

Location Map, City of Hudson GIS

Meeting Date:
June 18, 2026

Location:
549 W Streetsboro St

Parcel Number:
30110419

Request:
Variance requests to
construct driveway for
new home in wetland
setback

Applicant:
Chris Brown

Property Owner:
GVI LLC

Zoning:
D2 – Rural Residential
Conservation

Case Manager:

Mary Rodack,
Associate Planner

Contents

- Application, 5-20-2026
- Site Plan, 6-3-2026
- Site Photos, 6-9-2026
- Wetland Delineation
07-2023



Request:

The subject of this hearing is a request for two variances to allow for the construction of a driveway for a new home. The variances are:

1. A variance of fourteen (14) feet from the required fifty (50) foot wetlands setback resulting in a setback of thirty-six (36) feet from the delineated edge of the wetlands pursuant to section 1207.03(e)(2), “Setbacks – Wetlands” of the City of Hudson Land Development Code.
2. A variance from the prohibited activity of disturbance within stream corridors, wetlands and their setbacks pursuant to section 1207.03(c), “Prohibited Activities” of the City of Hudson Land Development Code.

The site is adjacent to residential development to the east, west, and south and vacant property with additional wetlands to the north.

Project Background

The property is located in District 2 – Rural Residential Conservation and is situated on W Streetsboro St. The lot is approximately 5.2 acres, but the lot would be split into two 2.5 acre lots for single family detached home development if the variances are approved. The variances, if approved, would be applicable for the house lot labeled Parcel “S-2” on the surveyed site plan. The proposed lots would meet all other applicable dimensional requirements. The owners purchased the property in 2025.

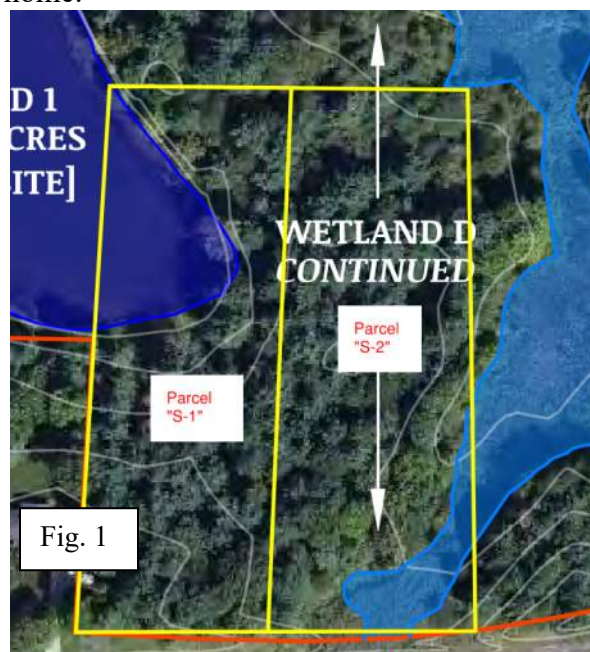
The applicant is requesting to construct a new home and driveway along W Streetsboro St. The City of Hudson’s Land Development Code has the following code sections relative to wetlands -

- 1207.03(c) – *Wetland/Stream Corridor Protection – Prohibited Activities: No person shall engage in any activity that will disturb, remove, fill, drain, dredge, clear, destroy, or alter any area, including vegetation, within stream corridors, wetlands, and their setbacks, except as may be expressly allowed in this Code.*
- 1207.03(e)(2) – *Wetland/Stream Corridor Protection – Wetlands: All buildings, accessory structures, and parking areas or lots shall be set back at least fifty feet horizontally (map distance), from the delineated edge of a wetland.*

The applicant is requesting a variance of fourteen (14) feet from the required fifty (50) foot wetlands setback resulting in a setback of thirty-six (36) feet from the delineated edge of the wetlands in order to construct a driveway for a new home.

The property owners obtained the attached Wetland Delineation in July 2023 for parcel #30110419 and for the Cottages at Pine Ridge Subdivision to the east. The Wetland Delineation provided by HZW Environmental Consultants details the multiple wetlands in the area.

The wetland setback that would be impacted by the proposed construction is labeled as “Wetland D” in the wetland delineation. Figure 1 depicts the parcels, “S-1” and “S-2” overlaid onto the wetland delineation. The light blue section on “S-2” is Wetland D, and the dark blue section on Parcel “S-1”. The pond is not regulated by the Land Development Code or Army Corps of Engineers.



Considerations

Section 1204.03 of the Land Development Code describes the standards for review of variance requests. These standards are listed below, along with staff findings to assist in your determination. All findings are subject to additional testimony presented to the Board during the public hearing:

1. **Whether the property in question will yield a reasonable return or whether there can be any beneficial use of the property without the variances:**

The property in question will yield a reasonable return, and there can be beneficial use of the property without the variance. However, staff notes without the variance, the lot would remain one 5.2 acre lot allowing for one single-family residence. Staff notes the Land Development Code permits a minimum lot size of 2.5 acres within zoning District 2.

2. Whether the variance is substantial:

Wetland setback

The variance would represent a 28% deviation from the code requirement.

Prohibited activity of disturbance within protected areas

Staff notes the lot is generally wooded. The applicant should provide documentation/testimony on the extent of vegetation that is proposed to be removed within the wetland setback. The applicant should document the size, species, and number of trees proposed to be removed within the wetland setback.

3. Whether the essential character of the neighborhood would be substantially altered or whether adjoining properties would suffer a substantial detriment as a result of the variances:

Staff notes the following:

- The lot is approximately 5.2 acres, and the lots, if split, would each be approximately 2.5 acres.
- The neighboring residential properties along W Streetsboro St are generally between .5 acres to 1.5 acres in size.
- “Wetland D” is a category 2 wetland; however the wetland delineation report states it is not a documented high quality wetland.
- As there would be no construction occurring in the wetland, the proposed work would not require a permit with the Army Corps of Engineers.

4. Whether the variance would adversely affect the delivery of governmental services such as water and sewer:

The variances would not adversely affect the delivery of governmental services.

5. Whether the applicant purchased the property with knowledge of the requirements.

The current setback requirements and stream corridor regulations were in place when the property owners purchased the property in 2025.

6. Whether the applicant's predicament can be obviated feasibly through some method other than a variance:

Staff notes the following:

- The applicant could maintain the existing lot dimensions for one single family home.
- The applicant could also construct a driveway on the adjoining lot (Parcel “S-1”) with a shared access easement for Parcel “S-2”; however, shared driveways are challenging as they often lead to complications over restricted parking, snow removal, and resale of homes.
- The applicant could reduce the requested variance by proposing the driveway closer to the property line and instead request a side setback variance from the required 3 ft setback; however, the 3ft setback is meant to provide room for future maintenance and stormwater runoff.

7. Whether the spirit and intent behind the requirement would be observed and substantial justice done by granting the variance.

The Board of Zoning and Building Appeals shall weigh the above factors, along with given testimony in order to make this determination.

Additional Approvals

The proposal would also require the following:

- Administrative lot split.
- A design review with the Architectural and Historic Board of Review for each proposed home.
- Administrative site plan approval for each proposed home.

26-537

Submitted On: May 19, 2026

Applicant and Property Owner Information

Type of Hearing Request

Type of Request:

Variance

Year Property Purchased

01/16/2025

Code Required Regulation (please indicate feet, s.f. or height)

50-foot required setback from a delineated wetland boundary.

Requested Variance (please indicate the amount of the variance in feet, s.f. or height)

13.84-foot variance request.

Resulting Set-Back (please indicate feet, s.f. or height)

36.16-foot setback from the edge of a delineated wetland.

Explanation of Request and Justification:

Variance request for the installation of a new driveway to serve a proposed home.

Supplemental Information for Determining Practical Difficulty

The property in question will yield a reasonable return and there can be a beneficial use of the property with the variance because:

The future homesite would be able to have their driveway on their own individual properties versus in an easement on the adjoining property or utilizing a common driveway.

The variance is

substantial

Describe why the variance is substantial or insubstantial

The required setback from a delineated wetland is 50 feet per the Hudson LDC.

Would the essential character of the neighborhood be substantially altered?

no

Explain why the request is the minimum amount necessary to make reasonable use of the property or structure(s):

The 13.84 foot variance request would allow the homebuilder to keep the driveway a minimum of 3 feet from the property line, install a 12 foot driveway and allow finish grading along both edges of the proposed drive.

Would adjoining properties be negatively impacted?

no

Describe how the adjacent properties will not be affected.

The proposed driveway regardless of the location will not impact adjacent properties.

Will this request adversely affect public services (mail, water, sewer, safety services, etc.)

no

The situation cannot be feasibly solved by means other than a variance. Explain:

The options remaining if the variance is not granted would be to construct a common driveway to serve both proposed parcels in which a common drive ingress/egress easement would need to be created on proposed lot S1 for access to the proposed S2 parcel. A permit could be requested from the Army Corps. of Engineers to partially fill some of the wetland, but that is in conflict of preserving wetland areas per the Hudson LDC.

The spirit and intent behind the zoning requirement would be observed and substantial justice done by granting the variance. Explain below:

Granting the requested variance would allow the future property owners to maintain their own driveways on their own respected property. Additionally, granting the variance would create homesites that are compliant with the Hudson LDC.

The circumstance leading to this request was not caused by current owner. It was caused by:

This was an existing topographic condition. Wetland boundaries and the wetland buffer requirements in the LDC.

List any special circumstances particular to the property/lot (i.e.: exceptional irregularity, narrowness, shallowness or steepness) these circumstances are:

No special circumstances.

BZBA Meeting Information

The following persons are authorized to represent this application with respect to all matters associated with the project

Chris Brown, George Vizmeg, Jon Russell

By checking this box, I do hereby certify that I am authorized to represent the property owner and to accept any conditions that the Board may impose.

true

By checking this box, I do hereby certify that the information to the City of Hudson in and with this application is true and accurate and consents to employees and/or agents of the City of Hudson entering upon the premises of this application for purposes of inspection and verification of information pertaining to the application, and if this application is approved, to verify conformance to requirements and conditions of such approval. I acknowledge that City reviews or approvals do not absolve the subject property from deed restrictions, easements, or homeowner association covenants, restrictions, or regulations regarding structures and uses on the property.

true

DEED PARCEL 11

TO RNER

North

S87°09'00"E
200.00'

IR. PIN SET

400.00'
200.00'

1"=50'

PARCEL #30-10419
GM, LLC
RECEPTION No. 56925887
DEED PARCEL 13

+ 1003.3

PARCEL "S-2"
112,230 S.F.
2.5765 Ac.

x 1003.7

LIMITS OF
DISTURBANCE

N2°51'00"E
568.54'

PARCEL "S-1"
114,701 S.F.
2.6332 Ac.

N2°51'00"E
575.00'

IR. PIN SET

549.67'

S2°51'00"W

1002.

GARAGE

+ 1004.2
1006
1005
1004

50' WETLAND SETBACK
(TYP.)

GARAGE

303.78' R.&A.

12' CONC. DRIVE

IR. PIN SET

1006

18'
1004.4
13.84

1005

1004.8
BRUSH

92.51'

168.40'

18

N87°09'08"W

107.71' R.&A.

CAPPED IR. PIN USED
(D.G. BOHNING ASSOC.)

IR. MON. AT
P.I. FND.

S88°50'52"W

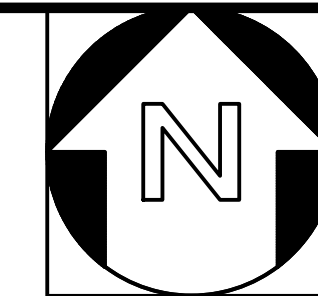
260.91' R.&U.

CAPPED IR. PIN USED
(D.G. BOHNING ASSOC.)

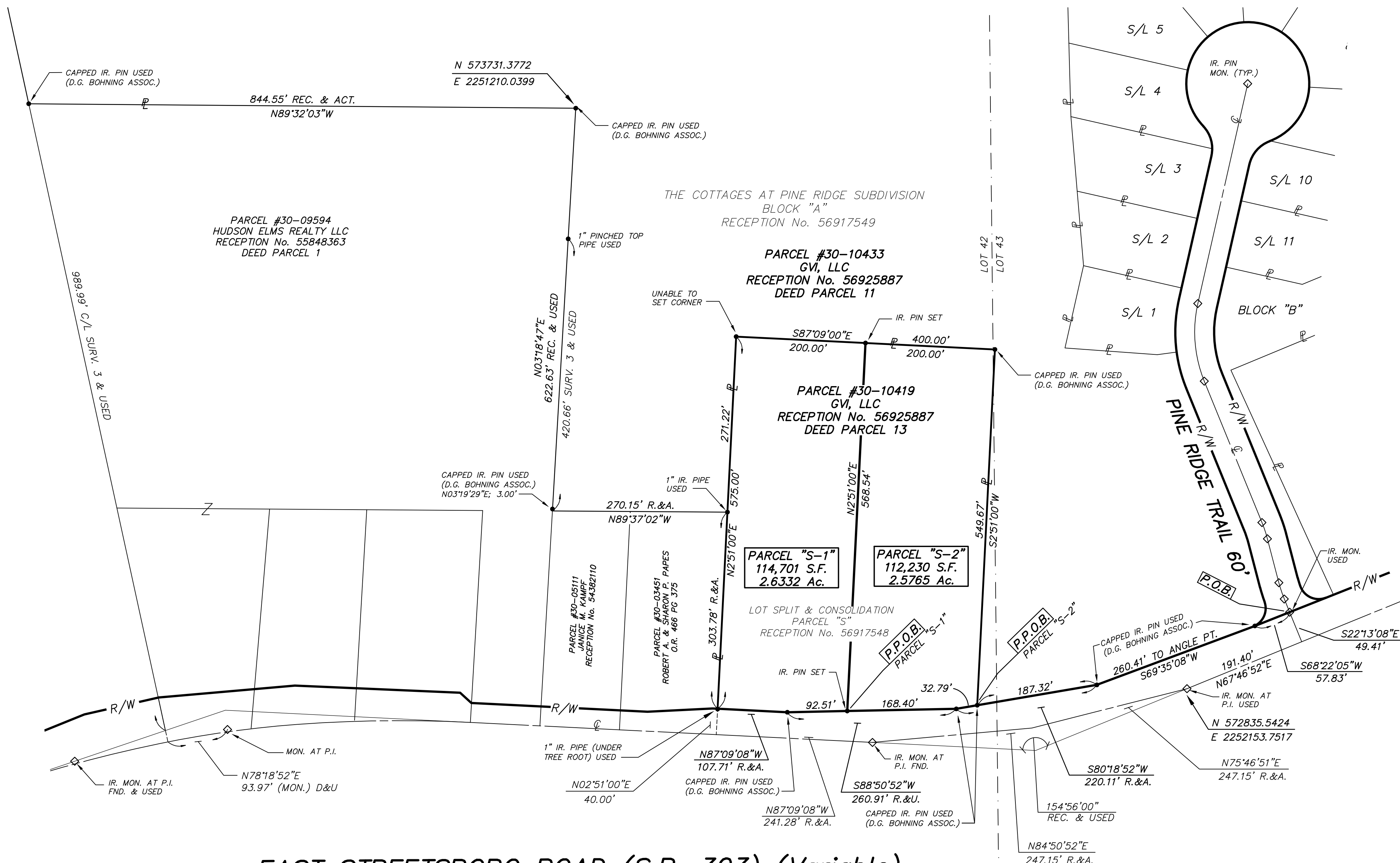
N87°09'08"W

241.28' R.&A.

