November 9, 2022

**City of Columbus**
ATTN: Greg Fedner, Administrator, DOSD
910 Dublin Road
Columbus, Ohio 43215

Subject: Request for a Type II Variance from the City of Columbus Stormwater Drainage Manual for the Proposed Simpson Strong-Tie Expansion Site, Columbus, Ohio

Dear Mr. Fedner,

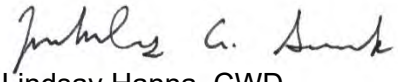
On behalf of Simpson Strong-Tie (Applicant), MAD Scientist Associates, LLC (MAD) presents the City of Columbus (The City) with this Request for a Type II Variance form the City of Columbus Stormwater Drainage Manual (the Manual) for proposed impacts to the Stream Corridor Protection Zone (SCPZ) associated with the Simpson Strong-Tie Expansion Site in Columbus, Franklin County, Ohio (henceforth referred to as the Site; see Figures 1 and 2).

A wetland and stream delineation was completed April 2021 by Central Ohio Wetland Consulting, LLC. A subsequent delineation was completed by MAD Scientist Associates on October 19, 2021, to confirm findings and map wetlands and streams onsite. A total of seven (7) wetlands and eight (8) streams were delineated onsite. For the purposes of this request, Wetland 4 and Wetland 6 are slated to be impacted. Both of these wetlands are emergent wetlands dominated by hybrid cattail (*Typha x glauca*).

An Alternatives Analysis was done as part of this application and the preferred alternative would impact 2.75 acres of Category 1 emergent wetlands. On __ a 404 individual permit request was submitted to the Army Corps of Engineers (USACE) for the impacts to Wetlands 4 and 6. The subsequent 2.75-acre impact to these wetlands will be offset with a combination of mitigation bank credits and on-site wetland creation. A mitigation plan of a 2.75-acre wetland creation onsite is attached to satisfy the City requirements for SCPZ wetland impacts. The additional 1.5 acres required to fulfill the USACE mitigation ratio has been purchased through Stream and Wetlands Foundation in the form of in-lieu fee credits.

Feel free to contact me with any questions. I can be reached at 614-818-9156 or via email at Lindsay@madscientistassociates.net.

Best Regards,



Lindsay Hanna, CWD

Project Scientist

MAD Scientist Associates

cc: Spencer Brown, Lincoln Construction
Burak Gursal, Simpson Strong-Tie

# REQUEST FOR A TYPE II VARIANCE FROM THE CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL

**SIMPSON STRONG-TIE EXPANSION SITE**

**NOVEMBER 9, 2022**

*Prepared for:*

**CITY OF COLUMBUS**
**ADMINISTRATOR, DOSD**
MR. GREG FEDNER
910 DUBLIN ROAD
COLUMBUS, OHIO 43215

*Prepared by:*

MAD SCIENTIST ASSOCIATES LLC

*Specialists in*

***Ecological & Wetland Consulting***

253 North State Street, Suite 101 Westerville, Ohio 43081 (614) 818-9156 Fax (614) 818-9157 www.madscientistassociates.net

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D Preferred Alternative

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## 1.0 PROJECT OVERVIEW

Simpson Strong Tie (SST) is a manufacturer of metal hangers used in various types of construction including but not limited to joist hangers and deck hangers. The company currently has approximately 284,000 SF of building under roof serving administration, manufacturing, and warehousing needs of their Hilliard Ohio plant. Due to the increase in demand for these products, additional warehouse space is needed in order to satisfy demand.

To accomplish this, SST is proposing to add warehouse capacity and an employee training center totaling 289,600SF +/-. (see Figure 1: Proposed Site Design). In order to accomplish this in the most effective way, the company purchased the parcel situated directly east of the current facility (Parcel 560-302754-00) to accommodate the proposed expansion. The Site is an old railyard, with a number of old rail lines and low-quality wetlands onsite. Roberts Milliken Ditch runs through the center of the Site from west to east (See Figures 2a and 2b).

A wetland delineation was completed by Central Ohio Wetland Consulting, LLC in April 2021, and a supplemental delineation was completed by MAD Scientist Associates in September 2021. A total of seven (7) wetlands and eight (8) streams were delineated onsite. Based on field observations, wetlands and streams were determined to be potentially jurisdictional. A preliminary jurisdictional determination (PJD) from the USACE Huntington District confirmed the jurisdictional status of the wetlands and streams onsite.

See Appendix A for delineation report and jurisdictional determination.

## 2.0 REASON FOR VARIANCE REQUEST

Based on capacity needs, a minimum of 230,000 square feet (sq. ft.) will be required for building construction. In addition, 115,975 sq. ft. of parking will need to be constructed to accommodate the increase in personnel employed at the facility. As per City regulations, the new building must be spaced 10 feet away from existing infrastructure, and stormwater retention with a capacity of 323,704 cubic feet (cf) is needed for the Site. Based on these requirements for proposed development, a total of 19.79 acres is needed for completing this project. Due to the configuration of wetlands onsite, there is not a section of contiguous acreage that could accommodate the proposed development without impacting onsite wetlands.

Based on building needs, Wetlands 4 and 6, which are part of the City of Columbus stream corridor protection zone (SCPZ), are expected to be impacted (Attachment A, Figure 2). Both wetlands were assessed using the ORAM (Ohio Rapid Assessment Method) and assigned scores of 25 and 26, respectively, which identifies them as Category 1 wetlands. These types of wetlands are defined as "limited quality waters" which have low functionality and limited potential for restoration (Ohio EPA, 2001) (Attachment A).

## 3.0 ALTERNATIVES ANALYSIS

### 3.1 Non-Disturbance Alternative

SST reviewed the possibility of purchasing a property that was not contiguous with the current manufacturing site, including an economic analysis of four (4) options. The economic analysis includes the proposed expansion into the Buckeye Yard property. This would have resulted in no impacts to the current Site.

However, due to budgetary constraints and accessibility issues, this alternative was not considered economically feasible. Of the four alternatives reviewed, the expansion into the Buckeye Yard Rail Site was the only one that would allow the current SST facility to continue operating, thus reducing costs by requiring an expansion rather than a completely new building. The remaining alternatives contained challenges and constraints to buildings based on Site configuration and Site location.

In regard to potential environmental impacts from the other alternatives, the other three alternatives required a construction footprint that met the current facility size in addition to the expansion size, therefore increasing the permeable surface within the county by closer to 622,000 sq. ft. instead of 300,000 sq. ft. Wetland and stream delineations were not conducted onsite for the alternative property options; however based on a review of aerial imagery and other resources including the National Wetlands Inventory and web soil survey for alternative properties, it appears that wetlands and streams are present on the alternative sites as well. Therefore, it is probable that impacts to aquatic resources would have occurred in order to develop the alternative properties as well.

See Appendix B for Economic Analysis on the Non-Disturbance Alternative.

### 3.2 Minimal Disturbance Alternative

In the minimal disturbance alternative, the proposed development of the Buckeye Yard site is oriented to minimize disturbance to on-site aquatic resources. The required stormwater retention basin is situated within the stream corridor of Roberts Milliken Ditch, parallel to the stream. The construction of the stormwater detention pond would require 41.60 linear feet of impacts to a tributary of Roberts Milliken Ditch. To accommodate the ability for large trucks to be able to turn around in the northern portion of the proposed facility expansion, a total of 2.35 acres between Wetlands 4 (full wetland area) and 6 (partial wetland area) will be impacted. While this alternative results in less potential impacts to aquatic resources, it requires impacts to both streams and wetlands.

See Appendix C for the Minimal Disturbance Alternative Concept Plan.

### 3.3 Preferred Alternative

In order to accommodate the proposed expansion of the manufacturing facility, SST will need to impact Wetlands 4 and 6. A portion of Wetland 4 will be filled to accommodate facility construction, and Wetland 6 will be converted into a stormwater retention basin. In this design, a total of 2.75 acres of wetland will be impacted. The design does not impact Robert Milliken Ditch or any of its tributaries onsite and includes stormwater bioswales associated with the southern parking lots to accommodate additional stormwater retention.

See Appendix D for Preferred Alternative Concept Design.

### 3.4 Alternatives Analysis Results

Based on the alternatives analysis, SST is proposing moving forward with the preferred alternative. This alternative would impact more wetland acreage in comparison to the minimal impact alternative, however, it would eliminate any direct stream impacts. Both Wetlands 4 and 6 are classified as Category 1 wetlands, and therefore their contribution to wildlife habitat and ecosystem function is relatively low. In comparison to the non-disturbance alternative, the economic benefit is much greater as the expansion would be adjacent to the current building and allow a buildout instead of a brand new facility on undisturbed land. The preferred alternative is the most cost-effective and economically viable while also impacting the least water resources onsite. A mitigation plan has been created to address the 2.75 acres of proposed wetland impacts.

## 4.0 PROPOSED MITIGATION

The USACE requires a total of 4.2 acres of wetland mitigation credits to account for the 2.75 acres of impact to these Category 1 jurisdictional wetlands (a 1.5:1 ratio). The City requires that wetlands within the SCPZ be mitigated onsite at a ratio of 1:1 (City of Columbus, 2021). In order to satisfy all mitigation requirements, SST intends to create 2.75 acres of emergent wetland onsite and purchase the additional 1.5 acres through the Stream + Wetlands Foundation in-lieu fee (ILF) program.

See Appendix E for the USACE 404 Permit Submission packet

### 4.1 HUC12

Based on historic elevations, the Site is mapped into two separate HUC12 units (Hayden Run-Scioto River HUC12 050600011204 and Dry Run-Scioto River HUC12 050600011205), with the divide between the two running east to west. However, based on historic aerials, it appears that the onsite drainage has been so heavily modified that this is no longer an accurate representation of the Site. Prior to the 1970s, the site was farmed, with no apparent wetland signatures appearing on historic aerials (See Appendix F). Roberts Milliken Ditch is visible, as well as Scioto Darby Creek to the north of the Site, into which the northern portion of the Site presumably drained originally. However, the construction of the railyard in the 1970s created artificial berms within the watershed, retaining most of the water onsite or conveying it to Roberts Milliken Ditch to the south. In particular, Wetland 3, which crosses the two HUCs, does not connect to Scioto Darby Creek because of the impediment of the surrounding railroad tracks. No culverts were observed that provide a hydrologic connection to Scioto Darby Creek. Instead, this wetland connects to Roberts Milliken Ditch (See Figure 3).

