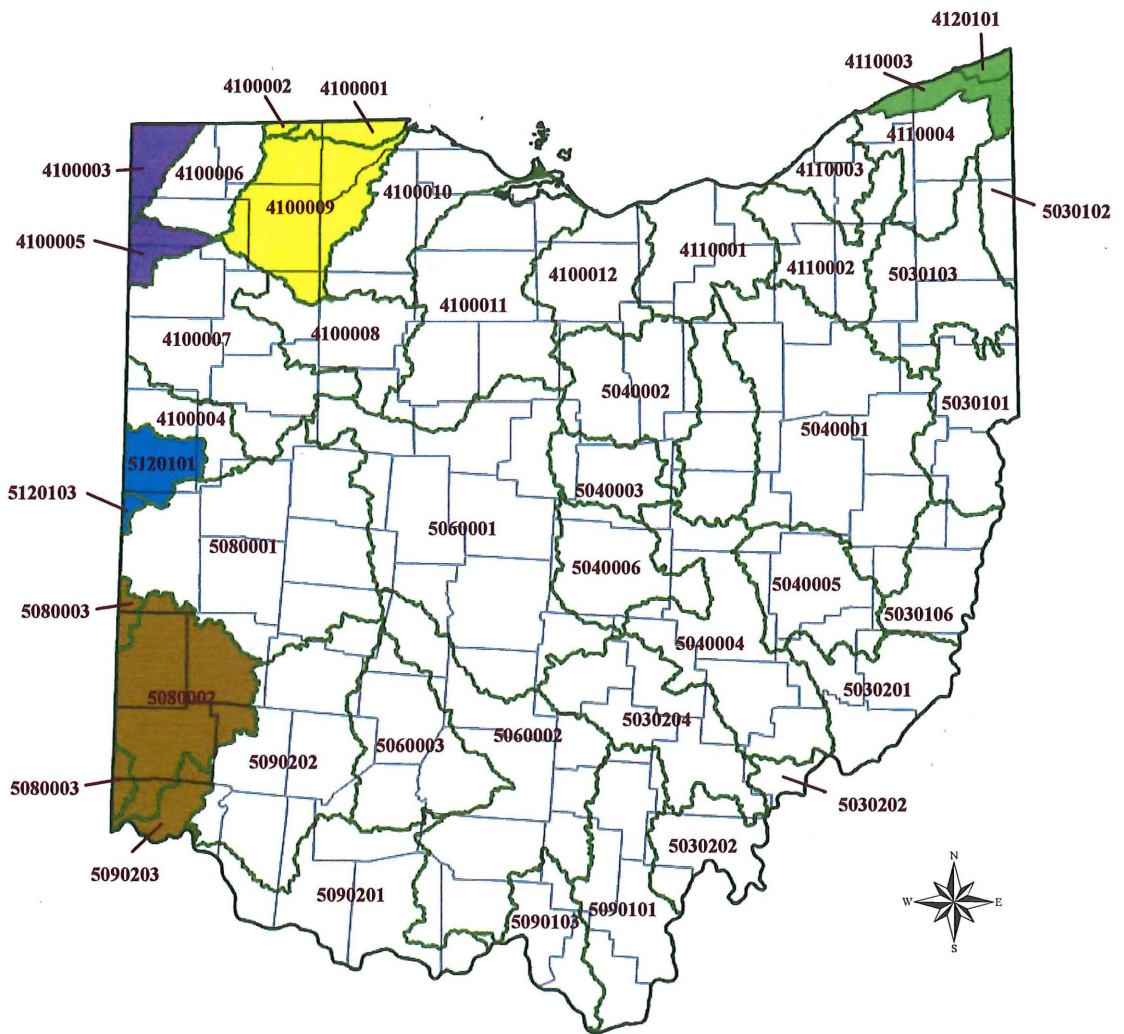
ERP was formed in spring 2017 as a subsidiary of Wetlands Resource Center. The managing staff of ERP and Wetlands Resource Center has been providing ecologically successful mitigation since the 1990s. Wetlands Resource Center and its other subsidiaries, including Shaw Highway Properties, LLC, has completed wetland and stream mitigation projects in Ohio and North Carolina.

Shaw Highway Properties, LLC, a sister subsidiary to ERP, is the sponsor of the Northeast Cape Fear Umbrella Mitigation Bank in North Carolina. Under its Umbrella Instrument, Shaw has completed construction and several years of monitoring of the Holly Shelter Tract site, a 1,153-acre wetland mitigation bank project located in the Northeast Cape Fear 8-digit HUC watershed (03030007) north of the City of Wilmington within the Wilmington USACE District. The Holly Shelter Tract site, which is primarily composed of wetland restoration, has the potential to generate up to 912.1 wetland mitigation credits and 2,300 stream mitigation credits. ERP has proposed a second mitigation bank site under its Umbrella Instrument in North Carolina: the Jeat Tract site. This 168-acre property, located adjacent to the Holly Shelter Tract site, will provide more wetland and stream mitigation opportunities.

In addition to successful work on the Northeast Cape Fear Umbrella Mitigation Bank, ERP's managing member has also completed numerous other mitigation projects within North Carolina and Ohio while working for other companies providing compensatory mitigation. These projects include numerous full-delivery stream and wetland permittee responsible mitigation projects, including the Potash Corporation of Saskatchewan (4,000+ acres of wetland restoration and preservation) and Ohio Department of Transportation's Portsmouth Bypass (72,000+ linear feet of stream restoration and preservation), a wetland mitigation bank in Ohio, and several in-lieu fee mitigation projects for the North Carolina Ecosystem Enhancement Program (now Division of Mitigation Services). This wealth of experience will be leveraged when completing mitigation projects under this umbrella instrument.

***Appendix A***  
***Service Area Map***

# Watersheds for Ohio Wetland Water Quality Standards



## Wetland Water Quality Standard Watersheds comprised of a single USGS 8-digit Hydrologic Unit

04100004; 04100006; 04100007; 04100008; 04100010; 04100011; 04100012; 04110001; 04110002; 04110003 (Chagrin river watershed only); 04110004; 05030101; 05030102; 05030103; 05030106; 05030201; 05030202; 05030204; 05040001; 05040002; 05040003; 05040004; 05040005; 05040006; 05060001; 05060002; 05060003; 05080001; 05090101; 05090103; 05090201; and 05090202

## Wetland Water Quality Standard Watersheds comprised of more than one USGS 8-digit Hydrologic Unit

04100001, 04100002, 04100009  
 04100003, 04100005  
 04110003 (minus the Chagrin River watershed), 04120101  
 05080002, 05080003, 05090203  
 05120101, 05120103

0 62.5 125 250 Miles