P.P.P.



DATE	REVISIONS	BY



EAST STREETSBORO ROAD (S.R. 303) (Variable)
(a.k.a. West Streetsboro Road, Streetsboro Road,
Peninsula Road, Richfield-Hudson Road)

ACCEPTANCE

WE THE UNDERSIGNED: GVI, LLC
OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON DO HEREBY ASSENT TO THIS LOT SPLIT PLAT AND ACKNOWLEDGE THAT THE SAME WAS MADE AT THEIR REQUEST.
GVI, LLC

BY: _____
PRINT NAME: _____
PRINT TITLE: _____
STATE OF OHIO _____ S.S.
COUNTY OF _____

BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED, THE AFOREMENTIONED, THE INDIVIDUAL(S) WHO EXECUTED THE FOREGOING INSTRUMENT IN BEHALF OF SAID AFOREMENTIONED, AND BY THE AUTHORITY OF SUCH ENTITY; AND THAT SUCH INSTRUMENT IS THEIR FREE ACT AND DEED INDIVIDUALLY, AND/OR AS SUCH OFFICER THE FREE ACT AND DEED OF SUCH ENTITY.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND OFFICIAL SEAL AT _____, OHIO THIS _____ DAY OF _____, 20____

NOTARY PUBLIC _____ MY COMMISSION EXPIRES _____

APPROVALS

APPROVED BY THE HUDSON CITY ENGINEER
THIS _____ DAY OF _____, 20____

CITY ENGINEER, BRAD KOSCO, P.E., P.S.

APPROVED BY THE HUDSON CITY MANAGER
THIS _____ DAY OF _____, 20____

CITY MANAGER, THOMAS J. SHERIDAN

PLANNING COMMISSION

THIS PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION OF THE CITY OF HUDSON
THIS _____ DAY OF _____, 20____

BY: _____ BY: _____
CHAIRMAN SECRETARY
(PRINT NAME) (PRINT NAME)

BASIS OF BEARINGS
-SUMMIT COUNTY GEODETIC MONUMENT HU 118 ON STATE PLANE COORDINATES OHIO NORTH ZONE NAD 1983 (1986)
-SUMMIT COUNTY GEODETIC MONUMENT HU 118 HAS MATCHING STATE PLANE & GROUND COORDINATES. MULTIPLICATION FACTOR 0.999900637.
-COORDINATES SHOWN ON SURVEY ARE GROUND COORDINATES.

SURVEY REFERENCES:
SURV: MAP OF LOT SPLIT FOR PRESTIGE & PREMIER CO'S - EDG RECEPTION No. 54834796 DATED JANUARY 30, 2003
SURV 2: MAP OF LOT SPLIT FOR PRESTIGE & PREMIER CO'S BY ROBERT WARNER DATED JULY 7, 2006
SURV 3: THE RESERVE AT RIVER OAKS, PHASE 1A RECEPTION No. 55495626

- NOTES:**
- "IR. PIN SET" INDICATES 5/8 DIAMETER BY 30" LONG REBAR WITH IDENTIFICATION "D.G. BOHNING ASSOC."
 - NO TRANSFER IS TAKING PLACE WITH THE RECORDING OF THIS SURVEY. THIS SURVEY IS BEING RECORDED AS A GRAPHIC REPRESENTATION OF A LEGAL DESCRIPTION IN A DEED.
 - IT IS THE INTENT OF THIS PLAT TO: -SPLIT EXISTING PARCEL "S" (#30-10419) INTO PARCELS "S-1" & "S-2" AS SHOWN.
 - PROPERTY FALLS WITHIN ZONING DISTRICT 2 AS SHOWN HEREON.

BENCH MARK
SUMMIT COUNTY GEODETIC MONUMENT HU 118
STATE PLANE COORDINATE
N 572,745.649
E 2,250,912.641
ELEVATION: 1006.912 NAVD 1988

MAP OF LOT SPLIT MADE FOR AND AT THE INSTANCE OF GVI, LLC.

BEING PARCEL "S" IN A SURVEY & LOT SPLIT AND CONSOLIDATION OF PART OF ORIGINAL HUDSON TOWNSHIP LOTS 42, AND 43, AS RECORDED IN RECEPTION NUMBER 56917548 OF SUMMIT COUNTY RECORDS
NOW IN THE CITY OF HUDSON
SUMMIT COUNTY, OHIO

DISTANCES ARE GIVEN IN FEET AND DECIMAL PARTS, THEREOF; BEARINGS ARE REFERENCED TO AN ASSUMED MERIDIAN AND ARE USED TO INDICATE ANGLES ONLY.



Michael A. Ackerman 5/12/2026
MICHAEL A. ACKERMAN DATE
REGISTERED SURVEYOR NO. 8196

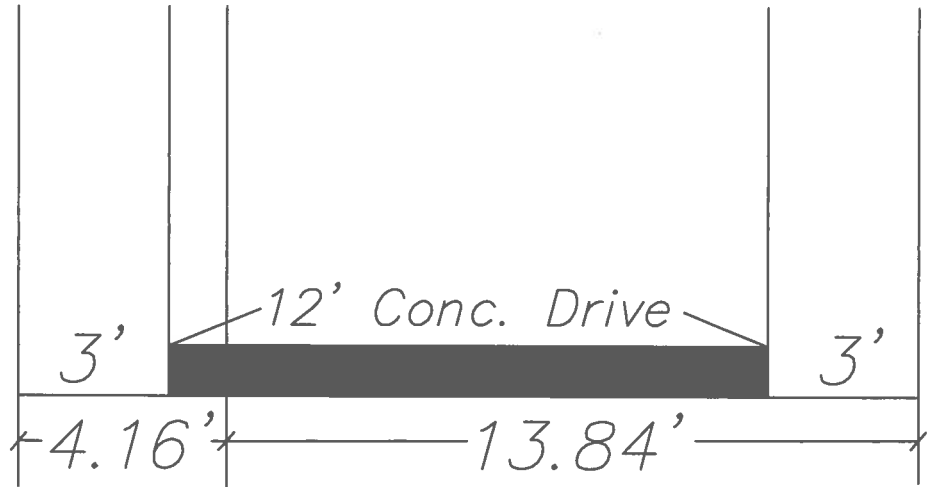
DB DONALD G. BOHNING & ASSOCIATES, INC.
CIVIL ENGINEERING & SURVEYING
7979 HUB PARKWAY + VALLEY VIEW, OHIO 44125
PHONE: (216) 642-1130 FAX: (216) 642-1132

HORIZ. SCALE 1"=100'	DRN. CHD. DATE M.D. M.A. MAY, 2026	1 1
GR. SCALE 0' 50' 100'	FILE NO. ORDER NO. 4272V-LS1 4272-V	

Property Line

Edge of Proposed Driveway
Current Wetland Bufferyard

Edge of Proposed Driveway
Edge of Proposed Grading

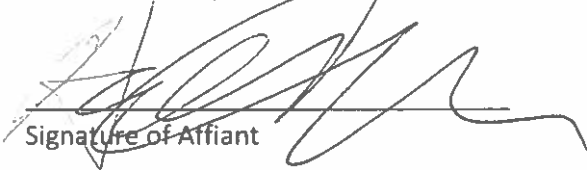


State of Ohio

County of Summit

Personally came and appeared before me, the undersigned notary, the within named Triban Investment, LLC, Hanna Cohan it's Authorized Agent, who is the owner of permanent parcel number 3003001 located in The City of Hudson, Summit County, State of Ohio and whereas acknowledges Triban Investment, LLC. has submitted a Site Plan Review to the City of Hudson and makes this his/her statement and general affidavit upon oath and affirmation of belief and personal knowledge that the following matters, facts and things set forth are true and correct to the best of his/her knowledge.

Dated this the 21st day of Oct, 2024.


Signature of Affiant

STATE OF OHIO)
) SS.
COUNTY OF Lake)

I HEREBY CERTIFY that on the 21 day of October, 2024, before the subscriber, a Notary Public in and for the above jurisdiction, personally appeared Hanna Cohan, who has satisfactorily been proven to be the person whose name is subscribed to the within instrument, who acknowledged herself to be the Manager of Triban Investment, LLC an Ohio limited liability company and that she, being authorized so to do, did attest and subscribe her name on the foregoing instrument.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



NICOLE LUPTAK
Notary Public
State of Ohio
My Comm. Expires
September 13, 2028


NOTARY PUBLIC

Adjacent Property Owners

Robert A. Papes	553 W. Streetsboro St. Hudson, OH.44236
Janice M Kampf	561 W. Streetsboro St. Hudson, OH.44236
Hudson Elms Realty	563 W. Streetsboro St. Hudson, OH.44236
Village of Hudson	572 W. Streetsboro St. Hudson, OH.44236
Janet Kay Koudela	554 W. Streetsboro St. Hudson, OH.44236
Zubay Family Irrevocable Trust	550 W. Streetsboro St. Hudson, OH.44236
Kendrick Bruton	546 W. Streetsboro St. Hudson, OH.44236
Eugene J. Piscitello	538 W. Streetsboro St. Hudson, OH.44236
Judith Ann Stefano OH.44236	534 W. Streetsboro St. Hudson,
Dave J. Drummond	530 W. Streetsboro St. Hudson, OH.44236
Metro Parks serving Summit County	975 Treaty Line Road Akron, OH. 44313

State of Ohio

County of Summit

Personally came and appeared before me, the undersigned notary, the within named GVI LLC, George Vizmeg it's Authorized Agent, who is the owner of permanent parcel number 3010419 located in the City of Hudson, Summit County, State of Ohio and whereas acknowledges GVI LLC. has submitted a Site Plan Review to the City of Hudson and makes this his/her statement and general affidavit upon oath and affirmation of belief and personal knowledge that the following matters, facts and things set forth are true and correct to the best of his/her knowledge.

Dated this the 2 day of June, 2026

George Vizmeg

Signature of Affiant

STATE OF OHIO)
) SS.
COUNTY OF Summit)

I HEREBY CERTIFY that on the 2nd day of June, 2026, before the subscriber, a Notary Public in and for the above jurisdiction, personally appeared George Vizmeg, who has satisfactorily been proven to be the person whose name is subscribed to the written instrument, who acknowledged himself to be the Owner of GVI LLC, an Ohio limited liability company and that he, being authorized so to do, did attest and subscribe his name on the foregoing instrument.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



ANNA GALIOTO
Notary Public
State of Ohio
My Comm. Expires
April 11, 2027

Anna Galisto
NOTARY PUBLIC



View looking West



View looking North





PRESTIGE
BUILDER GROUP
Custom Design & Build
FOR SALE
234.380.1032
prestigebuildergroup.com

















WETLAND DELINEATION

**APPROXIMATELY 81 ACRES NORTH OF WEST
STREETSBORO STREET
CITY OF HUDSON, SUMMIT COUNTY, OHIO**

July 2023

Prepared for:

GVI, LLC
778 McCauley Road
Suite 140
Stow, Ohio 44224

Prepared by:



HZW Environmental
Consultants

**6105 Heisley Road ♦ Mentor, Ohio 44060
440-357-1260 ♦ Fax 440-357-1510**

TABLE OF CONTENTS

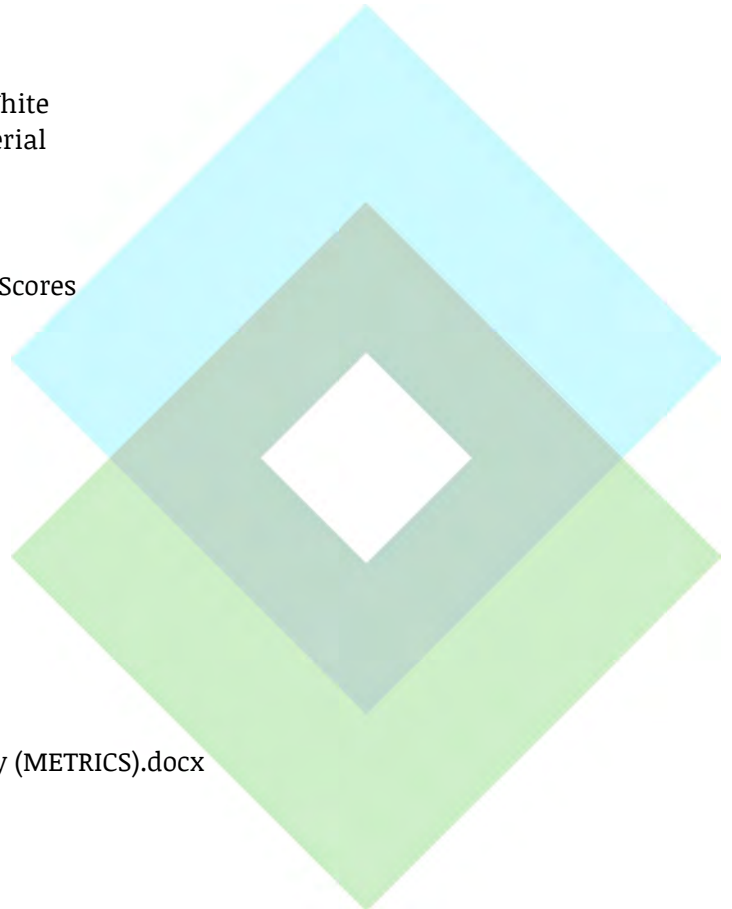
1.0 INTRODUCTION.....1
1.1 Purpose.....1
1.2 Methods of Investigation.....1
2.0 SITE DESCRIPTION 4
3.0 FINDINGS..... 5
3.1 Background Research.....5
3.1.1 2023 Hudson, Ohio, National Wetlands Inventory (NWI) Map.....5
3.1.2 2023 Hudson, Ohio, USGS 7.5 Minute Topographic Quadrangle Map5
3.1.3 2023 Soil Survey of Summit County.....5
3.1.4 Hydric Soils List for Summit County7
3.2 Field Investigation7
3.2.1 Wetland Areas Delineated.....7
3.2.2 Streams Delineated.....8
3.2.3 Non-Wetland Areas.....8
3.2.4 Other Aquatic Resources8
4.0 CONCLUSIONS 9
5.0 DISCUSSION OF FUTURE PERMITTING SCENARIOS..... 10
6.0 RECOMMENDATIONS 11
7.0 REFERENCES.....12
8.0 QUALIFICATIONS13

APPENDICES

- Appendix A – Figure 1: Site Location Map
Figure 2: USGS Topographic Map
Figure 3A: Aquatic Resources Map-White
Figure 3B: Aquatic Resources Map-Aerial
- Appendix B – Photographic Log
- Appendix C – Wetland Determination Data Forms
- Appendix D ORAM Data Forms
- Appendix E PHWH Evaluation Forms with HHEI Scores

TABLES

- Table 1 – Summary of On-Site Wetlands
- Table 2 – Summary of On-Site Streams



WETLAND DELINEATION

Approximately 81 Acres North of West Streetsboro Street
City of Hudson, Summit County, Ohio (H23163-03)

1.0 INTRODUCTION

On May 15, 17, and 18, 2023, HZW Environmental Consultants, LLC (HZW) conducted a wetland delineation of approximately 81 acres north of West Streetsboro Street encompassing 20 parcels in the city of Hudson, Summit County, Ohio (herein referred to as the “Study Area”). The 20 parcels comprising the Study Area include 3004604, 3005112, 3009782, -83, -84, -85, -86, -87, -88, -89, -90, -91, -92, -93, -94, -95, -96, -97, -98, -99. This study was conducted in accordance with HZW’s agreement with GVI, LLC (herein referred to as the “Client”).