Other current-day observations that support the onsite drainage as a functionally single HUC are the presence of Scioto Darby Creek Road to the north that creates a large barrier from Scioto Darby Creek preventing onsite water from flowing north. Topographic overlays developed from recent LiDAR data indicate that most of the northern wetlands are depressions with no distinct outlet other than overland flow. A culvert was observed flowing into Wetland 2 beneath the railroad tracks from the north. The area that flows into the wetland is a small upland triangle between two raised tracks and supports the hypothesis that onsite drainage no longer flows to the north to Scioto Darby Creek (Attachment G, Photographs1-5).

## 4.2 Mitigation Plan

In order to mitigate the impact to Wetlands 4 and 6 (part of the SCPZ requiring 1:1 mitigation in the immediate HUC12 watershed), SST intends to expand and connect Wetlands 2, 3, and 7 to create a more diverse wetland complex that would provide additional stormwater storage capacity and ultimately increase wetland quality within the Roberts Milliken Stream watershed. The expanded wetland complex between Wetlands 2 and 7 will hydrologically connect to Wetland 3, which is part of the SCPZ of Roberts Milliken Ditch. The impacted wetlands are cattail monocultures and have been categorized as Category 1 wetlands through the ORAM. In contrast, Wetland 2 is more diverse and received a higher ORAM score of 32. Expanding this wetland area would not only account for the 2.75 acres of impact, but it would increase the quality of existing wetlands and the functional capacity of the stream corridor of Roberts Milliken Ditch.

The additional wetland mitigation acreage required by the USACE and Ohio EPA due to the 1.5:1 mitigation ratio will be obtained through the Stream + Wetland Foundation ILF program.

### *4.2.1 Wetland Creation Grading Plan*

The wetlands identified on the Site vary in elevation and have formed (or persisted) in remnant land areas that are partitioned and defined by railroad infrastructure. Currently, Wetland 2 is situated at elevations below 886 feet AMSL (~883 – 886 ft AMSL), while the surrounding area exceeds these elevations (~887 - 890 ft AMSL). Wetland 7, located to the northwest of Wetland 2, is situated at 888 ft AMSL, directly downslope from the raised railroad bed. Wetland 5 spans elevations from 880 - 881 ft AMSL to the south but is separated from Wetland 2 by a raised railroad bed that is 12 to 13 feet higher (~893 ft AMSL).

To accomplish onsite wetland mitigation, it is proposed that excavation occur within certain areas that are currently not meeting wetland criteria. The proposed details are described below. However, it must be noted that these plans are preliminary and have been developed for the purposes of obtaining concurrence/approval for the variance being sought in this application. A more thorough site analysis and detailed design will be completed to ensure that SST meets its mitigation requirements through successful onsite wetland creation should the variance be approved.

In order to achieve the appropriate hydrology for wetland creation, approximately 2 acres north of Wetland 2 will be excavated (presumably to elevations below 887 ft AMSL) to form a depression

that is hydrologically connected – at least during peak flooding - with both Wetland 2 and Wetland 7. To the south of Wetland 2, an additional area of approximately 0.51 acres will also be excavated (to elevations of 884 ft AMSL or less).

Currently Wetlands 7 and 2 are isolated from any stream connections due to the railroad beds that surround the area and contain a central depression. Historically, this area would have drained to the northeast, but it currently does not function as part of the watershed for the Scioto Darby Creek. The current culvert under the existing railroad track to the east allows excess water to flow into Wetland 2, but based on the culvert grade, further isolates these wetlands from the original watershed. Instead, as part of this variance, these wetlands (along with the newly constructed expansion) will connect to the Roberts Milliken Ditch watershed to the south.

A connection between the expanded Wetland 2 and Wetland 5 to the south will be created with a large culvert under the existing railroad bed, which will slope to the natural elevation of Wetland 5. In general, this subtle topography will accommodate the collection of stormwater within the northern basin without inundating Wetland 5. This wetland will also provide additional stream corridor protection zone area. The connectivity of the proposed wetland restoration to Wetland 5, which is contemporarily situated in the HUC12 watershed where the impacted wetlands are located, results in a 1:1 replacement of the impacted wetlands within the same watershed.

See Figure 4 for the Mitigation Concept Design.

#### *4.2.2 Wetland Plant Community*

The wetlands to be impacted are cattail monocultures that score as Category 1 wetlands using the ORAM. While these areas provide some stream corridor protection, they contain minimal wildlife habitat and are considered to be of low quality. In contrast, Wetland 2 scores as a Category 2 wetland, which "...support[s] moderate wildlife habitat, or hydrological or recreational functions," and is "...dominated by native species but generally without the presence of, or habitat for, rare, threatened and endangered (T&E) species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions" (ORAM; Ohio EPA, 2001). In order to preserve the functions of the current Category 2 wetland, the newly formed wetlands will incorporate the existing vegetation within Wetland 2, including the large cottonwood (*Populus deltoides*) trees located on the northern end. The majority of the area proposed for wetland expansion is currently dominated by Callery pear (*Pyrus calleryana*), which is considered an invasive upland species.

Removal of the Callery pear and the establishment of additional emergent wetland plants will reduce invasive species coverage onsite and enhance the habitat value and ecosystem functions of these wetlands. The newly-created wetlands will be seeded with appropriate native shallow and deep emergent wetland plant species and monitored for invasives species encroachment. However, in general it is expected that plant communities within the new wetlands will re-establish naturally due to the presence of higher quality vegetation found in Wetland 2, which may serve as a source area for wetland plant propagules.

## LITERATURE CITED

The City of Columbus Department of Public Utilities. 2021. Division of Sewerage and Drainage Stormwater Drainage Manual.

Ohio EPA. 2001. Ohio Rapid Assessment Method for Wetlands. Version 5.0 Final. Ohio Environmental Protection Agency. Columbus, Ohio.

# FIGURES

INSPIRED PEOPLE ▲ CREATIVE DESIGN ▲ TRANSFORMING COMMUNITIES

PENNSYLVANIA LINES LLC
IN. 200212180325195
PARCEL 12
7.503 ACRES

PROPOSED 25' SANITARY EASEMENT (BY OTHERS)

S04°55'49"W 2314.24'

30' SANITARY EASEMENT

EXISTING STREAM BUFFER

PROPOSED BUILDING
FF=895.32
305,413 SF

BUCKEYE XO, LLC
IN. 202107020116492
PARCEL 13
41.731 ACRES

MANOR REAL ESTATE COMPANY'S RIGHT-OF-WAY DEDICATION PLAT OF ROBERTS ROAD PB 42 PG 90

N86°55'18"W 203.28'

N89°09'54"W 217.68'

ROBERTS ROAD (R/W VARIES)

N04°54'43"E 647.38'

N04°54'43"E 74.80'

N86°55'26"E 30.00'

N04°28'14"E 434.28'

N04°28'14"E 621.31'

N04°28'10"E 454.15'

10' COLUMBUS SOUTHERN POWER COMPANY EASEMENT

ELECTRIC AERIAL SHOWN PER APPROXIMATE LOCATION

TARRIER HOLDINGS INC.
IN. 201109290123570
12.420 ACRES

SIMPSON MANUFACTURING COMPANY, INC.
OR 14496 D-12
6.000 ACRES

SIMPSON MANUFACTUREING CO., INC.
IN. 200505060086763
7.854 ACRES

WILSONART I LLC
IN. 201303190045453
5.781 ACRES

INTERNATIONAL ST

12" WATER (WIL1981-20_003)

15" SAN (RP5883)

12" WATER (CP1483_006)


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SEAL:

| NO. | DATE | DESCRIPTION |
|---|---|---|

# SIMPSON STRONG TIE

**V.M.S. 287**
**CITY OF COLUMBUS**
**FRANKLIN COUNTY, OHIO**

| | |
|---|---|
| PROJECT NO: | 210880.000 |
| DATE: | 01/19/2022 |
| SCALE: | 0 40 80 160 |

SHEET NAME:

## CONCEPT SITE PLAN

SHEET NO.

# 1/1

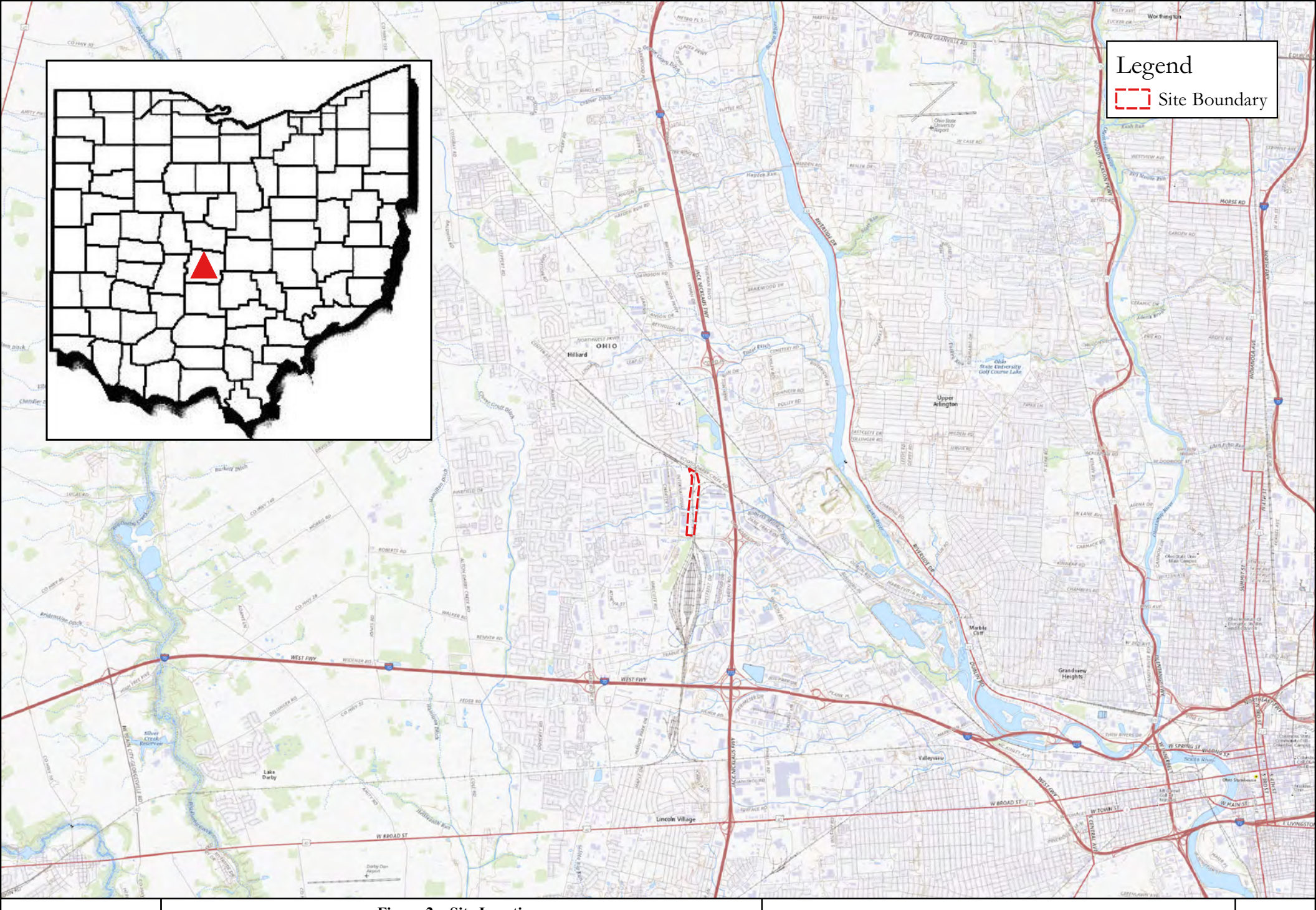



**Figure 2a. Site Location**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

MAD SCIENTIST ASSOCIATES LLC

Date: November 4, 2021

0 1 2 3 4 5 6 mi

Created By: Lindsay Hanna


MAD SCIENTIST ASSOCIATES LLC

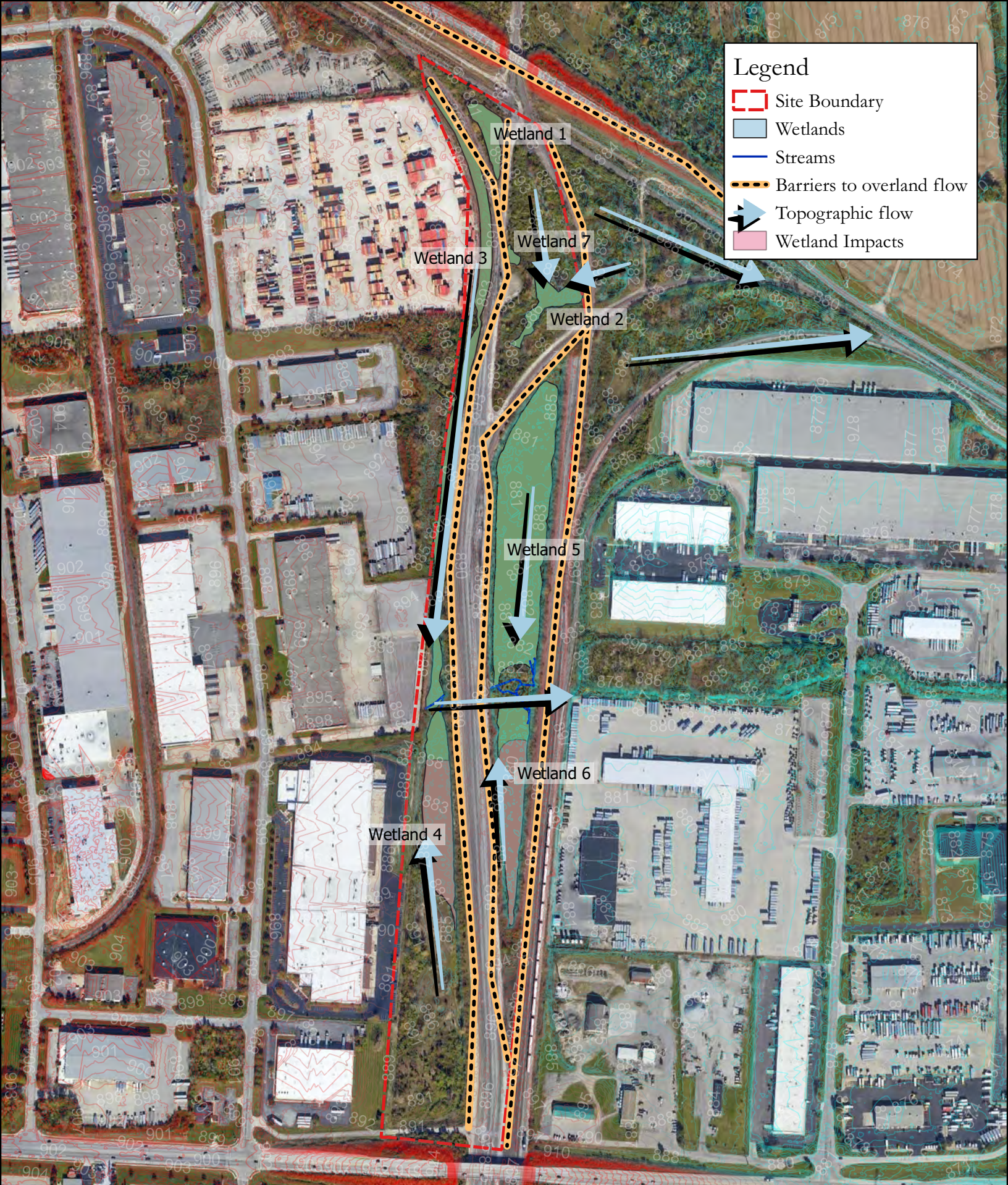
**Figure 2b. Site Aerial**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna




MAD SCIENTIST ASSOCIATES LLC

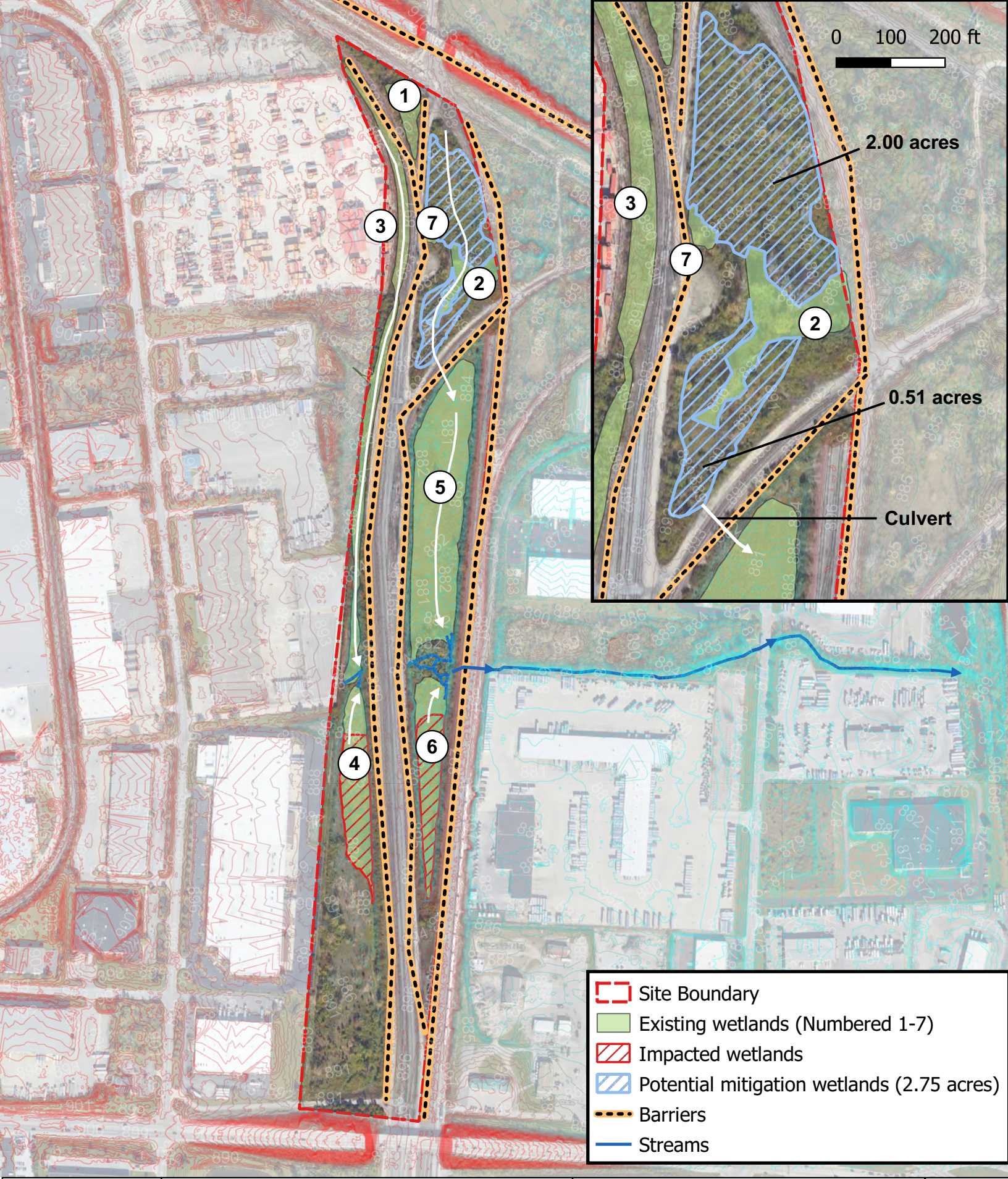
**Waterflow onsite**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna




**Wetland Mitigation Conceptual Plan**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

MAD SCIENTIST ASSOCIATES LLC

Date: October 10, 2022

0 200 400 600 800 1,000 ft

Created By: Robert Keast

# APPENDIX A

Delineation Report and Preliminary Jurisdictional Determination

# Memorandum: Buckeye Yard Wetland Assessment

**Date:** May 3, 2022

**RE:** Assessment of water resources onsite at Buckeye Yard (north of Roberts Road) in Franklin County, Ohio

## Introduction

This is a supplemental memo to be included with the delineation report completed by Central Ohio Wetland Consulting, LLC on April 20, 2021.