1.1 Purpose

The primary purpose of this wetland delineation was to identify areas within the boundaries of the Study Area that meet the three (3) criteria of a wetland: hydrophytic vegetation, hydric soils and wetland hydrology and any other areas (streams, ponds, etc.) that are considered “waters of the United States” and “waters of the State of Ohio.”

1.2 Methods of Investigation

All investigative methods and field procedures were performed in accordance with the guidelines established in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (ERDC/EL TR-12-1; January 2012) and the 1987 Army Corps of Engineers (Corps) Manual, Technical Report Y-87-1, Field Guide for Wetland Delineation (1987 Manual). As required by the 1987 Manual, available reference materials were reviewed for the Study Area. These references included, but were not limited to, the 2021 Hudson, Ohio, National Wetlands Inventory (NWI) map published online by the United States Fish and Wildlife Service; the 2023 Wadsworth and West Richfield, Ohio, United States Geological Survey (USGS) 7.5 Minute Topographic Quadrangle Maps; the Web Soil Survey of Summit County, Ohio (Soil Survey) issued in 2023 by the United States Department of Agriculture (USDA); and a list of hydric soils published by the Natural Resource Conservation Service (NRCS) for Summit County.

The site investigation methods followed the “Areas Greater than 5 Acres in Size,” as described in Section D - Subsection 2 of the 1987 Manual. As a new plant community or change in hydrology was observed, a data point was established (designated “DPI” through “DPI7”). At each data point, field conditions were evaluated and recorded to determine the presence or absence of hydrophytic vegetation, hydric soil conditions, and wetland hydrology. In addition, a photographic log was prepared for the Study Area during the site investigation activities. At any data point exhibiting all three (3) wetland criteria, the wetland area was assigned a letter designation (e.g., Wetland A) and the delineated boundary of the wetland area was flagged with consecutively numbered, pink and black striped field flagging. The location of each flag was mapped using a Trimble® GeoXH Global Positioning System (GPS) unit. A discussion of the three (3) evaluation criteria of a wetland is presented below.

Hydrophytic Vegetation

Hydrophytic vegetation is the community of macrophytes that occur in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence on the plant species present. Hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during the growing season. Hydrophytic vegetation is determined by the wetland indicator status (Reed, 1998, or current approved list) of species that make up the plant community. Species in the facultative categories (FACW, FAC, and FACU) are recognized as occurring in both wetlands and non-wetlands to varying degrees. In general, wetlands are dominated mainly by species rated OBL, FACW, and FAC.

The dominant vegetation, representing the major landscape or vegetation units, was determined for each of the four strata (tree, sapling/shrub, herbaceous, and vine) within one or more sampling plots established in representative locations within each unit. Plot size is determined by the type of vegetation present in accordance with the following table.

Trees	30-foot radius	Herb	5-foot radius
Saplings/shrubs	15-foot radius	Woody Vines	30-foot radius

In general, percent cover for all species was estimated to determine abundance (dominance). For species determined to be dominant, the appropriate indicator status was assigned. If all dominant species across all strata were listed as OBL and/or FACW, the plot was determined to exhibit hydrophytic vegetation and a detailed comparison of all dominant species was not necessary to make this determination. If the plot is not dominated solely by OBL and FACW species across all strata, dominant species within all strata were then added to determine the percentage of wetland vegetation for each sample point. The hydrophytic vegetation criterion was determined to be met if greater than 50 percent of the dominant vegetation across all strata was indicative of hydrophytic vegetation.

Hydric Soils

Hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile. To determine the extent of hydric soils in the Study Area, soil samples were obtained at each data point or at a point proximal to a data point that best represents the estimated boundary of hydric/non-hydric soils based on other field observations. A standard Munsell soil color chart was used to determine the hue, value, and chroma of each soil sample. Soil samples were taken at a sufficient depth such that soil conditions immediately below the A horizon or at a depth of ten (10) inches, whichever is shallowest, can be observed. Criteria established by the National Technical Committee for Hydric Soils (1991 and 2006) were used to determine hydric soils. Hydric soil indicators including redox depletions (gley), low chroma colors with redox concentrations (mottles), histosols (organic matter accumulation - muck/peat), histic epipedons (organic soil over low chroma mineral soils), sulfidic odor, listing on a local hydric soils list, and listing on a national hydric soil list, are used to determine the presence of hydric soils.

Wetland Hydrology

Wetland hydrology indicators are used in combination with indicators of hydrophytic vegetation and hydric soils to determine whether an area is a wetland. Typically, vegetation and soils provide strong evidence that wetland hydrology is also present. Hydrology indicators provide evidence that the site has a *continuing* wetland hydrologic regime and confirm that an episode of inundation or soil saturation occurred recently. Hydrology indicators may provide little additional information about the timing, duration, or frequency of such events. Each data point was examined for the presence of primary and secondary hydrological indicators that indicate surface water or soil saturation, evidence of recent inundation, evidence of current or recent soil saturation, and other on-site conditions or data.



2.0 SITE DESCRIPTION

On May 15, 17, and 18, 2023, Benjamin Latoche, a certified wetland delineator with HZW, conducted a field investigation of the Study Area. The eastern portion of the 81.0-acre Study Area is developed with a single residential property with all the associated attendant features. The remaining portions of the Study Area are largely undeveloped and consist of secondary growth forest predominating throughout the northern, western, and southwestern portions. A large emergent wetland runs southeast to northwest from the southern Study Area boundary to the northwestern region of the Study Area. A large, freshwater pond is also located in the southwestern portion of the Study Area. The Study Area is bordered by undeveloped forest and the Laurel Lake Retirement Community to the north, undeveloped forest and residential properties to the east, State Route 303 to the south, and the intermittent stream Mud Brook bordered by a large complex to the west. A site map depicting the location of the Study Area is included as **Figure 1** in **Appendix A**.

The Study Area is located within the Cuyahoga River watershed (HUC 8: 04110002) and is situated within the Erie/Ontario Drift and Lake Plain ecoregion.



3.0 FINDINGS

The findings of the background resources reviewed, and field investigation conducted as part of the delineation activities are discussed separately.

3.1 Background Research

3.1.1 2023 Hudson, Ohio, National Wetlands Inventory (NWI) Map

Several aquatic resources depicted within the boundaries of the Study Area on the NWI map. One (1) PUBG feature representing a freshwater pond is depicted in the southwestern corner of the Study Area. Two (2) PSS1C features are depicted in the southern portion of the Study Area. Two (2) R4SBC feature representing intermittent streams converge in the northwestern corner of the Study Area and exit through the western Study Area boundary. Lastly, one (1) additional R4SBS intermittent stream feature named Mud Brook is narrowly on site as it parallels the western Study Area boundary.

3.1.2 2023 Hudson, Ohio, USGS 7.5 Minute Topographic Quadrangle Map

The Hudson, Ohio, USGS 7.5-minute topographic quadrangle maps indicates that the eastern and northeastern portions of the Study Area exhibit moderately rolling topography which ranges from approximately 1,000 to 1,010 feet above National Geodetic Vertical Datum (NGVD). The southern and northwestern portions of the Study Area exhibit flat topography; however, the Study Area very gently slopes northwest from approximately 1,100 to 1000 feet above NGVD between these two (2) areas. Aquatic resources depicted on the topographic quadrangle map include one (1) unnamed, southwest-flowing, intermittent stream which bisects the center of the Study Area from northeast to southwest. An additional, unnamed, intermittent stream flows south from a small, freshwater pond in the far northeast corner of the Study Area and converges with the aforementioned stream in the northeastern portion of the Study Area. An additional, small, freshwater pond is depicted in the eastern portion of the Study Area. A larger freshwater pond is also depicted in the southwestern portion of the Study Area. Lastly a named, southeast-flowing intermittent stream, Mud Brook, parallels the western Study Area boundary. The portion of the Hudson, Ohio, topographic quadrangle map depicting the Study Area is presented as **Figure 2** in **Appendix A**.

3.1.3 2023 Soil Survey of Summit County

The Soil Survey shows that the Study Area is underlain by ten (10) soil types:

BhB Bogart-Haskins loams, 2 to 6 percent slopes. The gently undulating soils in this complex are mostly on terraces in the northern part of the county. Bogart soils formed in fairly thick outwash material make up about 50 percent of the complex, Haskins soils about 40 percent and Jim town soils about 10 percent. Haskins soils formed in thin outwash material and the underlying glacial or clayey material that is within a depth of 20 to 40 inches. Haskins soils are wetter than Bogart soils. Haskins and Jimtown soils are somewhat poorly drained. Runoff is medium, and erosion is a moderate hazard in areas where runoff is concentrated. Because Bogart and Haskins soils are seasonally wet,

wetness is a limitation to some nonfarm uses. Seasonal wetness is more severe on Haskins soils than it is on Bogart soils. This soil is mapped in the southern portion of the Study Area.

- Ca Canadice silty clay loam.** This nearly level, slightly depressional soil is on terraces mainly in the northern part of the county. Included in mapping are small spots of soils in shallow depressions that are very poorly drained. Seasonal wetness and slow permeability are limitations to most uses of this soil. Runoff is slow to ponded. This soil is mapped in the northern portion of the Property.
- CcB Caneadea silt loam, 2 to 6 percent slopes.** This is a deep, gently sloping, and somewhat-poorly drained soil found on undulating terraces. Included in mapping are small knolls of moderately well-drained Glenford and Geeburg soils, and areas of soils that have a silt mantle. Also included, particularly in shallow drainageways and depressions, are small spots of poorly drained Canadice soils, which are wetter than this Caneadea soil. Permeability is very slow, resulting in seasonal wetness, and runoff is rapid. Some areas are moderately eroded. This soil is mapped in the northern portion of the Study Area.
- FcB Fitchville silt loam, 2 to 6 percent slopes.** This nearly level to gently sloping somewhat-poorly drained soil is on terraces and alluvial fans. Included in mapping, particularly on the more sloping knolls, are small spots of moderately well drained Glenford soils. Seasonal wetness and slow permeability are limitations of this soil. Runoff is medium to rapid. This soil is mapped in the western, central and eastern portions of the Study Area.
- Gbc2 Glenford silt loam, 6 to 12 percent slopes.** This soil is on hillsides in the Cuyahoga River valley. Included in mapping are small spots of Ellsworth and Glenford soils and areas of soils that are not eroded. Runoff is rapid and permeability is slow. This soil is mapped in the central portion of the Study Area.
- Ln Lorain silty clay loam.** This soil is nearly level and is most extensive in Hudson and Twinsburg Townships and in Stow Village. The surface layer has a high organic matter content. Included in mapping are small areas of soils that have a dark-colored surface layer more than 10 inches thick. Also included, particularly in the lowest part of the landscape, are areas of soils that have a thin, mucky surface layer. Other inclusion are small spots of more silty Luray soils, a few areas of soils that have a silty clay or silt clay that has slopes of 2 to 4 percent and is adjacent to steep walls of the Cuyahoga River Valley. A high water table and slow permeability are major limitations to most nonfarm uses of this soil. This soil is in the Study Area.

Sb Sebring silt loam. This nearly level soil is on broad, low terraces. Included in mapping, particularly in shallow depressions, are small spots of dark-colored, very poorly drained Luray soils. In addition, a few areas have a silty clay loam surface layer that is sticky when wet. Runoff is slow to ponded. Moderately-slow permeability and seasonal wetness are limitations to many non-farm uses of this soil. This soil is mapped in the northern, northwestern, western, and southwestern portions of the Study Area.

aquatic resources are depicted within the boundaries of the Study Area on the Soil Survey map.

3.1.4 Hydric Soils List for Summit County

According to the list of hydric soils for Summit County, all ten (10) soils units depicted as underlying the Study Area on the Soil Survey, BgB, CnB, CnC, CoC2, CoD2, CyE, JtB, LoB, WRA, and WrB, are considered non-hydric.

3.2 Field Investigation

3.2.1 Wetland Areas Delineated

Field investigation data gathered on May 15, 17, and 18, 2023, identified five (5) areas within the boundaries of the Study Area that are classified as wetlands based on the presence of the three (3) wetland criteria (wetland hydrology, hydric soils, and hydrophytic vegetation). This area is designated by HZW as “Wetland A” through “Wetland F”. The location of the wetlands and the location of the wetland data points (designated “DP1”, “DP3”, “DP5”, “DP6”, “DP8”, “DP13”, “DP15”, “DP16”, and “DP17”) established during delineation activities is indicated on the aquatic resources map presented as **Figure 3A** in **Appendix A**. A map depicting the aquatic resources overlaying an aerial photograph is presented as **Figure 3B** in **Appendix A**. The photographic log prepared for the Study Area during the field investigation activities is included as **Appendix B**. The wetland determination data forms prepared for the Study Area are included as **Appendix C**. The quality of these wetlands was evaluated by HZW using the Ohio Rapid Assessment Method Version 5.0 (ORAM). The ORAM data forms are included as **Appendix D**. A description of the wetland area identified within the boundaries of the Study Area is provided in **Table 1**, below.

Table 1 – Summary of On-Site Wetlands

Wetland	Type	Data Point	Photograph	Acres	ORAM Score (Category)
A	Emergent	DP1	1, 2	0.18*	26.0 (Category 1)
B	Emergent	DP3	5, 6	0.05	25.0 (Category 1)
C	Emergent	DP5	9, 10	0.22	24.0 (Category 1)
D	Forested / Emergent / Scrub-Shrub	DP6, DP8, DP15, DP16, DP17	11, 12, 15, 16, 29-34, 37, 41-42	16.81* / 11.81* / 1.74* TOTAL: 30.12*	51.5 (Category 2)
E	Forested	DP13	25, 26	0.13	48.0 (Category 2)

*Represents on-site acreage

3.2.2 Streams Delineated

One (1) southwest-flowing stream designated by HZW as “Stream 1” was identified in the center of the Study Area. The quality of “Stream 1” was evaluated using the 2009 Primary Headwater Habitat (PHWH) evaluation form which calculates a numerical Headwater Habitat Evaluation Index (HHEI) score. The PHWH evaluation forms and associated HHEI score for “Stream 1” are included as **Appendix E**. A description of the Stream 1 is provided in **Table 2**, below.