Simpson Strong-Tie Co., Inc. (SST) hired MAD Scientist Associates, LLC (MAD) to provide wetland assessment services as part of the company's due diligence prior to purchasing a property within Buckeye Yard north on Roberts Road in Franklin County, OH (Figures 1 and 2). Field work was completed on October 18, 2021, by Certified Wetland Delineator (CWD) Lindsay Hanna and Environmental Technician Cody Wright. Observations were recorded regarding the delineated water resources onsite as well as any additional wetlands observed. In addition, connectivity of water resources to make a potential jurisdictional determination was reviewed. Delineation datasheets were completed using methods presented in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Midwest Regional Supplement (Version 2.0; USACE, 2012).

## Site Findings

MAD confirmed the presence of seven (7) wetlands and eight (8) streams onsite. MAD verified the wetland boundaries that were delineated by Central Ohio Wetland Consulting, LLC in a previous delineation report and completed datasheets at each wetland. In addition, MAD delineated an additional wetland and conducted an ORAM for this wetland. Based on field observations, these wetlands and streams are potentially jurisdictional, however a formal jurisdictional determination will have to be submitted to USACE before this can be verified.

Supplemental photos can be found in Appendix A of this addendum.

### Wetlands 1-6

MAD confirmed the presence of Wetlands 1 through 6 that were previously delineated by Central Ohio Wetland Consulting, LLC in April 2021. The updated wetland boundaries are presented in Figure 3 of this addendum. Wetland datasheets are provided in Appendix B of this addendum.

### Wetland 7

Wetland 7 is located in the northern portion in Buckeye Yard located along the edge of the railroad track. The wetland is estimated to be 0.057 acres. Dominant species include green ash (*Fraxinus pennsylvanica-FACW*), cottonwood (*Populus deltoides-FAC*), gray dogwood (*Cornus racemose-FAC*), common buckthorn (*Rhamnus cathartica-FAC*), narrow-leaf cattail (*Typha angustifolia-OBL*), barnyard glass (*Echinochloa crus-galli-FACW*), and yellow nutsedge

(*Cyperus esculentus-FACW*). Wetland hydrology indicators at the Site for Wetland 7 included saturation, geomorphic position, and passing the FAC-neutral test for plants. Hydric soil indicators included depleted matrix (F3) evidenced by a low chroma of 2, with prominent redoximorphic features present (4 to 12 percent) as concentration in the matrix.

Wetland 7 is small with a very narrow buffer of high intensity land uses. The hydrology has been impacted by the nearby railroad track and stormwater input; it appears to be recovering. Similarly, the habitat has been impacted by shrub removal and is of fair quality; it appears to be recovering. In general, there is little wildlife habitat and a sparse amount of invasive cattail. Based on these factors, Wetland 7 scored a 23 on the ORAM, categorizing it as a Category 1 wetland.

## Impacts

Wetlands 4 and 6 will be impacted. In total, 2.51 acres of wetland will be impacted (1.35 acres of Wetland 4 and 1.16 acres of Wetland 6).

**Literature Cited:**

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report. Y-87-1. U.S. Army Engineers Waterways Experiment Station. Vicksburg, MS.

Ohio EPA. 2001. Ohio Rapid Assessment Method for Wetlands. Version 5.0 Final. Ohio Environmental Protection Agency. Columbus, Ohio.

USACE. 2012. Regional supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0). J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J.F. Berkowitz. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

# Figures

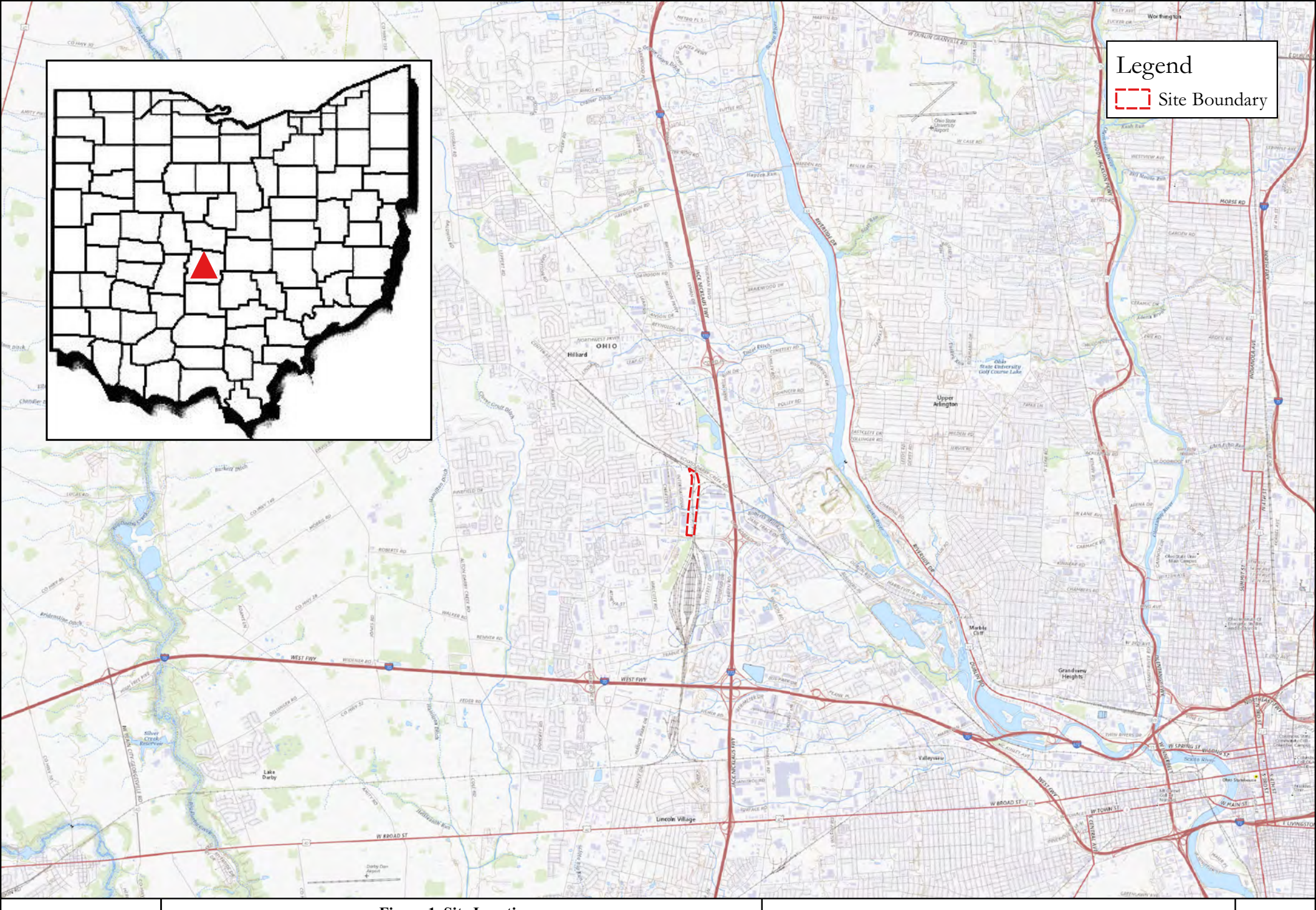



**Figure 1. Site Location**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: ArcGIS Topography

MAD SCIENTIST ASSOCIATES LLC

Date: November 4, 2021

0 1 2 3 4 5 6 mi

Created By: Lindsay Hanna


MAD SCIENTIST ASSOCIATES LLC

**Figure 2. Site Aerial**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna

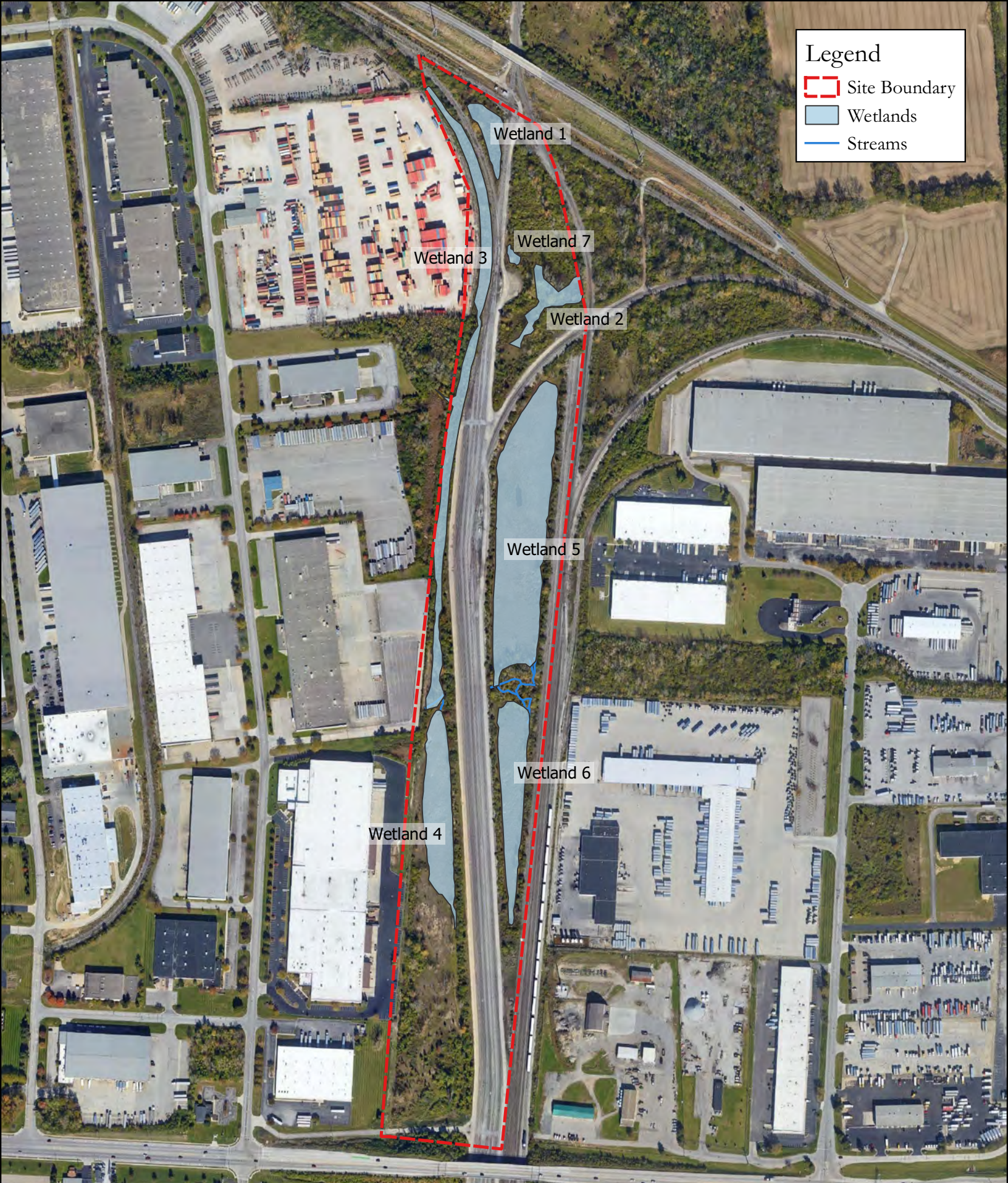



**Figure 3. Wetlands and Streams Onsite**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

MAD SCIENTIST ASSOCIATES LLC

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna

# Attachment A

# Photolog

Photograph 1 – Soil in Wetland 1.

Photograph 2 –Wetland 1 facing northeast toward wetland interior.

Photograph 3 – Upland area between Wetland 1 and Wetland 3, facing south.

Photograph 4 – Soil in Wetland 2.

Photograph 5 – Wetland 2 interior, facing north.

Photograph 6 – Wetland 2 interior, facing east.

Photograph 7 – Soil at Upland 2.

Photograph 8 – Soil in Wetland 3.

Photograph 9 – Wetland 3 interior, facing north.

Photograph 10 – Wetland 4 connectivity with stream, facing south.

Photograph 11 – Upland facing Wetland 4, facing north.

Photograph 12 –Soil in Wetland 5.

Photograph 13 – Wetland 5, facing north.

Photograph 14 – Soil in Wetland 6.

Photograph 15 – Wetland 6 facing north, toward stream area.

Photograph 16 – Wetland 6 interior, facing south.

Photograph 17 – Soil in Wetland 7.

Photograph 18 – Wetland 7 interior, facing east.

# Attachment B

# Datasheets

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard City/County: Columbus/Franklin Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie State: OH Sampling Point: W1-up

Investigator(s): Lindsay Hanna Section, Township, Range:

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): Concave

Slope (%): 2 Lat: 40.013685° Long: -83.127905° Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, 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 X | **Is the Sampled Area within a Wetland?** **Yes** **No X** |
| Hydric Soil Present? | Yes | No X | |
| Wetland Hydrology Present? | Yes | No X | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 8 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 8 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Schizachyrium scoparium* | 10 | Yes | FACU |
| 2. *Euthamia graminifolia* | 5 | No | FACW |
| 3. *Juniperus virginiana* | 12 | Yes | FACU |
| 4. *Spiraea japonica* | 10 | Yes | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 37 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (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
- 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.

**Hydrophytic Vegetation Present?** **Yes** **No X**

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

## SOIL

Sampling Point: W1-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rocks

Depth (inches): 1

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Along train track, uphill between Wetland 1 and Wetland 3/

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W1-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.013687° | Long: -83.127801° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 20 | Yes | FAC |
| 2. *Salix nigra* | 18 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 38 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Salix nigra* | 5 | Yes | OBL |
| 2. *Cornus sericea* | 10 | Yes | FACW |
| 3. *Rhamnus cathartica* | 8 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 23 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W1-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 4/2 | 98 | 10YR 5/6 | 2 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 3-13 | 2.5Y 4/2 | 98 | 10YR 5/4 | 2 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 13-15 | 10YR 4/2 | 96 | 10YR 4/6 | 1 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 6/4 | 3 | C | M | | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No ___ | Depth (inches): 5 | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 5 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 5 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W2-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.012603° | Long: -83.127084° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Rhamnus cathartica* | 35 | Yes | FAC |
| 2. *Lonicera maackii* | 15 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 50 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Lonicera maackii* | 9 | Yes | UPL |
| 2. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 11 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 2 | x 2 = | 4 |
| FAC species | 50 | x 3 = | 150 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 24 | x 5 = | 120 |
| Column Totals: | 76 (A) | | 274 (B) |

Prevalence Index = B/A = 3.61

**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.

**Hydrophytic Vegetation Present?** **Yes** ____ **No** X

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

## SOIL

Sampling Point: W2-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: roots

Depth (inches): 8

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 3 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W2-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.012542° | Long: -83.127187° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 20 | Yes | FAC |
| 2. *Acer saccharinum* | 15 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. *Rhamnus cathartica* | 8 | Yes | FAC |
| 2. *Lonicera japonica* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 13 | =Total Cover | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Agrimonia parviflora* | 18 | Yes | FACW |
| 2. *Euthamia graminifolia* | 25 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 12 | No | FACW |
| 4. *Symphyotrichum lateriflorum* | 10 | No | FACW |
| 5. *Carex frankii* | 18 | Yes | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 83 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W2-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 3/2 | 98 | 10YR 3/6 | 2 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 3-11 | 10YR 4/2 | 95 | 10YR 5/4 | 5 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 11-16 | 10YR 3/2 | 95 | 10YR 5/4 | 1 | C | M | Loamy/Clayey | Distinct redox concentrations |
| | | | 10YR 5/6 | 4 | C | M | | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? Yes X No ___ Depth (inches): 1

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W3-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.013665° | Long: -83.128058° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 0 | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No 0 | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 25 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 25 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Cornus sericea* | 10 | Yes | FACW |
| 2. *Lonicera maackii* | 5 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Phalaris arundinacea* | 18 | Yes | FACW |
| 2. *Typha x glauca* | 5 | Yes | OBL |
| 3. *Symphyotrichum lateriflorum* | 2 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 25 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** Yes X No ____

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

## SOIL

Sampling Point: W3-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 4/1 | 100 | | | | | Loamy/Clayey | |
| 3-11 | 10YR 4/2 | 97 | 7.5YR 5/6 | 3 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 11-16 | 2.5Y 5/1 | 97 | 10YR 5/6 | 3 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10

Saturation Present? Yes X No ___ Depth (inches): 11

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W4-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.005752° | Long: -83.128613° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Rhamnus cathartica* | 2 | Yes | FAC |
| 2. *Juniperus virginiana* | 3 | Yes | FACU |
| 3. *Pyrus calleryana* | 1 | No | UPL |
| 4. *Populus deltoides* | 2 | Yes | FAC |
| 5. | | | |
| | 8 =Total Cover | | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Schizachyrium scoparium* | 10 | No | FACU |
| 2. *Juniperus virginiana* | 10 | No | FACU |
| 3. *Euthamia graminifolia* | 18 | Yes | FACW |
| 4. *Epilobium coloratum* | 20 | Yes | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 58 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W4-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 4/2 | 100 | | | | | Loamy/Clayey | |
| 8-13 | 10YR 4/3 | 100 | | | | | Loamy/Clayey | friable |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

Gravel in layer at 3 inches

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W4-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.005886° | Long: -83.128574° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Typha X glauca* | 35 | Yes | OBL |
| 2. *Juncus effusus* | 32 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 67 =Total Cover | | |
| **Woody Vine Stratum (Plot size: ____)** | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W4-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 2.5Y 5/2 | 100 | | | | | Loamy/Clayey | |
| 3-4 | 2.5Y 5/2 | 98 | 2.5Y 5/4 | 2 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 4-8 | 10YR 5/2 | 94 | 10YR 5/6 | 6 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

Gravel in layer at 3 inches

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 1 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10/18/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W5&6-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.007998° | Long: -83.127790° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Catalpa speciosa* | 20 | Yes | FACU |
| 2. *Acer saccharinum* | 20 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 10 | No | FACW |
| 4. *Celtis occidentalis* | 18 | Yes | FAC |
| 5. | | | |
| | 68 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Lonicera maackii* | 50 | Yes | UPL |
| 2. *Ligustrum vulgare* | 15 | Yes | FACU |
| 3. *Rhamnus cathartica* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| | 75 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Rhamnus cathartica* | 10 | Yes | FAC |
| 2. *Lonicera maackii* | 8 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 18 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (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