Table 2 - Summary of On-Site Streams

Stream	Type	<u>Length</u> (feet)	<u>Length in</u> <u>Culvert</u> (feet)	<u>Average</u> <u>Width</u> (feet)	Acres	Photograph	HHEI Score (Class)
1	Intermittent	711.6*	57.8	3.5	0.057*	35, 36	38 (Modified Class II)

**Represents on-site length*

3.2.3 Non-Wetland Areas

The data collected at the remaining data points, “DP2”, “DP4”, “DP7”, “DP9”, “DP10”, “DP11”, “DP12”, and “DP14”, did not meet all of the criteria of a wetland; therefore, these areas are considered non-wetland. Refer to the aquatic resources map presented as **Figure 3A** in **Appendix A** for the location of “DP2”, “DP4”, “DP7”, “DP9”, “DP10”, “DP11”, “DP12”, and “DP14”, and the wetland determination data forms included as **Appendix C** for more detailed information regarding the hydrology, soils, and vegetation found at the non-wetland data points.

3.2.4 Other Aquatic Resources

One (1) southwest-flowing ditch was identified in the northern portion of the Study Area during the field investigation and is designated by HZW as “Ditch 1”. Additionally, one (1) pond was identified in the southwestern portion of the Study Area and is designated as “Pond 1”. The location of the “Ditch 1” and “Pond 1” is indicated on the aquatic resources maps presented as **Figure 3A** and **Figure 3B** in **Appendix A**. Photographs of these aquatic resources are presented in the photographic log prepared for the Study Area in **Appendix B**.

4.0 CONCLUSIONS

In summary, five (5) areas within the Study Area were identified as containing hydrophytic vegetation, hydric soil, and wetland hydrology, and, therefore, are considered wetlands. Additionally, one (1) stream, one (1) ditch, and one (1) pond were identified. Upon completion of the delineation, the location and configuration of the wetlands, stream, ditch, and pond located within the Study Area were mapped using a Trimble® GeoXH GPS unit, which has an accuracy of less than one (1) meter.

The Corps will make the final determination regarding jurisdiction of the identified aquatic resources during the affirmation process.



5.0 DISCUSSION OF FUTURE PERMITTING SCENARIOS

Based on the United States Supreme Court ruling (No. 99-1178), issued on January 9, 2001, it is HZW's understanding that those wetlands that are non-navigable, isolated, and intrastate may no longer be included in the Corps' jurisdiction. In order to inform the Client of all available scenarios pertaining to the development of the Study Area, discussions presented in this report are based on the wetland delineation activities being conducted in accordance with the 1987 Manual and the Regional Supplement, which evaluate wetland characteristics irrespective of whether the wetland area is considered to be non-isolated (federally-regulated) or isolated (state-regulated). Currently, the Corps is making jurisdictional determinations.

For most Nationwide Permits (NWP), if the impacts associated with the activity/development do not exceed 0.50 of an acre of non-isolated wetlands, coverage under an NWP is appropriate. (Note: all stream impacts must be converted to an acreage and added to the non-isolated wetland impacts; the total impact to all "waters of the U.S." must be under 0.50 of an acre to qualify for this coverage.) A pre-construction notification (NWP application) is required for coverage under most NWPs and compensatory mitigation is generally required.

If future development would impact greater than 0.50 of an acre of waters of the United States, a Section 404 Individual Permit from the Corps and a Section 401 Water Quality Certification from the Ohio EPA would be required prior to initiating construction activities. The Corps and Ohio EPA will likely require mitigation for all wetland and stream impacts.

For those wetlands that are only within the jurisdiction of the Ohio EPA, regulations have been developed as House Bill 231. Currently, if less than 0.50 of an acre of isolated wetland impacts are proposed, a General Isolated Wetland Permit (Level 1 Review) will be required prior to impacting those wetlands. Isolated wetland impacts over 0.50 of an acre will require a more detailed permitting process with the Ohio EPA. Compensatory mitigation will be required for any amount of isolated wetland impact.



6.0 RECOMMENDATIONS

Based on the findings presented above, HZW presents the following recommendations for consideration at the Study Area:

1. Submit one (1) copy of this wetland delineation report to the Corps for affirmation of the boundaries and jurisdictional determination of the aquatic resources located within the Study Area. Presently, the Corps is the agency responsible for conducting wetland affirmations and is providing written jurisdictional determinations.
2. Should impacts be anticipated to the aquatic resources identified on site following a jurisdictional determination, obtain the appropriate permit from the Corps and/or Ohio EPA prior to impacting these areas.

Note: *Should the Corps desire to conduct a field affirmation, additional regulated waters may be identified within the boundaries of the Study Area based on differing field conditions than present during the time this delineation study was conducted.*



7.0 REFERENCES

A bibliography of references reviewed as part of this delineation is presented below.

7.1 Bibliography

1. Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed [4/27/23]
2. U. S. Fish and Wildlife Service. 2021. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. <http://www.fws.gov/wetlands> [4/27/23]
3. *Topographic Map*, United States Geological Survey; 2023 Hudson, Ohio, USGS 7.5 Minute Topographic Quadrangle.
4. *Field Guide for Wetland Delineation*, United States Army Corps of Engineers, Technical Report Y-87-1, 1987.
5. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, United States Army Corps of Engineers, ERDC/EL TR-12-01, 2012.
6. *List of Hydric Soils for Summit County*, Natural Resource Conservation Service.
7. *National List of Plant Species That Occur in Wetlands: Ohio*, Reed, Porter B., Jr., United States Fish and Wildlife Service, Saint Petersburg, 1988.
8. *Hydric Soils of the United States*, National Technical Committee for Hydric Soils, United States Department of Agriculture, Soil Conservation Service, Washington, 1991.
9. Ohio EPA. 2018. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.0. Ohio EPA Division of Surface Water, Columbus, Ohio. 129pp.
10. Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms. Ohio EPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

8.0 QUALIFICATIONS

This wetland delineation was conducted on May 15, 17, and 18, 2023, by HZW's certified wetland delineator Benjamin Latoche. Data collection and report writing was completed by Benjamin Latoche. The signatures of the environmental professionals responsible for the preparation of this report are provided below.



Benjamin Latoche
Group Leader - Wetlands & Ecology



APPENDIX A

FIGURES 1-3

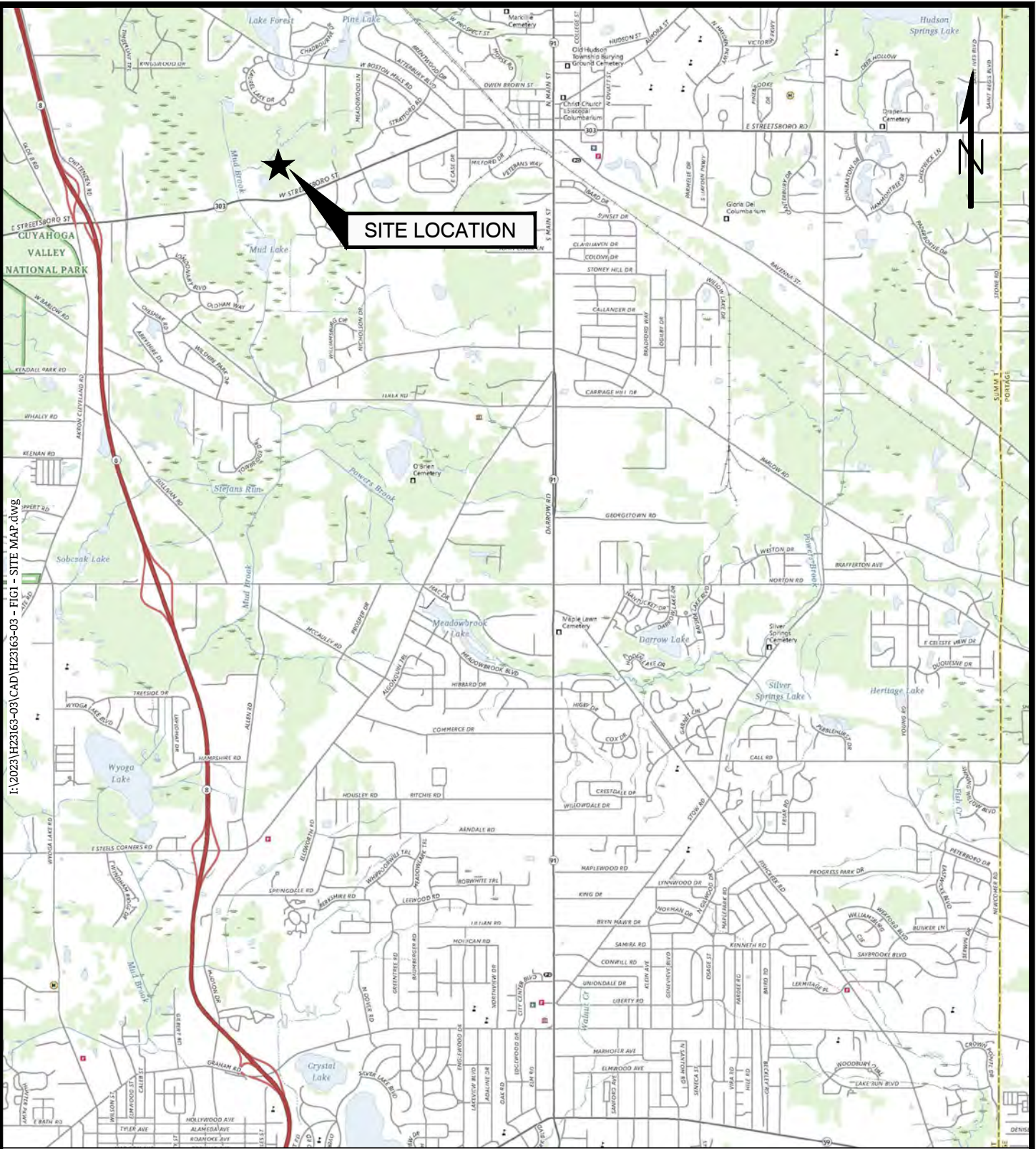
Figure 1 – Site Location Map

Figure 2 – USGS Topographic Map

Figure 3A – Aquatic Resources Map- White

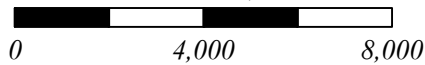
Figure 3B – Aquatic Resources Map- Aerial





I:\2023\H23163-03\CAD\H23163-03 - FIG1 - SITE MAP.dwg

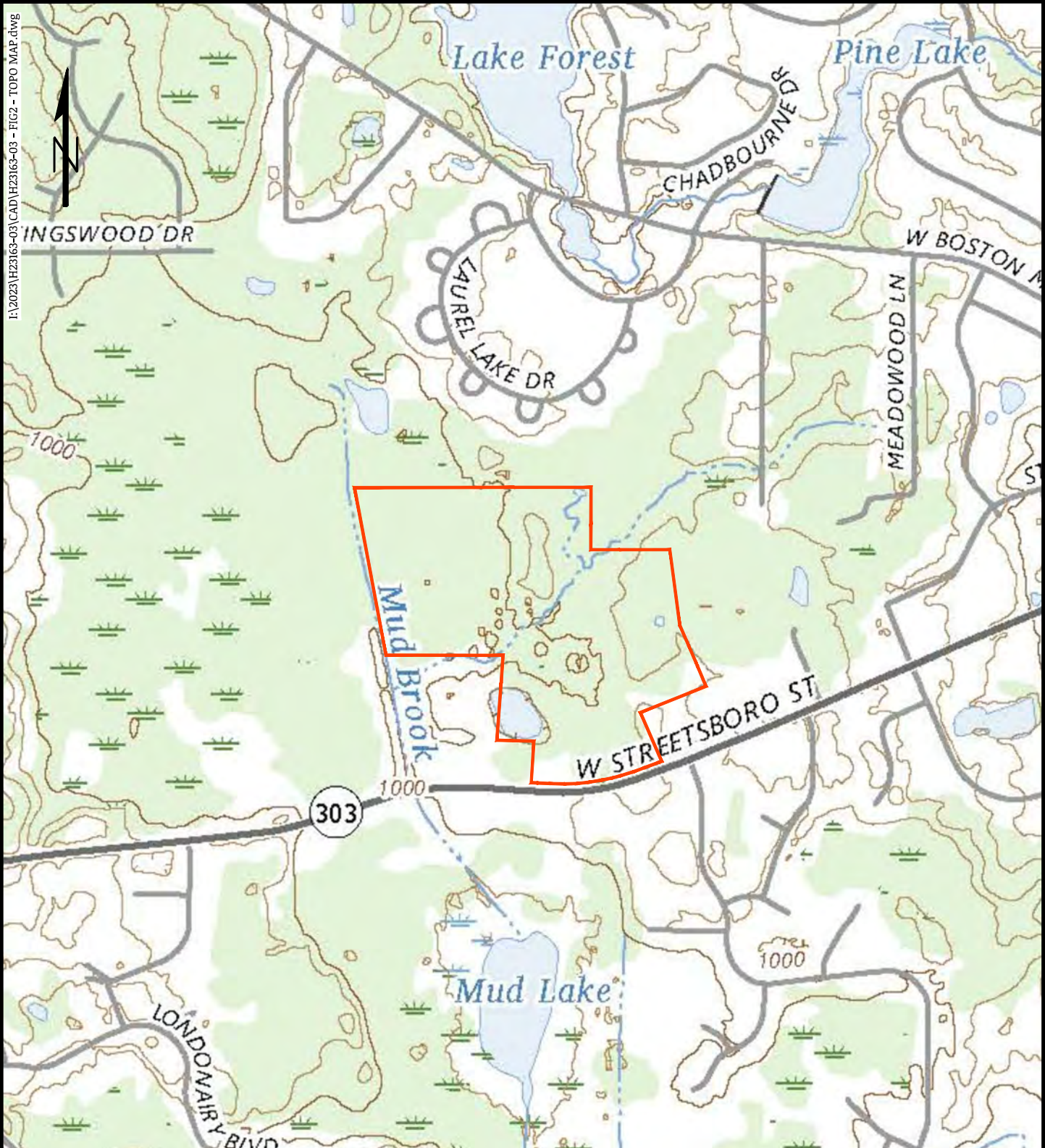
Scale: 1" = 4,000'




HZW Environmental
Consultants

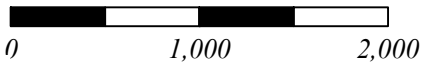
FIGURE 1
SITE LOCATION MAP
81 ACRES NORTH OF WEST STREETSBORO STREET
CITY OF HUDSON, SUMMIT COUNTY, OHIO

I:\2023\H23163-03\CAD\H23163-03 - FIG2 - TOPO MAP.dwg



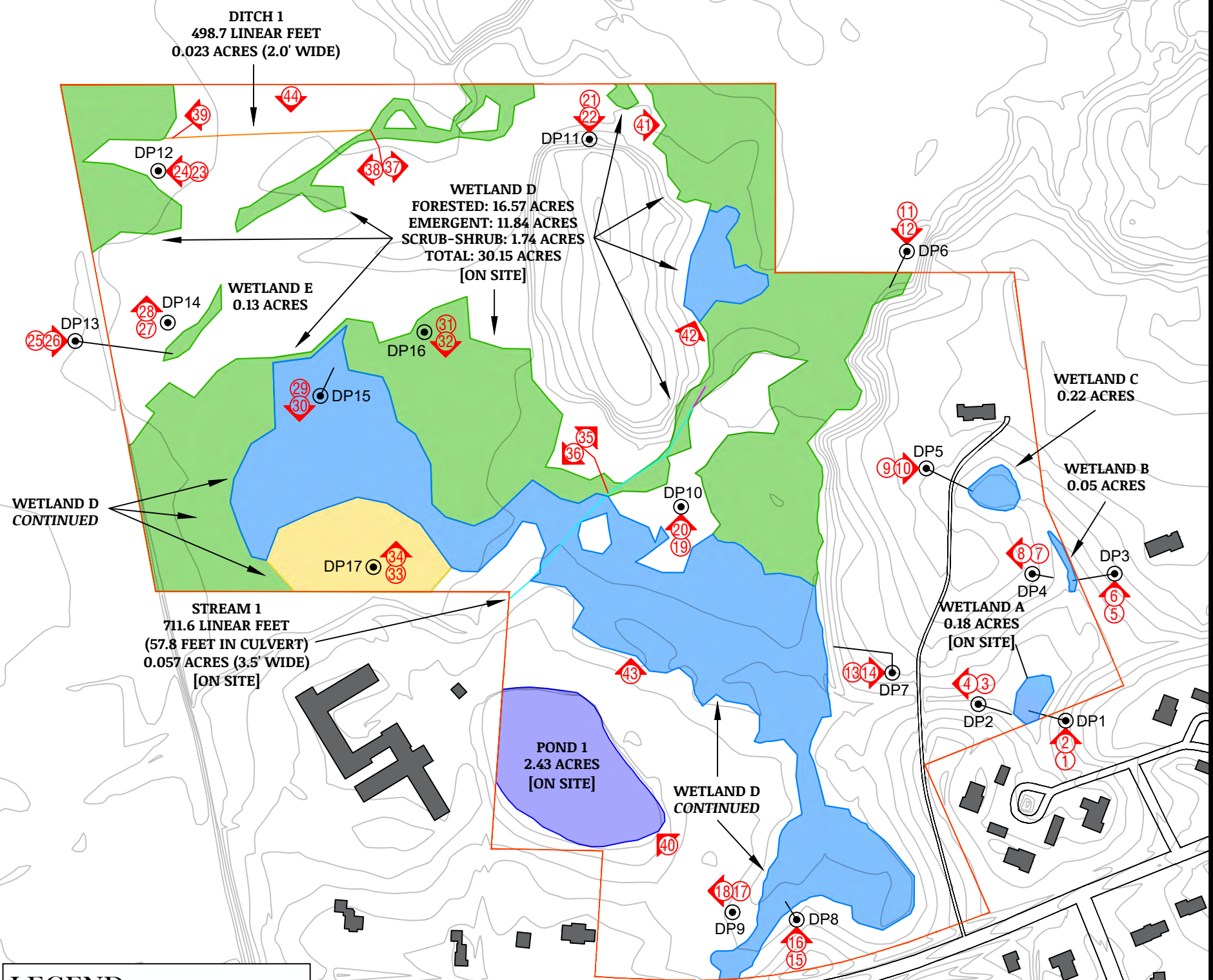
 - STUDY AREA

Scale: 1" = 1,000'



HZW Environmental
Consultants

FIGURE 2
TOPOGRAPHIC MAP
81 ACRES NORTH OF WEST STREETSBORO STREET
CITY OF HUDSON, SUMMIT COUNTY, OHIO



LEGEND

- STUDY AREA (81.0 ACRES)
- STREAM
- DITCH
- CULVERT
- FORESTED WETLAND
- EMERGENT WETLAND
- SCRUB-SHRUB WETLAND
- POND
- Ⓝ PHOTO LOCATION
- DP# DATA POINT LOCATION

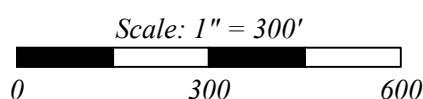
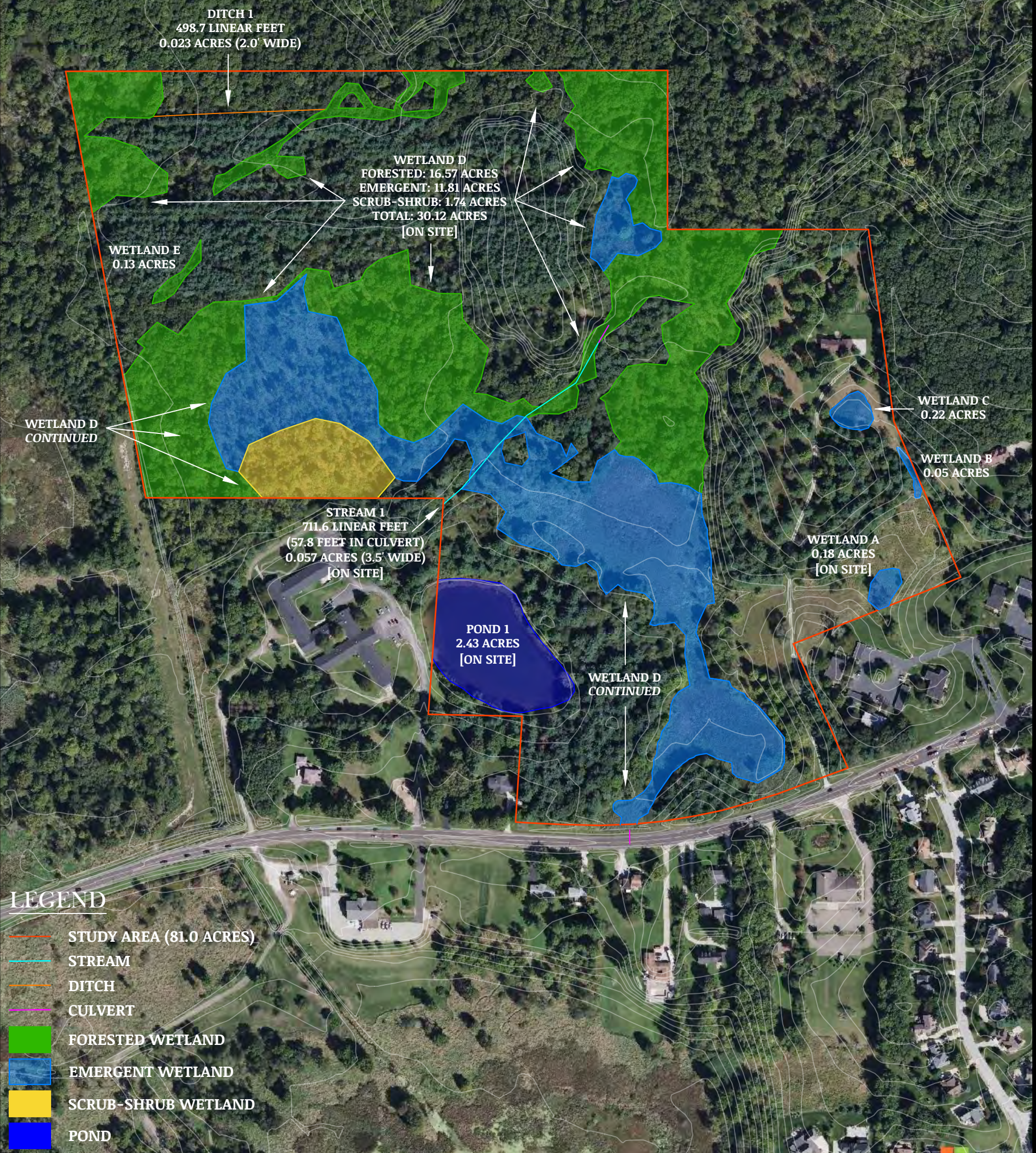


FIGURE 3A
AQUATIC RESOURCES MAP (WHITE)
81 ACRES NORTH OF WEST STREETSBORO STREET
CITY OF HUDSON, SUMMIT COUNTY, OHIO



LEGEND

-  STUDY AREA (81.0 ACRES)
-  STREAM
-  DITCH
-  CULVERT
-  FORESTED WETLAND
-  EMERGENT WETLAND
-  SCRUB-SHRUB WETLAND
-  POND

Scale: 1" = 300'

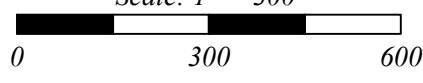


FIGURE 3B
AQUATIC RESOURCES MAP (AERIAL)
81 ACRES NORTH OF WEST STREETSBORO STREET
CITY OF HUDSON, SUMMIT COUNTY, OHIO

APPENDIX B

PHOTOGRAPHIC LOG





Photograph 1
View of soil profile at Data Point 1 (Wetland A).



Photograph 2
View facing north depicting site conditions at Data Point 1 (Wetland A).



Photograph 3
View of soil profile at Data Point 2 (non-wetland).



Photograph 4
View facing west depicting site conditions at Data Point 2 (non-wetland).



Photograph 5
View of soil profile at Data Point 3 (Wetland B).



Photograph 6
View facing north depicting site conditions at Data Point 3 (Wetland B).



Photograph 7
View of soil profile at Data Point 4 (non-wetland).



Photograph 8
View facing west depicting site conditions at Data Point 4 (non-wetland).



Photograph 9
View of soil profile at Data Point 5 (Wetland C).



Photograph 10
View facing east depicting site conditions at Data Point 5 (Wetland C).



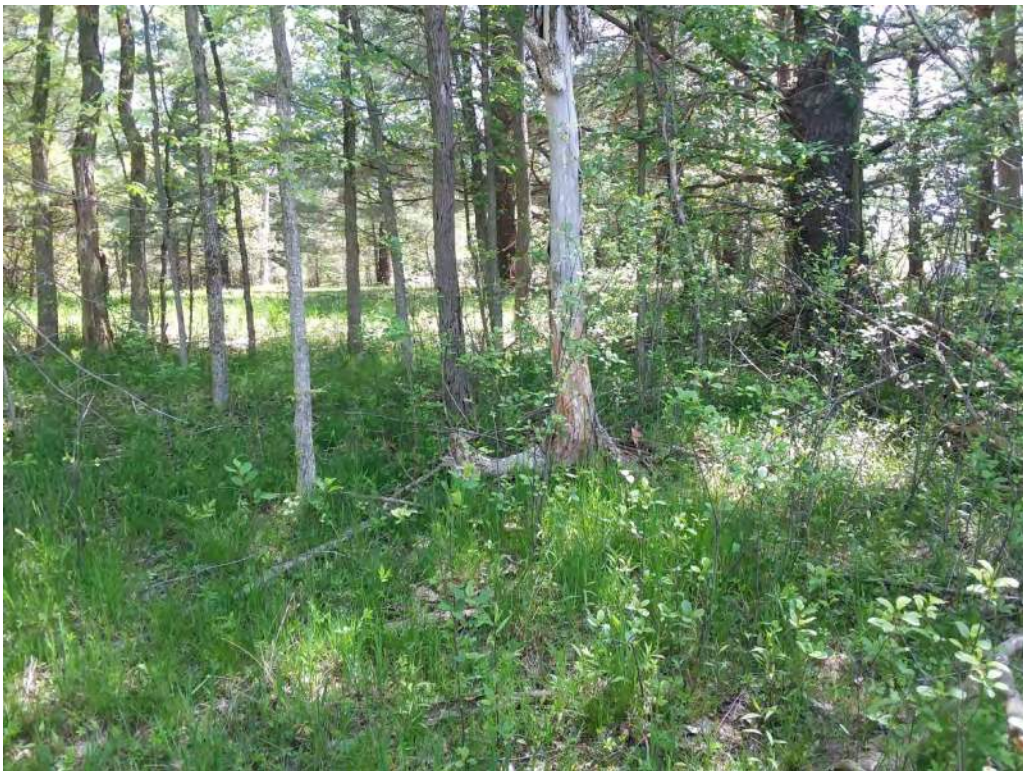
Photograph 11
View of soil profile at Data Point 6 (Wetland D - Forested).



Photograph 12
View facing south depicting site conditions at Data Point 6 (Wetland D - Forested).



Photograph 13
View of soil profile at Data Point 7 (non-wetland).



Photograph 14
View facing east depicting site conditions at Data Point 7 (non-wetland).



Photograph 15
View of soil profile at Data Point 8 (Wetland D - Emergent).



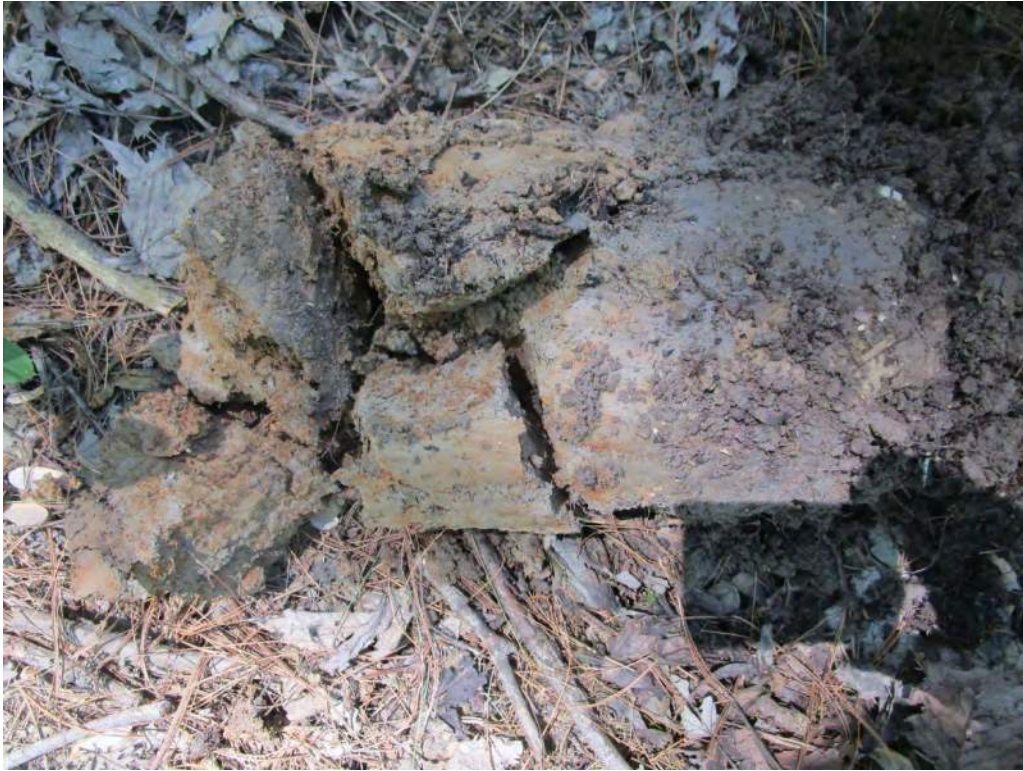
Photograph 16
View facing north depicting site conditions at Data Point 8 (Wetland D - Emergent).