____ 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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W5&6-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 3/2 | 98 | 10YR 4/6 | 2 | C | PL | Loamy/Clayey | Prominent redox concentrations |
| 8-16 | 2.5Y 4/2 | 100 | | | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rocks

Depth (inches): 1

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 7 |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10/18/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W5-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.008253° | Long: -83.127799° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No 0 | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Catalpa speciosa* | 35 | Yes | FACU |
| 2. *Acer saccharinum* | 20 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 15 | No | FACW |
| 4. *Ulmus americana* | 15 | No | FACW |
| 5. | | | |
| | 85 | =Total Cover | |
| **Sapling/Shrub Stratum (Plot size: )** | | | |
| 1. *Cornus racemosa* | 10 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 12 | Yes | FACW |
| 3. *Lonicera maackii* | 8 | Yes | UPL |
| 4. | | | |
| 5. | | | |
| | 30 | =Total Cover | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Lysimachia nummularia* | 10 | Yes | FACW |
| 2. *Symphyotrichum lanceolatum* | 8 | Yes | FAC |
| 3. *Viburnum trilobum* | 5 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 23 | =Total Cover | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W5-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 2.5Y 4/2 | 93 | 10YR 5/8 | 5 | C | PL/M | Loamy/Clayey | Prominent redox concentrations |
| | | | 2.5Y 4/1 | 2 | RM | M | | |
| 9-16 | 2.5Y 5/2 | 91 | 10YR 5/6 | 5 | C | PL/M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 3/6 | 4 | C | PL/M | | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 4 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 4 |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W6-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.007824° | Long: -83.127451° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Salix nigra* | 15 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Typha X glauca* | 10 | No | OBL |
| 2. *Symphyotrichum lateriflorum* | 15 | Yes | FACW |
| 3. *Phalaris arundinacea* | 35 | Yes | FACW |
| 4. *Acer saccharinum* | 5 | No | FACW |
| 5. *Impatiens capensis* | 10 | No | FACW |
| 6. *Lysimachia nummularia* | 10 | No | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 85 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W6-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-5 | 10YR 3/1 | 100 | | | | | Loamy/Clayey | |
| 5-11 | 10YR 4/1 | 93 | 7.5YR 4/6 | 7 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 11-17 | 10YR 5/1 | 80 | 10YR 5/4 | 15 | C | M | Loamy/Clayey | Distinct redox concentrations |
| | | | 10YR 4/4 | 5 | C | M | | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 2 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10-18-21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W7-UP

Investigator(s): Lindsay Hanna, Cody Wright | Section, Township, Range: N/A

Landform (hillside, terrace, etc.): base of hillslope | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.012823° | Long: -83.127693° | Datum: NAD' 83

Soil Map Unit Name: Urban Land-Celina complex | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Along rocky edge of railroad access road

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15 )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Herb Stratum (Plot size: 5 )** | | | |
| 1. *Daucus carota* | 60 | Yes | UPL |
| 2. *Cornus racemosa* | 10 | No | FAC |
| 3. *Setaria pumila* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80 =Total Cover | | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (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

____ 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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W7-UP

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 0

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10-18-21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W7-WET

Investigator(s): Lindsay Hanna, Cody Wright | Section, Township, Range: N/A

Landform (hillside, terrace, etc.): base of hillslope | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.012821° | Long: -83.127668° | Datum: NAD' 83

Soil Map Unit Name: Urban Land-Celina complex | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Area is at the base of the slope of old rail road access road.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 3 | Yes | FACW |
| 2. *Populus deltoides* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 13 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Cornus racemosa* | 12 | Yes | FAC |
| 2. *Rhamnus cathartica* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 17 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Typha angustifolia* | 20 | Yes | OBL |
| 2. *Epilobium coloratum* | 10 | No | OBL |
| 3. *Echinochloa crus-galli* | 23 | Yes | FACW |
| 4. *Populus deltoides* | 8 | No | FAC |
| 5. *Symphyotrichum pilosum* | 12 | No | FACU |
| 6. *Cyperus esculentus* | 15 | Yes | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 88 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W7-WET

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 10YR 5/2 | 96 | 10YR 6/4 | 4 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 9-12 | 2.5y 5/2 | 91 | 10YR 5/6 | 6 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 5/1 | 3 | D | M | | |
| 12-18 | 2.5y 5/2 | 83 | 10YR 5/6 | 12 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 4/2 | 5 | D | M | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 17 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 0 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

# Attachment C

# Wetland 7 ORAM

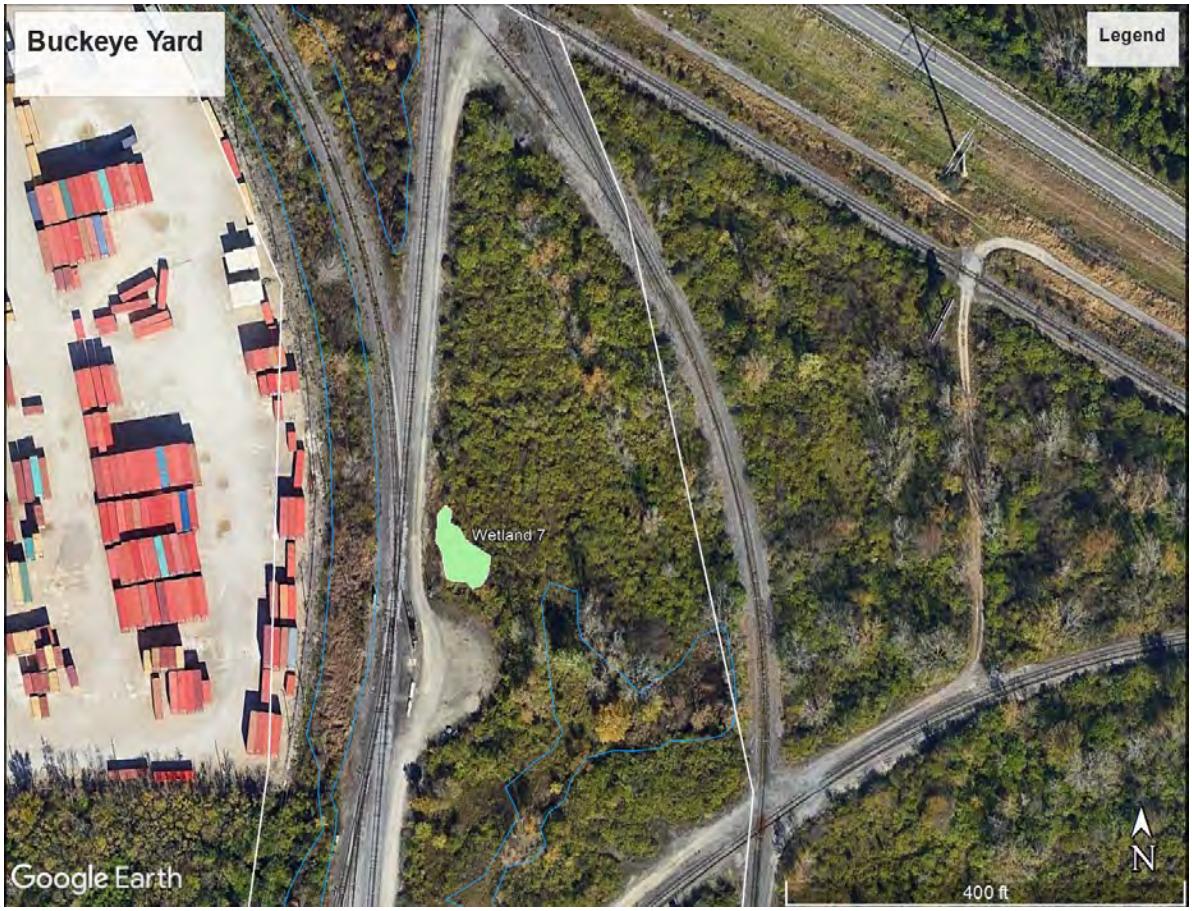
# Background Information

| |
|---|
| **Name:**<br>Lindsay Hanna |
| **Date:**<br>4/15/2022 |
| **Affiliation:**<br>MAD Scientist Associates |
| **Address:**<br>253 North State Street, Suite 101 Westerville, Ohio 43081 |
| **Phone Number:**<br>(614) 818-9156 |
| **e-mail address:**<br>Lindsay@madscientistassociates.net |
| **Name of Wetland:**<br>Wetland 7 |
| **Vegetation Communit(ies):**<br>Emergent |
| **HGM Class(es):** |
| **Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.**<br>  |

| | |
|---|---|
| Lat/Long or UTM Coordinate | WGS 84: 40.012762° -83.127578° |
| USGS Quad Name | Dublin |
| County | Franklin |
| Township | |
| Section and Subsection | |
| Hydrologic Unit Code | 050600011204 |
| Site Visit | 11/3/2022 |
| National Wetland Inventory Map | |
| Ohio Wetland Inventory Map | ------- |
| Soil Survey | Urban land-Celina complex |
| Delineation report/map | Yes |

| Name of Wetland: | Wetland 7 |
|---|---|
| Wetland Size (acres, hectares): | 0.057 acres |

**Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.**




**Comments, Narrative Discussion, Justification of Category Changes:**

Wetland 7 is located in the northern portion in Buckeye Yard located along the edge of the railroad track. The wetland is estimated to be 0.057 acres. Dominant species include green ash (Fraxinus pennsylvanica), cottonwood (Populus deltoides), gray dogwood (Cornus racemosa), common buckthorn (Rhamnus cathartica), narrow-leaf cattail (Typha angustifolia), barnyard glass (Echinochloa crus-galli), and yellow nutsedge (Cyperus esculentus). Wetland hydrology indicators at the Site for Wetland 7 included saturation, geomorphic position, and passing the FAC-neutral test for plants. Hydric soil indicators included depleted depleted matrix (F3) evidenced by a low chroma of 2, with prominent redoximorphic features present (4 to 12 percent) as concentration in the matrix.