Photograph 17
View of soil profile at Data Point 9 (non-wetland).



Photograph 18
View facing west depicting site conditions at Data Point 9 (non-wetland).



Photograph 19
View of soil profile at Data Point 10 (non-wetland).



Photograph 20
View facing north depicting site conditions at Data Point 10 (non-wetland).



Photograph 21
View of soil profile at Data Point 11 (non-wetland).



Photograph 22
View facing south depicting site conditions at Data Point 11 (non-wetland).



Photograph 23
View of soil profile at Data Point 12 (non-wetland).



Photograph 24
View facing west depicting site conditions at Data Point 12 (non-wetland).



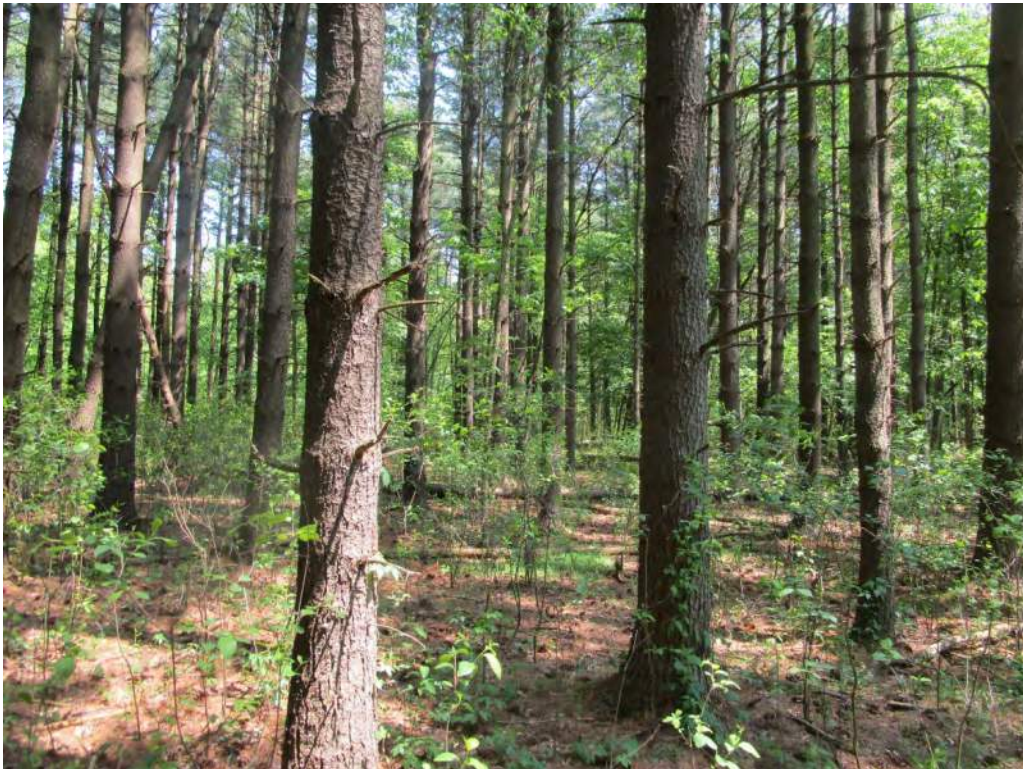
Photograph 25
View of soil profile at Data Point 13 (Wetland E).



Photograph 26
View facing east depicting site conditions at Data Point 13 (non-wetland).



Photograph 27
View of soil profile at Data Point 14 (non-wetland).



Photograph 28
View facing north depicting site conditions at Data Point 14 (non-wetland).



Photograph 29
View of soil profile at Data Point 15 (Wetland D - Emergent).



Photograph 30
View facing south depicting site conditions at Data Point 15 (Wetland D - Emergent).



Photograph 31
View of soil profile at Data Point 16 (Wetland D - Forested).



Photograph 32
View facing south depicting site conditions at Data Point 16 (Wetland D - Forested).



Photograph 33
View of soil profile at Data Point 17 (Wetland D – Scrub-Shrub).



Photograph 34
View facing north depicting site conditions at Data Point 17 (Wetland D – Scrub-Shrub).



Photograph 35
Upstream view of Stream 1 facing northeast.



Photograph 36
Downstream view of Stream 1 facing southwest.



Photograph 37

Upstream view of Ditch 1 at its junction with Wetland D - Forested facing northeast.



Photograph 38

Downstream view of Ditch 1 facing west.



Photograph 39

Downstream view of Ditch 1 facing west toward its junction with Wetland D – Forested.



Photograph 40

View of Pond 1 facing northwest.



Photograph 41
View of Wetland D – Forested facing east.



Photograph 42
View of Wetland D – Emergent facing northeast.



Photograph 43
View of Wetland D – Emergent facing north.



Photograph 44
View of Study Area facing south.

APPENDIX C

WETLAND DETERMINATION DATA FORMS



Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP1
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.236093 Long: -81.467519 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) ___ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) ___ Aquatic Fauna (B13) <u>X</u> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP1

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u>Salix nigra</u>	20	Yes	OBL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. <u>Ulmus americana</u>	15	Yes	FACW		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	<u>35</u>	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
		=Total Cover			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Carex vulpinoidea</u>	25	Yes	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Juncus effusus</u>	10	No	OBL		
3. <u>Phalaris arundinacea</u>	30	Yes	FACW		
4. <u>Iris foliosa</u>	20	Yes	OBL		
5. <u>Alliaria petiolata</u>	5	No	FACU		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>90</u>	=Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
		=Total Cover			
Hydrophytic Vegetation Present? Yes <u>X</u> No _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point DP1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/1	100					Loamy/Clayey	
8-20	2.5Y 5/1	70	10YR 5/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Mesic Spodic (A17)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)	
<input type="checkbox"/> (MLRA 144A, 145, 149B)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Marl (F10) (LRR K, L)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 145)		
<input type="checkbox"/> Stripped Matrix (S6)			

Restrictive Layer (if observed):	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP2
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.236073 Long: -81.467674 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP2

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.90</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>3.90</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>3.90</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Herb Stratum</u> (Plot size: <u>5</u>)																				
1. <u>Dactylis glomerata</u>	15	No	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. <u>Poa pratensis</u>	45	Yes	FACU																	
3. <u>Potentilla indica</u>	20	Yes	FACU																	
4. <u>Digitaria sanguinalis</u>	15	No	FACU																	
5. <u>Phalaris arundinacea</u>	5	No	FACW																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
_____ =Total Cover																				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

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

SOIL

Sampling Point DP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	2.5Y 5/3	100					Loamy/Clayey	
10-20	2.5Y 5/3	85	10YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP3
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.236954 Long: -81.467117 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland B</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) 	Secondary Indicators (minimum of two required) <ul style="list-style-type: none"> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP3

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	=Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	=Total Cover			Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Phleum pratense</u>	25	Yes	FACU		
2. <u>Onoclea sensibilis</u>	25	Yes	FACW		
3. <u>Phalaris arundinacea</u>	30	Yes	FACW		
4. <u>Juncus effusus</u>	10	No	OBL		
5. <u>Carex vulpinoidea</u>	5	No	OBL		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
	95 =Total Cover			Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	=Total Cover			Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point DP3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	2.5Y 5/1	75	5YR 5/8	25	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP4
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.236974 Long: -81.467295 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP4

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Pinus resinosa</i></u>	60	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	60	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u><i>Lonicera tatarica</i></u>	5	Yes	FACU	
2. <u><i>Frangula alnus</i></u>	5	Yes	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	10	=Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u><i>Toxicodendron radicans</i></u>	40	Yes	FAC	
2. <u><i>Geum canadense</i></u>	5	No	FAC	
3. <u><i>Fraxinus pennsylvanica</i></u>	15	Yes	FACW	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	60	=Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____	=Total Cover		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

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

SOIL

Sampling Point DP4

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5Y 5/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)**
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)
- Red Parent Material (F21) (**MLRA 145**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Red Parent Material (F21) (**outside MLRA 145**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Refusal at 12 inches due to roots.

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP5
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.237537 Long: -81.468028 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland C</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) ___ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) ___ Aquatic Fauna (B13) <u>X</u> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP5

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	=Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	=Total Cover			Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Typha angustifolia</u>	40	Yes	OBL		
2. <u>Onoclea sensibilis</u>	15	Yes	FACW		
3. <u>Agrimonia parviflora</u>	5	No	FAC		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
	60 =Total Cover			Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	=Total Cover			Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point DP5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 5/1	85	10YR 5/2	15	C	M	Loamy/Clayey	Faint redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Mesic Spodic (A17) (MLRA 144A, 145, 149B) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B) <input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B) <input type="checkbox"/> High Chroma Sands (S11) (LRR K, L) <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Marl (F10) (LRR K, L) <input type="checkbox"/> Red Parent Material (F21) (MLRA 145)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L) <input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B) <input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
---	---	--

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
---	---

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP6
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.238985 Long: -81.468593 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland D</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)	_____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>0.5</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP6

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Acer saccharinum</u>	45	Yes	FACW	
2. <u>Ulmus americana</u>	10	No	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	55	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
		=Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Persicaria hydropiper</u>	45	Yes	OBL	
2. <u>Carex stricta</u>	25	Yes	OBL	
3. <u>Fraxinus pennsylvanica</u>	5	No	FACW	
4. <u>Ulmus americana</u>	5	No	FACW	
5. <u>Lysimachia nummularia</u>	10	No	FACW	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	90	=Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
		=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B)
Prevalence Index = B/A = _____	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

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

SOIL

Sampling Point DP6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 5/1	60	10YR 4/6	40	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Mesic Spodic (A17)</p> <p>(MLRA 144A, 145, 149B)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p>	<p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)</p> <p><input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Marl (F10) (LRR K, L)</p> <p><input type="checkbox"/> Red Parent Material (F21) (MLRA 145)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)</p> <p><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)</p> <p><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)</p> <p><input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (F22)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
--	--	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____</p>
--	---

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-15-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP7
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): None Slope %: 3
 Subregion (LRR or MLRA): LRR R Lat: 41.236535 Long: -81.469229 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP7

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u><i>Ulmus americana</i></u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>45</u></td> <td>x 2 = <u>90</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>205</u> (A)</td> <td><u>635</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.10</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>45</u>	x 2 = <u>90</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>205</u> (A)	<u>635</u> (B)	Prevalence Index = B/A = <u>3.10</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>45</u>	x 2 = <u>90</u>																			
FAC species <u>65</u>	x 3 = <u>195</u>																			
FACU species <u>85</u>	x 4 = <u>340</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>205</u> (A)	<u>635</u> (B)																			
Prevalence Index = B/A = <u>3.10</u>																				
2. <u><i>Quercus palustris</i></u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u><i>Pinus resinosa</i></u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>60</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u><i>Frangula alnus</i></u>	<u>55</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>55</u> =Total Cover																			
Herb Stratum (Plot size: <u>5</u>)																				
1. <u><i>Potentilla indica</i></u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
2. <u><i>Acer rubrum</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
3. <u><i>Carex vulpinoidea</i></u>	<u>10</u>	<u>No</u>	<u>OBL</u>																	
4. <u><i>Poa pratensis</i></u>	<u>45</u>	<u>Yes</u>	<u>FACU</u>																	
5. <u><i>Rosa multiflora</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. <u><i>Agrimonia parviflora</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>90</u> =Total Cover																			
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	_____ =Total Cover																			

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

SOIL

Sampling Point DP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/2	100					Loamy/Clayey	
8-20	2.5Y 5/2	70	10YR 6/2	30	C	M	Loamy/Clayey	Faint redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)**
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- High Chroma Sands (S11) **(LRR K, L)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR K, L)**
- Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Red Parent Material (F21) **(outside MLRA 145)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-17-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP8
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.234817 Long: -81.469660 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
___ Surface Water (A1) <u>X</u> High Water Table (A2) <u>X</u> Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>1.5</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP8

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Typha angustifolia</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>		
2. <u>Carex lacustris</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
_____ =Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
Remarks: (Include photo numbers here or on a separate sheet.)					

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-17-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP9
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Mound Local relief (concave, convex, none): Convex Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.234780 Long: -81.470153 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP9

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u>Acer rubrum</u>	45	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)	
2. <u>Pinus strobus</u>	45	Yes	FACU		
3. <u>Ulmus americana</u>	10	No	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
	100	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
		=Total Cover			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Frangula alnus</u>	10	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Viburnum dentatum</u>	2	No	FAC		
3. <u>Pinus strobus</u>	1	No	FACU		
4. <u>Toxicodendron radicans</u>	2	No	FAC		
5. <u>Fraxinus pennsylvanica</u>	2	No	FACW		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	17	=Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
		=Total Cover			
Hydrophytic Vegetation Present? Yes <u>X</u> No _____					

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

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-17-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP10
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Mound Local relief (concave, convex, none): Convex Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.234780 Long: -81.470153 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP10

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	40	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2. <u>Ulmus americana</u>	20	No	FACW	
3. <u>Pinus strobus</u>	35	Yes	FACU	
4. <u>Prunus serotina</u>	10	No	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>105</u> =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. <u>Frangula alnus</u>	15	Yes	FAC	
2. <u>Prunus serotina</u>	5	Yes	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> =Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Fraxinus pennsylvanica</u>	10	Yes	FACW	
2. <u>Impatiens capensis</u>	1	No	FACW	
3. <u>Toxicodendron radicans</u>	5	Yes	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>16</u> =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ =Total Cover				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

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

SOIL

Sampling Point DP10

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/2	100					Loamy/Clayey	
5-20	10YR 6/1	80	2.5YR 4/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)**
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- High Chroma Sands (S11) **(LRR K, L)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR K, L)**
- Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Red Parent Material (F21) **(outside MLRA 145)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP11
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Hill side Local relief (concave, convex, none): None Slope %: 3
 Subregion (LRR or MLRA): LRR R Lat: 41.239751 Long: -81.475127 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP11

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u><i>Ulmus americana</i></u>	35	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)	
2. <u><i>Acer saccharum</i></u>	35	Yes	FACU		
3. <u><i>Pinus strobus</i></u>	20	No	FACU		
4. <u><i>Acer rubrum</i></u>	40	Yes	FAC		
5. _____					
6. _____					
7. _____					
	130	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
		=Total Cover			
Herb Stratum (Plot size: <u>5</u>)					
1. <u><i>Alliaria petiolata</i></u>	2	No	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u><i>Toxicodendron radicans</i></u>	10	Yes	FAC		
3. <u><i>Rosa multiflora</i></u>	2	No	FACU		
4. <u><i>Fraxinus pennsylvanica</i></u>	10	Yes	FACW		
5. <u><i>Geum canadense</i></u>	5	No	FAC		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	29	=Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. <u><i>Vitis aestivalis</i></u>	20	Yes	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
	20	=Total Cover			
Hydrophytic Vegetation Present? Yes <u>X</u> No _____					

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

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 5/3	95	10YR 4/4	5	C	M	Loamy/Clayey	Faint redox concentrations
10-20	2.5Y 6/1	85	5YR 5/8	15	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP12
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.239921 Long: -81.471262 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP12

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u><i>Pinus strobus</i></u>	40	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)																
2. <u><i>Quercus palustris</i></u>	30	Yes	FACW																	
3. <u><i>Ulmus americana</i></u>	20	No	FACW																	
4. <u><i>Acer rubrum</i></u>	25	Yes	FAC																	
5. _____																				
6. _____																				
7. _____																				
	115	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u><i>Frangula alnus</i></u>	20	Yes	FAC	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>52</u></td> <td>x 2 = <u>104</u></td> </tr> <tr> <td>FAC species <u>56</u></td> <td>x 3 = <u>168</u></td> </tr> <tr> <td>FACU species <u>65</u></td> <td>x 4 = <u>260</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>173</u></td> <td>(A) <u>532</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.08</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>52</u>	x 2 = <u>104</u>	FAC species <u>56</u>	x 3 = <u>168</u>	FACU species <u>65</u>	x 4 = <u>260</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>173</u>	(A) <u>532</u> (B)	Prevalence Index = B/A = <u>3.08</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>52</u>	x 2 = <u>104</u>																			
FAC species <u>56</u>	x 3 = <u>168</u>																			
FACU species <u>65</u>	x 4 = <u>260</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>173</u>	(A) <u>532</u> (B)																			
Prevalence Index = B/A = <u>3.08</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	20	=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u><i>Toxicodendron radicans</i></u>	10	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Parthenocissus quinquefolia</i></u>	15	Yes	FACU																	
3. <u><i>Viburnum dentatum</i></u>	1	No	FAC																	
4. <u><i>Potentilla simplex</i></u>	10	Yes	FACU																	
5. <u><i>Fraxinus pennsylvanica</i></u>	2	No	FACW																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	38	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

SOIL

Sampling Point DP12

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 4/1	98	10YR 4/4	2	C	M	Loamy/Clayey	Distinct redox concentrations
15-20	2.5Y 6/1	75	5YR 5/8	25	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP13
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.238538 Long: -81.475027 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland E</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Water (A1)</td><td><input checked="" type="checkbox"/> Water-Stained Leaves (B9)</td></tr> <tr><td><input checked="" type="checkbox"/> High Water Table (A2)</td><td><input type="checkbox"/> Aquatic Fauna (B13)</td></tr> <tr><td><input checked="" type="checkbox"/> Saturation (A3)</td><td><input type="checkbox"/> Marl Deposits (B15)</td></tr> <tr><td><input type="checkbox"/> Water Marks (B1)</td><td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td></tr> <tr><td><input type="checkbox"/> Sediment Deposits (B2)</td><td><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td></tr> <tr><td><input type="checkbox"/> Drift Deposits (B3)</td><td><input type="checkbox"/> Presence of Reduced Iron (C4)</td></tr> <tr><td><input type="checkbox"/> Algal Mat or Crust (B4)</td><td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td></tr> <tr><td><input type="checkbox"/> Iron Deposits (B5)</td><td><input type="checkbox"/> Thin Muck Surface (C7)</td></tr> <tr><td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td><td><input type="checkbox"/> Other (Explain in Remarks)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td><td></td></tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		Secondary Indicators (minimum of two required) <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)																															
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)																															
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
<input type="checkbox"/> Surface Soil Cracks (B6)																																
<input type="checkbox"/> Drainage Patterns (B10)																																
<input type="checkbox"/> Moss Trim Lines (B16)																																
<input type="checkbox"/> Dry-Season Water Table (C2)																																
<input type="checkbox"/> Crayfish Burrows (C8)																																
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)																																
<input type="checkbox"/> Stunted or Stressed Plants (D1)																																
<input checked="" type="checkbox"/> Geomorphic Position (D2)																																
<input type="checkbox"/> Shallow Aquitard (D3)																																
<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>11</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP13

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30</u>)																				
1. <u><i>Ulmus americana</i></u>	35	Yes	FACW	<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>6</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)</p> <p>Prevalence Index worksheet:</p> <table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	x 2 = _____																			
FAC species _____	x 3 = _____																			
FACU species _____	x 4 = _____																			
UPL species _____	x 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
2. <u><i>Quercus palustris</i></u>	30	Yes	FACW																	
3. <u><i>Acer rubrum</i></u>	20	Yes	FAC																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
85 =Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u><i>Frangula alnus</i></u>	5	Yes	FAC	<p>Hydrophytic Vegetation Indicators:</p> <p><u> </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><u>X</u> 2 - Dominance Test is >50%</p> <p><u> </u> 3 - Prevalence Index is ≤3.0¹</p> <p><u> </u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><u> </u> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p>Definitions of Vegetation Strata:</p> <p>Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines – All woody vines greater than 3.28 ft in height.</p>																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
5 =Total Cover																				
Herb Stratum (Plot size: <u>5</u>)																				
1. <u><i>Frangula alnus</i></u>	10	Yes	FAC																	
2. <u><i>Fraxinus pennsylvanica</i></u>	3	No	FACW																	
3. <u><i>Carex vulpinoidea</i></u>	10	Yes	OBL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
23 =Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)																				
1. _____	_____	_____	_____	<p>Hydrophytic Vegetation Present? Yes <u>X</u> No _____</p>																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

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

SOIL

Sampling Point DP13

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	90	2.5YR 3/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-20	2.5Y 4/1	90	5YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)**
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- High Chroma Sands (S11) (LRR K, L)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR K, L)
- Red Parent Material (F21) (MLRA 145)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Red Parent Material (F21) (outside MLRA 145)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP14
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.238741 Long: -81.475060 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP14

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Pinus strobus</u>	90	Yes	FACU		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
2. <u>Acer rubrum</u>	20	No	FAC		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
	<u>110</u> =Total Cover			Prevalence Index worksheet:	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)					Total % Cover of:
1. <u>Frangula alnus</u>	10	Yes	FAC		OBL species <u>0</u> x 1 = <u>0</u>
2. _____	_____	_____	_____		FACW species <u>0</u> x 2 = <u>0</u>
3. _____	_____	_____	_____		FAC species <u>46</u> x 3 = <u>138</u>
4. _____	_____	_____	_____		FACU species <u>100</u> x 4 = <u>400</u>
5. _____	_____	_____	_____		UPL species <u>0</u> x 5 = <u>0</u>
6. _____	_____	_____	_____	Column Totals: <u>146</u> (A) <u>538</u> (B)	
7. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.68</u>	
	<u>10</u> =Total Cover			Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
<u>Herb Stratum</u> (Plot size: <u>5</u>)					
1. <u>Viburnum dentatum</u>	1	No	FAC		
2. <u>Toxicodendron radicans</u>	10	Yes	FAC		
3. <u>Frangula alnus</u>	5	No	FAC		
4. <u>Parthenocissus quinquefolia</u>	10	Yes	FACU		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
	<u>26</u> =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30</u>)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
	_____ =Total Cover				
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point DP14

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 4/3	100					Loamy/Clayey	
15-20	2.5Y 5/1	80	7.5YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)
<input type="checkbox"/> Mesic Spodic (A17)	<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)
(MLRA 144A, 145, 149B)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	
<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	
<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Marl (F10) (LRR K, L)	
<input type="checkbox"/> Red Parent Material (F21) (MLRA 145)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP15
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.238428 Long: -81.473603 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland D</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) <u>X</u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP15

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u>Acer rubrum</u>	10	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. <u>Fraxinus pennsylvanica</u>	5	Yes	FACW		
3. <u>Ulmus americana</u>	5	Yes	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
	<u>20</u>	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Frangula alnus</u>	5	Yes	FAC		
2. <u>Fraxinus pennsylvanica</u>	5	Yes	FACW		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	<u>10</u>	=Total Cover			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Carex vulpinoidea</u>	40	Yes	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Glyceria striata</u>	45	Yes	OBL		
3. <u>Onoclea sensibilis</u>	15	No	FACW		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>100</u>	=Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	

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

SOIL

Sampling Point DP15

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 4/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
12-20	10YR 6/1	70	10YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- (MLRA 144A, 145, 149B)**
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- High Chroma Sands (S11) **(LRR K, L)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR K, L)**
- Red Parent Material (F21) **(MLRA 145)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- Coast Prairie Redox (A16) **(LRR K, L, R)**
- 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- Polyvalue Below Surface (S8) **(LRR K, L)**
- Thin Dark Surface (S9) **(LRR K, L)**
- Iron-Manganese Masses (F12) **(LRR K, L, R)**
- Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- Red Parent Material (F21) **(outside MLRA 145)**
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP16
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.238657 Long: -81.472806 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) <u>X</u> Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	___ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) <u>X</u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP16

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30</u>)					
1. <u><i>Ulmus americana</i></u>	45	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)	
2. <u><i>Acer saccharinum</i></u>	35	Yes	FACW		
3. <u><i>Quercus palustris</i></u>	25	Yes	FACW		
4. <u><i>Pinus strobus</i></u>	5	No	FACU		
5. _____					
6. _____					
7. _____					
	<u>110</u>	=Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u><i>Frangula alnus</i></u>	10	Yes	FAC		
2. <u><i>Fraxinus pennsylvanica</i></u>	15	Yes	FACW		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
	<u>25</u>	=Total Cover			
Herb Stratum (Plot size: <u>5</u>)					
1. <u><i>Carex vulpinoidea</i></u>	35	Yes	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u><i>Glyceria striata</i></u>	40	Yes	OBL		
3. <u><i>Fraxinus pennsylvanica</i></u>	5	No	FACW		
4. <u><i>Quercus palustris</i></u>	5	No	FACW		
5. <u><i>Viburnum dentatum</i></u>	5	No	FAC		
6. <u><i>Ranunculus hispidus</i></u>	5	No	FAC		
7. <u><i>Toxicodendron radicans</i></u>	5	No	FAC		
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
	<u>100</u>	=Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)					
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.	
2. _____					
3. _____					
4. _____					
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	

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

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 5/1	95	10YR 4/4	5	C	M	Loamy/Clayey	Distinct redox concentrations
13-20	10YR 6/1	80	10YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Mesic Spodic (A17)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 145)	
<input type="checkbox"/> (MLRA 144A, 145, 149B)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Marl (F10) (LRR K, L)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 145)		
<input type="checkbox"/> Stripped Matrix (S6)			

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:

Project/Site: Proposed River Oaks Subdivision Property City/County: Hudson / Summit County Sampling Date: 5-18-23
 Applicant/Owner: GVI, LLC State: OH Sampling Point: DP17
 Investigator(s): BDL / EW Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR R Lat: 41.237093 Long: -81.473272 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>Wetland D</u>
---	--

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) <u>X</u> Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) ___ Shallow Aquitard (D3) <u>X</u> Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
--	---

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: DP17

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30</u>)				
1. <u>Quercus palustris</u>	15	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) <hr/> Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Ulmus americana</u>	10	Yes	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	25	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Frangula alnus</u>	60	Yes	FAC	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Cornus racemosa</u>	25	Yes	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	85	=Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Agrimonia parviflora</u>	5	No	FAC	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. <hr/> Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Phalaris arundinacea</u>	25	Yes	FACW	
3. <u>Carex vulpinoidea</u>	25	Yes	OBL	
4. <u>Frangula alnus</u>	5	No	FAC	
5. <u>Toxicodendron radicans</u>	10	No	FAC	
6. <u>Glyceria striata</u>	13	No	OBL	
7. <u>Viburnum dentatum</u>	5	No	FAC	
8. <u>Solidago altissima</u>	2	No	FACU	
9. _____				
10. _____				
11. _____				
12. _____				
	90	=Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____				_____ _____ _____ _____ _____ =Total Cover
2. _____				
3. _____				
4. _____				

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

SOIL

Sampling Point DP17

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	90	5R 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations
12-20	10YR 6/1	80	10YR 6/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Mesic Spodic (A17)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)
- Red Parent Material (F21) (**MLRA 145**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Red Parent Material (F21) (**outside MLRA 145**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

APPENDIX D

ORAM DATA FORMS



Background Information

Name:	Benjamin Latoche
Date:	5-15-2023
Affiliation:	HZW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	blatoche@hzwenv.com
Name of Wetland:	Wetland A
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depression (I) Surface Water (A)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See Report.	
Lat/Lon or UTM Coordinate	41.236271°, -81.467520°
USGS Quad Name	Hudson
County	Summit
City	Hudson
Section and Subsection	
Hydrologic Unit Code	Cuyahoga River watershed (HUC 8: 04110002)
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Yes
Delineation Report/Map	Yes

Name: Wetland A	
Wetland Size (acres, hectares)	~0.2 AC
<p>Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.)</p> <p>See Report.</p>	
<p>Comments, Narrative Discussion, Justification of Category Changes</p>	
Final Score:	26
Category	1

Scoring Boundaries 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 and isolated from 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 Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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

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/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland. Go to Question 8a	NO Go to Question 8a

#	Question	Circle One	
8a	"Old Growth Forest." Is the wetland a forested wetland and the forest is characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input checked="" type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input checked="" type="radio"/> 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.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9d	<input checked="" type="radio"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<input checked="" type="radio"/> NO Go to Question 9d
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native plant species can also be present?	YES Wetland is a Category 3 wetland. Go to Question 10	<input checked="" type="radio"/> 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?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input checked="" type="radio"/> NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings). Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be 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.	YES Wetland is a Category 3 wetland. Go to Question 11	<input checked="" type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio, Erie County, and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, etc.).	YES Wetland should be evaluated for possible Category 3 status. Go to Question 6	<input checked="" type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp.	fen species	bog species	Oak Opening species	wet prairie species
<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>Calamagrotis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrotis canadensis</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>Rhamnum 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>Liatrix 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 oxycoccos</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 glutinos</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland A	Rater(s): BDL	Date: 5-15-2023
------------------------	----------------------	------------------------

1.0	1.0
max 6 pts.	Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

4.0	5.0
max 14 pts.	Subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

11.0	16.0
max 30 pts.	Subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score 1 or dbl chk.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> Ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

8.0	24.0
max 20 pts.	Subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

24.0

Subtotal this page

Site: Wetland A	Rater(s): BDL	Date: 5-15-2023
------------------------	----------------------	------------------------

24.0

Subtotal first page

0	24.0
----------	-------------

max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0	26.0
------------	-------------

max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

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

- Aquatic Bed
- 2 Emergent
- 0 Shrub
- 0 Forest
- Mudflats
- Open water
- Other:

Vegetation Community Cover Scale

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

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

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

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can 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

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

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

Mudflat and Open Water Class Quality

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

6d. Microtopography.
Score all present using 0 to 3 scale.