| **Final score :** 23 | **Category:** | 1 |
|---|---|---|

# Scoring Boundary Worksheet

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

| # | Steps in properly establishing scoring boundaries | done? | not applicable |
|---|---|---|---|
| **Step 1** | Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. | ✔ | |
| **Step 2** | Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. | ✔ | |
| **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. | ✔ | |
| **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. | ✔ | |
| **Step 5** | In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. | | ✔ |
| **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. | | ✔ |

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

Wetland 7

# Narrative Rating

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

| # | Question | Circle one | |
|---|---|---|---|
| **1** | **Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000). | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 2 | (NO)<br><br>Go to Question 2 |
| **2** | **Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species? | YES<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 3 | (NO)<br><br>Go to Question 3 |
| **3** | **Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 4 | (NO)<br><br>Go to Question 4 |
| **4** | **Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 5 | (NO)<br><br>Go to Question 5 |
| **5** | **Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation? | YES<br><br>Wetland is a Category 1 wetland<br><br>Go to Question 6 | (NO)<br><br>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 *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 7 | (NO)<br><br>Go to Question 7 |
| **7** | **Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 8a | (NO)<br><br>Go to Question 8a |
| **8a** | **"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs? | YES<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 8b | (NO)<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status.<br><br>Go to Question 9a | (NO)<br><br>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<br><br>Go to Question 9b | (NO)<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10 | NO<br><br>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<br><br>Go to Question 9d | NO<br><br>Go to Question 10 |
| **9d** | Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 10 | NO<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10 | NO<br><br>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<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 11 | (NO)<br><br>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 (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.). | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Complete Quantitative Rating | (NO)<br><br>Complete Quantitative Rating |

**Table 1. Characteristic plant species.**

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

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

| **Site:** Wetland A | **Rater(s):** LH | **Date:** 4/15/2022 |
|---|---|---|

| 0 | 0 |
|---|---|
| max 6 pts. | subtotal |

## Metric 1. Wetland Area (size).

Wetland 7

Select one size class and assign score.

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

| 1 | 3 |
|---|---|
| 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 <25m (32ft to <82ft) around wetland perimeter (1)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

| 7 | 10 |
|---|---|
| max 30 pts. | subtotal |

## Metric 3. Hydrology.

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

| 11 | 21 |
|---|---|
| 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)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 21 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

| **Site:** Wetland A | **Rater(s):** LH | **Date:** 4/15/2022 |
|---|---|---|

21
subtotal first page

0 (max 10 pts.) | 21 (subtotal)

## Metric 5. Special Wetlands.

Wetland 7

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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 23 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

23

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

Wetland 7

# ORAM Summary Worksheet

| | | circle answer or insert score | Result |
|---|---|---|---|
| Narrative Rating | Question 1 Critical Habitat | YES (NO) | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES (NO) | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES (NO) | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES (NO) | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES (NO) | If yes, Category 1. |
| | Question 6. Bogs | YES (NO) | If yes, Category 3. |
| | Question 7. Fens | YES (NO) | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES (NO) | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES (NO) | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES (NO) | If yes, Category 3 |
| | Question 11. Relict Wet Prairies | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| Quantitative Rating | Metric 1. Size | 0 | |
| | Metric 2. Buffers and surrounding land use | 1 | |
| | Metric 3. Hydrology | 7 | |
| | Metric 4. Habitat | 11 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 2 | |
| | TOTAL SCORE | 23 | Category based on score breakpoints 1 |

**Complete Wetland Categorization Worksheet**.

Wetland 7 **Wetland Categorization Worksheet**

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

**Final Category**

| Choose one | (Category 1) | Category 2 | Category 3 |
|---|---|---|---|

## End of Ohio Rapid Assessment Method for Wetlands.

**CENTRAL OHIO WETLAND CONSULTING, LLC**

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# JURISDICTIONAL WATERS DELINEATION REPORT

## BUCKEYE YARD
## TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS
## COLUMBUS, FRANKLIN COUNTY, OHIO

Prepared by:

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REPORT ISSUED APRIL 20, 2021
COWC PROJECT #120120007

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**APPENDIX 1 – MAPS AND EVALUATION AREA INFORMATION**

General Location Map of Evaluation Area
Location Maps of Evaluation Area
Franklin County Auditor GIS Maps
1954/1955, 1966, 1973, 1980/1981, and 2019 USGS Topographic Maps
USDA Web Soil Survey Maps
National Wetlands Inventory (NWI) Maps

**APPENDIX 2 – AERIAL PHOTOGRAPHS**

1956 Aerial Photographs
1960 Aerial Photographs
1964 Aerial Photographs
1979 Aerial Photographs
1989 Aerial Photographs
1994 Aerial Photographs
2002 Aerial Photographs
2009 Aerial Photographs
2019 Aerial Photographs

**APPENDIX 3 – DELINEATION MAP**

Wetland and Stream Delineation Maps
ORAM Scoresheets (24 pages)

**APPENDIX 4 – EVALUATION AREA PHOTOGRAPHS**

Photo Keys
Field Reconnaissance Photos (Photo 1 through Photo 61)

## 1.0 INTRODUCTION AND PURPOSE

Central Ohio Wetland Consulting, LLC (COWC) has been contracted by Kimley-Horn and Associates, Inc. (Client) to perform a Jurisdictional Waters Delineation Report for the Buckeye Yard property located in the City of Columbus, Franklin County, Ohio. The "evaluation area" for this Jurisdictional Waters Delineation Report consists of former Norfolk-Southern railroad acreage, including former rail lines and ballast material, ancillary structures, open areas, waste land, and wooded land. For descriptive purposes, the evaluation area has been divided into three separate areas, all of which are part of Franklin County parcels 570-146296, 241-000038, and 560-154558:

- North Section: 41± acres located north of Roberts Road and south of Scioto Darby Creek Road,
- Central Section: 287± acres located north of Trabue Road and south of Roberts Road, and,
- South Section: 77± acres located north of the existing Norfolk Southern CJ Line and south of Trabue Road.

The purpose of COWC's services is to document the size/length, location, and quality of all potentially jurisdictional waters of the United States and/or isolated waters of the State of Ohio within the evaluation area. COWC performed this delineation for specific application to the evaluation area described herein, in accordance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. The conclusions made within this Jurisdictional Waters Delineation Report are to be considered "preliminary" until verified by the USACE Huntington, WV District Office. This delineation report can be submitted to the USACE as part of a preliminary jurisdictional determination (PJD), approved jurisdictional determination (AJD), or pre-construction notification (PCN). The Ohio Environmental Protection Agency (Ohio EPA) will require a copy of the delineation report and an AJD letter issued by the USACE for all isolated wetland impacts, and ephemeral stream impacts greater than 300 linear feet.

The delineation includes three principal components: 1) research and review of published information, 2) field reconnaissance and delineation of jurisdictional waters (i.e. wetlands, ponds, and streams), and 3) data compilation/report preparation.

### 1.1 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

This Jurisdictional Waters Delineation Report has been prepared based upon field observations and COWC's professional interpretation of the USACE Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region at the time of our field reconnaissance. The conclusions presented in this report are professional opinions based on data collected between the commencement date and the

report date. The information in this report is true to the best of our knowledge. COWC obtained some of the information presented in this report from other agencies and sources. COWC assumes no responsibility for the accuracy or completeness of information provided by others. No warranty, expressed or implied, is made.

### 1.2 SPECIAL TERMS AND CONDITIONS

This report has been prepared by COWC as a professional service for the exclusive use of Kimley-Horn and Associates, Inc. and other parties that may be jointly affiliated by Kimley-Horn and Associates, Inc. and COWC. Any other entity that wishes to use or rely upon this report, or that wishes to duplicate, reproduce, copy, extract, or quote from this report must request permission from COWC to do so. Any unauthorized use of, or reliance upon, this report shall release COWC from any liability resulting from such use or reliance. Any unauthorized duplication, reproduction, copying, excerption, or quotation of this report shall expose the violator to all legal remedies available to COWC.

## 2.0 EVALUATION AREA AND SURROUNDING AREA CHARACTERISTICS

The evaluation area consists of former Norfolk-Southern railroad acreage, including former rail lines and ballast material, ancillary structures, open areas, waste land, and wooded land. The North Section of the evaluation area consists of 41± acres located north of Roberts Road and south of Scioto Darby Creek Road. The Central Section of the evaluation area consists of 287± acres located north of Trabue Road and south of Roberts Road. The South Section of the evaluation area consists of 77± acres located north of the existing Norfolk Southern CJ Line and south of Trabue Road. Areas surrounding the evaluation area are developed for railroad, industrial, and commercial purposes.

Approximate latitude / longitude coordinates for the central part of each section of the evaluation area are:

- North Section - 40.008475 / -83.127839,
- Central Section - 39.992969 / -83.129678, and
- South Section - 39.974661 / -83.130694.

Appendix 1 includes location maps, Franklin County Auditor Geographic Information System (GIS) Maps, United States Geological Survey (USGS) topographic maps (Hilliard, Ohio and Galloway, Ohio), United States Department of Agriculture (USDA) soil survey maps, and United States Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) maps. Appendix 2 includes aerial photographs showing the evaluation area. Photographs depicting representative vegetation, property features, and views from several locations around the evaluation are provided in Appendix 4.

## 3.0 RESEARCH AND REVIEW OF PUBLISHED INFORMATION

COWC's research and review of published information includes: USGS topographic maps, the USDA soil survey map, USFWS NWI map, and aerial photographs from various local governmental agencies. COWC uses this information to determine historical uses of the evaluation area, the geo-morphological setting at the evaluation area, soil types present, whether the evaluation area has been significantly disturbed within the past few years, and for visual evidence of ponds, streams, or saturation or inundation on land surfaces, and the potential for wetlands. Copies of the reviewed information is appended.