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

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 qualities
3	Present in moderate or greater amounts and of highest qualities

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

CATEGORY: 1

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3.
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	26	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet

Wetland A

Wetland Categorization Worksheet

Choices	Circle one		
<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>	<p>Yes</p> <p>Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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>
<p>Did you answer "Yes" to:</p> <p>Narrative Rating Nos. 5</p>	<p>Yes</p> <p>Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid 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>
<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>	<p>Yes</p> <p>Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Wetland A

Background Information

Name:	Benjamin Latoche
Date:	5-15-2023
Affiliation:	HZW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	blatoche@hzwenv.com
Name of Wetland:	Wetland B
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depression (I) Surface Water (A)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See Report.	
Lat/Lon or UTM Coordinate	41.237090°, -81.467182°
USGS Quad Name	Hudson
County	Summit
City	Hudson
Section and Subsection	
Hydrologic Unit Code	Cuyahoga River watershed (HUC 8: 04110002)
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Yes
Delineation Report/Map	Yes

Name: Wetland B	
Wetland Size (acres, hectares)	0.05
Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.) See Report.	
Comments, Narrative Discussion, Justification of Category Changes	
Final Score:	25.0
Category	1

Scoring Boundaries 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 and isolated from 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 Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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

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/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland. Go to Question 8a	NO Go to Question 8a

#	Question	Circle One	
8a	"Old Growth Forest." Is the wetland a forested wetland and the forest is characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input type="radio"/> NO Go to Question 8b
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input type="radio"/> 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.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9d	<input type="radio"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<input type="radio"/> NO Go to Question 9d
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native plant species can also be present?	YES Wetland is a Category 3 wetland. Go to Question 10	<input type="radio"/> 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?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input type="radio"/> NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings). Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be 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.	YES Wetland is a Category 3 wetland. Go to Question 11	<input type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio, Erie County, and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, etc.).	YES Wetland should be evaluated for possible Category 3 status. Go to Question 6	<input type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp.	fen species	bog species	Oak Opening species	wet prairie species
<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>Calamagrotis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrotis canadensis</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>Rhamnum 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>Liatrix 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 oxycoccos</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 glutinos</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland B	Rater(s): BDL	Date: 5-15-2023
------------------------	----------------------	------------------------

0	0
max 6 pts.	Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

5.0	5.0
max 14 pts.	Subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.0	15.0
max 30 pts.	Subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score 1 or dbl chk.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> Ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

8.0	23.0
max 20 pts.	Subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

23.0

Subtotal this page

Site: Wetland B	Rater(s): CJB / BDL	Date: 5-15-2023
------------------------	----------------------------	------------------------

23.0

Subtotal first page

0	23.0
----------	-------------

max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0	25.0
------------	-------------

max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic Bed
- 2 Emergent
- 0 Shrub
- 0 Forest
- Mudflats
- Open water
- Other:

Vegetation Community Cover Scale

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

6b. horizontal (plan view) interspersions

Select only one.

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

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can 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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for List. Add or deduct points for coverage

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

Mudflat and Open Water Class Quality

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

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 qualities
3	Present in moderate or greater amounts and of highest qualities

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

CATEGORY: 1

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	25	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet

Wetland B

Wetland Categorization Worksheet

Choices	Circle one		
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>Yes Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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>
<p>Did you answer "Yes" to: Narrative Rating Nos. 5</p>	<p>Yes Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes Wetland is assigned to the appropriate category based on the scoring range.	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid 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>
<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>	<p>Yes Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No Wetland is assigned to category as determined by the ORAM.	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Wetland B

Background Information

Name:	Benjamin Latoche
Date:	5-15-2023
Affiliation:	HZW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	blatoche@hzwenv.com
Name of Wetland:	Wetland C
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depression (I) Surface Water (A)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See Report.	
Lat/Lon or UTM Coordinate	41.237538°, -81.467808°
USGS Quad Name	Hudson
County	Summit
City	Hudson
Section and Subsection	
Hydrologic Unit Code	Cuyahoga River watershed (HUC 8: 04110002)
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Yes
Delineation Report/Map	Yes

Name: Wetland C		
Wetland Size (acres, hectares)	0.22 ac	
<p>Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.)</p> <p>See Report.</p>		
<p>Comments, Narrative Discussion, Justification of Category Changes</p>		
Final Score:	24.0	Category 1

Scoring Boundaries 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 and isolated from 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 Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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

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/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland. Go to Question 8a	NO Go to Question 8a

#	Question	Circle One	
8a	"Old Growth Forest." Is the wetland a forested wetland and the forest is characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input type="radio"/> NO Go to Question 8b
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input type="radio"/> 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.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9d	<input type="radio"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<input type="radio"/> NO Go to Question 9d
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native plant species can also be present?	YES Wetland is a Category 3 wetland. Go to Question 10	<input type="radio"/> 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?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input type="radio"/> NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings). Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be 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.	YES Wetland is a Category 3 wetland. Go to Question 11	<input type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio, Erie County, and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, etc.).	YES Wetland should be evaluated for possible Category 3 status. Go to Question 6	<input type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp.	fen species	bog species	Oak Opening species	wet prairie species
<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>Calamagrotis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrotis canadensis</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>Rhamnum 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>Liatrix 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 oxycoccos</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 glutinos</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland C	Rater(s): BDL	Date: 5-15-2023
------------------------	----------------------	------------------------

1.0	1.0
max 6 pts.	Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

3.0	4.0
max 14 pts.	Subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.0	14.0
max 30 pts.	Subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score 1 or dbl chk.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> Ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

8.0	22.0
max 20 pts.	Subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

22.0

Subtotal this page

Site: Wetland C	Rater(s): BDL	Date: 5-15-2023
------------------------	----------------------	------------------------

22.0

Subtotal first page

0	22.0
----------	-------------

max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0	24.0
------------	-------------

max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic Bed
- 2 Emergent
- 0 Shrub
- 0 Forest
- Mudflats
- Open water
- Other:

Vegetation Community Cover Scale

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

6b. horizontal (plan view) interspersions

Select only one.

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

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can 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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for List. Add or deduct points for coverage

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

Mudflat and Open Water Class Quality

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

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 qualities
3	Present in moderate or greater amounts and of highest qualities

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

CATEGORY: 1

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	2	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	24	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet

Wetland C

Wetland Categorization Worksheet

Choices	Circle one		
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>Yes Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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>
<p>Did you answer "Yes" to: Narrative Rating Nos. 5</p>	<p>Yes Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland ha been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes Wetland is assigned to the appropriate category based on the scoring range.	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid 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>
<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>	<p>Yes Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No Wetland is assigned to category as determined by the ORAM.	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Wetland C

Background Information

Name:	Benjamin Latoche
Date:	5-18-2023
Affiliation:	HZW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	cbiro@hzwenv.com
Name of Wetland:	Wetland D
Vegetation Communit(ies):	Forested, Emergent, Scrub-Shrub
HGM Class(es):	Depression (I) Surface Water (A), Riverine (III)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See Report.	
Lat/Lon or UTM Coordinate	41.236812°, -81.470795°
USGS Quad Name	Hudson
County	Summit
City	Hudson
Section and Subsection	
Hydrologic Unit Code	Cuyahoga River watershed (HUC 8: 04110002)
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Yes
Delineation Report/Map	Yes

Name: Wetland D	
Wetland Size (acres, hectares)	~40 ac
Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.) See Report.	
Comments, Narrative Discussion, Justification of Category Changes	
Final Score:	51.5
Category	2

Scoring Boundaries 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 and isolated from 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 Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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

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/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland. Go to Question 8a	NO Go to Question 8a

#	Question	Circle One	
8a	"Old Growth Forest." Is the wetland a forested wetland and the forest is characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input type="radio"/> NO Go to Question 8b
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input type="radio"/> 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.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9d	<input type="radio"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<input type="radio"/> NO Go to Question 9d
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native plant species can also be present?	YES Wetland is a Category 3 wetland. Go to Question 10	<input type="radio"/> 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?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input type="radio"/> NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings). Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be 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.	YES Wetland is a Category 3 wetland. Go to Question 11	<input type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio, Erie County, and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, etc.).	YES Wetland should be evaluated for possible Category 3 status. Go to Question 6	<input type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp.	fen species	bog species	Oak Opening species	wet prairie species
<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>Calamagrotis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrotis canadensis</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>Rhamnum 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>Liatrix 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 oxycoccos</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 glutinos</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland D	Rater(s): BDL	Date: 5-18-2023
------------------------	----------------------	------------------------

5.0	5.0
max 6 pts.	Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 5 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) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (<0.04ha) (0 pts)

4.0	9.0
max 14 pts.	Subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

18.0	27.0
max 30 pts.	Subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score 1 or dbl chk.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> Ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

11.5	38.5
max 20 pts.	Subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

- None or none apparent (9)
- 6 Recovered (6)
- 3 Recovering (3)
- Recent or no recovery (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 checked="" type="checkbox"/> X Clearcutting | <input type="checkbox"/> Sedimentation |
| <input 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 |

38.5

Subtotal this page

Site: Wetland D	Rater(s): BDL	Date: 5-18-2023
------------------------	----------------------	------------------------

38.5

Subtotal first page

0	38.5
----------	-------------

max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

13.0	51.5
-------------	-------------

max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic Bed
- 2 Emergent
- 2 Shrub
- 2 Forest
- Mudflats
- 1 Open water
- Other:

Vegetation Community Cover Scale

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

6b. horizontal (plan view) interspersions

Select only one.

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

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can 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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for List. Add or deduct points for coverage

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

Mudflat and Open Water Class Quality

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

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 qualities
3	Present in moderate or greater amounts and of highest qualities

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

CATEGORY: 2

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3: may be 1 or 2.	
Quantitative Rating	Metric 1. Size	5	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	18	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	13	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	51.5	Category based on score breakpoints Category 2

Complete Wetland Categorization Worksheet

Wetland D

Wetland Categorization Worksheet

Choices	Circle one		
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>Yes Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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>
<p>Did you answer "Yes" to: Narrative Rating Nos. 5</p>	<p>Yes Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes Wetland is assigned to the appropriate category based on the scoring range.	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid 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>
<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>	<p>Yes Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No Wetland is assigned to category as determined by the ORAM.	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Wetland D

Background Information

Name:	Benjamin Latoche
Date:	5-18-2023
Affiliation:	HZW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	blatoche@hzwenv.com
Name of Wetland:	Wetland E
Vegetation Communit(ies):	Forested
HGM Class(es):	Depression (I) Surface Water (A)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See Report.	
Lat/Lon or UTM Coordinate	41.238615°, -81.474918°
USGS Quad Name	Hudson
County	Summit
City	Hudson
Section and Subsection	
Hydrologic Unit Code	Cuyahoga River watershed (HUC 8: 04110002)
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	Yes
Delineation Report/Map	Yes

Name: Wetland E			
Wetland Size (acres, hectares)			0.13 ac
<p>Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.)</p> <p>See Report.</p>			
<p>Comments, Narrative Discussion, Justification of Category Changes</p>			
Final Score:	48.0	Category	2

Scoring Boundaries 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 and isolated from 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 Unit if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

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

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/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland. Go to Question 8a	NO Go to Question 8a

#	Question	Circle One	
8a	"Old Growth Forest." Is the wetland a forested wetland and the forest is characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<input checked="" type="radio"/> NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<input checked="" type="radio"/> 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.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9d	<input checked="" type="radio"/> NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	<input checked="" type="radio"/> NO Go to Question 9d
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native plant species can also be present?	YES Wetland is a Category 3 wetland. Go to Question 10	<input checked="" type="radio"/> 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?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	<input checked="" type="radio"/> NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings). Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be 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.	YES Wetland is a Category 3 wetland. Go to Question 11	<input checked="" type="radio"/> NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio, Erie County, and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, etc.).	YES Wetland should be evaluated for possible Category 3 status. Go to Question 6	<input checked="" type="radio"/> NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp.	fen species	bog species	Oak Opening species	wet prairie species
<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>Calamagrotis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrotis canadensis</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>Rhamnum 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>Liatrix 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 oxycoccos</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 glutinos</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland E	Rater(s): BDL	Date: 5-18-2023
------------------------	----------------------	------------------------

1.0	1.0
-----	-----

max 6 pts. Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

12.0	13.0
------	------

max 14 pts. Subtotal

Metric 2. Upland buffers and surrounding land use.

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

- 7 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 <25 m (32 to <82ft) around wetland perimeter. (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter. (0)

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

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

15.0	28.0
------	------

max 30 pts. Subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score 1 or dbl chk.

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

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

- None or none apparent (12)
- 7 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"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

15.0	43.0
------	------

max 20 pts. Subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> Mowing | <input type="checkbox"/> Shrub/sapling removal |
| <input type="checkbox"/> Grazing | <input type="checkbox"/> Herbaceous/aquatic bed removal |
| <input type="checkbox"/> Clearcutting | <input type="checkbox"/> Sedimentation |
| <input 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 |

43.0

Subtotal this page

Site: Wetland D	Rater(s): BDL	Date: 5-18-2023
------------------------	----------------------	------------------------

43.0

Subtotal first page

0	43.0
----------	-------------

max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5.0	48.0
------------	-------------

max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic Bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other:

Vegetation Community Cover Scale

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

6b. horizontal (plan view) interspersions

Select only one.

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

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can 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

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)
- 1 Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

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 qualities
3	Present in moderate or greater amounts and of highest qualities

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

CATEGORY: 2

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3.
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3: may be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	15	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	48	Category based on score breakpoints Category 2

Complete Wetland Categorization Worksheet

Wetland E

Wetland Categorization Worksheet

Choices	Circle one		
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>Yes Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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>
<p>Did you answer "Yes" to: Narrative Rating Nos. 5</p>	<p>Yes Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes Wetland is assigned to the appropriate category based on the scoring range.	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid 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>
<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>	<p>Yes Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No Wetland is assigned to category as determined by the ORAM.	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Wetland E

APPENDIX E

PHWH EVALUATION FORMS AND ASSOCIATED HHEI SCORES





Primary Headwater Habitat Evaluation Form

38

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

SITE NAME/LOCATION **Stream 1 - Summit County, Ohio Parcel Number 3009797**

SITE NUMBER RIVER BASIN **Cuyahoga** DRAINAGE AREA (mi²) **0.50**

LENGTH OF STREAM REACH (ft) **200** LAT. **41.38872** LONG. **-81.15746** RIVER CODE RIVER MILE

DATE **05/18/23** SCORER **CJB / BDL** COMMENTS

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text"/> 0%	<input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="text"/> 70%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text"/> 5%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="text"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text"/> 5%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text"/> 0%	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text"/> 0%
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text"/> 0%	<input type="checkbox"/> <input checked="" type="checkbox"/> MUCK [0 pts]	<input type="text"/> 15%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text"/> 5%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **3**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

HHEI Metric Points

Substrate Max = 40

8

A + B

2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS MAXIMUM POOL DEPTH (centimeters): **10**

Pool Depth Max = 30

15

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS AVERAGE BANKFULL WIDTH (meters): **1.10**

Bankfull Width Max=30

15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input checked="" type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - Yes No QHEI Score (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

<input type="checkbox"/> WWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> CWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> EWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
 County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
 Photograph Information:
 Elevated Turbidity? (Y/N): Canopy (% open):
 Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
 Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
 Is the sampling reach representative of the stream (Y/N) If not, please explain:
 Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
 Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
 Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
 Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