### 3.1 USGS TOPOGRAPHIC MAPS

COWC reviewed 1954/1955, 1966, 1973, 1980/1981, and 2019 Hilliard, Ohio and Galloway, Ohio, USGS 7.5-minute series topographic maps for the evaluation area. COWC uses USGS topographic maps as an indicator of watershed characteristics in and around the evaluation area, and to identify small depressional areas, streams, and wetland mapping symbols. The appendix of this report includes portions of these USGS maps showing the evaluation area.

The maps reviewed indicate several drainages crossing the North, Central, and South Sections of the evaluation area.

<u>North Section</u>

Rail lines are shown within the North Section on the 1973 through 2019 maps. Prior to 1973, the North Section is depicted as vacant land. Roberts Millikin Ditch is shown crossing the central part of the North Section in a general west to east direction. An unnamed tributary to Roberts Millikin Ditch is shown on the southern part of the North Section. This unnamed tributary is shown in a general southwest/northeast orientation on the 1954 through 1980 maps. The 2019 map indicates this unnamed tributary has been reoriented in a general north/south direction, west of existing rail lines. No other potential streams, wetlands, or ponds are depicted on the North Section. Lower surface elevations are generally indicated between railroad lines on the central and northern parts of the North Section.

<u>Central Section</u>

The Central Section is predominately developed with rail lines on the 1973 through 2019 maps. Prior to 1973, the Central Section is depicted as vacant land. The topographic maps show green tint, indicating wooded areas, on the northwest part of the Central Section. One (1) wetland mapping symbol is also depicted within the green tint area on the northwest part of the Central Section. Four (4) unnamed tributary streams are shown crossing the Central Section in a general west to east direction on the 1954/1955 and 1966 maps. These tributary streams are not shown or have be redirected through or around rail lines on the 1973 through 2019 maps.

South Section

Rail lines are shown within the South Section on the 1973 through 2019 maps. Prior to 1973, the North Section is generally depicted as vacant land. Approximately five (5) unnamed tributaries are shown crossing the South Section of the evaluation area on the 1955 and 1966 maps. Only three (3) tributaries are shown crossing the South Section on the 2019 map. One (1) pond is also depicted on the southern part of the South Section on the 2019 map. No other potential streams, wetlands, or ponds are depicted on the South Section.

## 3.2 SOIL REVIEW

COWC reviewed information from the USDA Natural Resources Conservation Service (NRCS), the USDA Web Soil Survey website[1], and the list of Hydric Soils of the United States (published by NRCS in cooperation with the National Technical Committee for Hydric Soils). These sources indicate soils underlying the evaluation area consist of the following:

**TABLE 1**
**EVALUATION AREA SOIL DESIGNATIONS**

| Map Unit ID | Map Unit Name | % Slope | Hydric Classification | % Hydric Component | Component Landform |
|---|---|---|---|---|---|
| CeB | Celina silt loam | 2-6 | Non-hydric with hydric components | Kokomo 5% | Depressions |
| CrA | Crosby silt loam | 0-2 | Non-hydric with hydric components | Kokomo 8% | Depressions |
| CrB | Crosby silt loam | 2-6 | Non-hydric with hydric components | Kokomo 8% | Depressions |
| Ko | Kokomo silty clay loam | 0-2 | Hydric | Kokomo 90% | Depressions |
| Us | Udorthents, loamy, steep | 18-25 | Non-hydric | - | - |
| Uv | Urban land-Celina complex, occasionally flooded | 2-12 | Non-hydric with hydric components | Kokomo 5% | Depressions |

Celina silt loam (CeB) is generally described as a gently sloping, moderately well-drained soil on uplands. These soils are typically found on convex ridgetops, on side slopes above steeper areas, and along well-defined waterways.

Crosby silt loam (CrA and CrB) is generally described as a nearly level to gently sloping, somewhat poorly drained soil on narrow and broad upland areas. This mapping unit also contains areas of Kokomo soils located in depressions and Celina soils on low knolls.

Kokomo silty clay loam (Ko) is described as a nearly level, very poorly drained soil located in depressions and at the heads of drainageways on uplands. Runoff from adjacent higher elevations can cause ponding in Kokomo soils. Kokomo silty clay loam is considered a hydric soil.

[1] http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

Udorthents, loamy, steep (Us) is generally described as soils in borrow areas that have been subject to surface mining, particularly for use as fill material used under highways and buildings.

Urban land-Celina complex (Uv) is generally described as areas of urban land covered by streets, parking lots, buildings, railroad yards, and other structures. Soils in these areas have been altered to the extent specific soil identification is not feasible. Undeveloped portions of this soil unit are dominated by Celina soil.

The evaluation area is predominately comprised of Urban land-Celina complex soils. Wooded areas adjacent to the west of the existing railroad lines on the Central Section are mapped with Crosby, Celina, and Kokomo soil units.

According to mapping available from the USDA NRCS, and the list of Hydric Soils of the United States published by the NRCS in cooperation with the National Technical Committee for Hydric Soils, the evaluation area contains hydric soil. Thin bands of mapped hydric Kokomo soils are located on the western portions of the Central Section of the evaluation area. The USGS topographic maps indicate these areas are likely drained by tributary streams.

## 3.3 NATIONAL WETLANDS INVENTORY (NWI) MAP

COWC reviewed the USFWS NWI website[2] for wetland mapping symbols depicted within the evaluation area. The USFWS produced NWI maps in an attempt to document wetlands throughout the United States. The USFWS generated NWI maps using high-altitude infrared aerial photography to identify areas of saturation or inundation on land surfaces. Areas that are saturated or inundated typically have lower infrared heat signatures than dry areas. The USFWS mapped these cooler infrared heat signature areas as wetlands without field verification. NWI maps may not reflect actual field conditions due to meteorological or seasonal conditions that may have existed at the time of data collection. COWC typically uses NWI maps to plan field reconnaissance, and as an indicator of areas that may support wetlands.

The NWI map shows three (3) wetland mapping symbols within the evaluation area:

- One (1) PEM1C symbol located on the northern part of the North Section,
- One (1) PFO1A symbol located within the wooded northwest part of the Central Section, and
- One (1) PEM1A symbol located on the southern part of the South Section.

The PEM1C designation indicates an area that is palustrine (non-tidal wetlands dominated by trees, shrubs, persistent emergent vegetation), emergent

[2] https://www.fws.gov/wetlands/Data/Mapper.html

(herbaceous, erect and rooted hydrophytes), persistent (dominated by species that normally remain standing through to the next growing season), and seasonally flooded (surface water is present for extended periods, especially early in the growing season, but absent by the end of the growing season in most years). This area was delineated as Wetland 5.

The PFO1A designation indicates an area that is palustrine, forested (containing woody vegetation 20 feet in height and taller), broad-leaved deciduous (trees and shrubs with relatively wide, flat leaves that are shed during the cold and seasonally dry conditions), and temporary flooded (areas were surface water is present for brief (days/weeks) periods during the growing season). This area was delineated as Wetland 7.

The PEM1A designation indicates an area that is palustrine, emergent, persistent, and temporary flooded. This area was delineated as Pond 2.

The NWI map shows streams/drainages in similar locations as depicted on the USGS maps. Drainage features within the evaluation area are depicted with R5UBH an R4SBC designations. The R5UBH designation indicates a permanently flooded (water covers the substrate throughout the year in all years), riverine habitat contained within a channel (open conduit either naturally or artificially created which may periodically or continuously contain moving water) that has an unconsolidated bottom (at least 25% cover of particles less than 6-7 centimeters and vegetative cover less than 30%). The unknow perennial modifier indicates the drainage cannot be distinguished from lower perennial and upper perennial. The R4SBC designation indicates a seasonally flooded, riverine habitat contained within a channel that has intermittent flow (water may flow only part of the year).

## 3.4 AERIAL PHOTOGRAPHS

COWC reviewed aerial photographs of the evaluation area dated 1956, 1960, 1964, 1979, and 1989 available from the Ohio Department of Transportation Office of CADD & Mapping website[3]; and 1994, 2002, 2009, and 2019 from Google Earth Pro[4]. Copies of the aerial photographs showing the evaluation area are provided in Appendix 2.

The 1956 through 1964 aerial photographs generally depict the evaluation area as vacant land with numerous streams crossing from west to east.

The 1979 through 2019 aerial photographs generally depict the evaluation area as developed for use as a rail yard. Undeveloped wooded land is located on the western part of the Central Section. Streams previously apparent crossing the

[3] http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/Pages/default.aspx
[4] Earth Versions – Google Earth

evaluation from west to east have been manipulated, channelized, and relocated as part of development for rail use.

The 2019 aerial photograph indicates the evaluation area is similar in appearance to what was observed during our field reconnaissance on April 9, April 12, and April 13, 2021.

### 3.4.1 PUBLISHED INFORMATION REVIEW CONCLUSIONS

Information obtained from USGS topographic maps, NWI maps, and aerial photographs indicate the potential for numerous streams, wetlands, and ponds within the evaluation area.

The potential for wetlands and streams within an area cannot be determined solely from review of published information; therefore, an on-site investigation is required to verify current property conditions.

## 4.0 FIELD RECONNAISSANCE/DELINEATION OF JURISDICTIONAL WATERS

Matthew R. Kaminski, owner of Central Ohio Wetland Consulting, LLC, performed the field reconnaissance for the jurisdictional waters delineation during the morning and afternoon hours on Friday April 9, 2021, Monday April 12, 2021, and Tuesday April 13, 2021. Research and review of published information indicates physical property conditions were generally unchanged for several years prior to this delineation, such that the evaluation area was considered undisturbed for data collection. Therefore, the routine method was used in this assessment. Photographic documentation from the field reconnaissance and general landscape photographs are provided in Appendix 4.

COWC performs its field reconnaissance for jurisdictional waters delineations using criteria and guidance in the Corps of Engineers' Wetland Delineation Manual (USACE, 1987) and the 2010 Midwest Regional Supplement to the 1987 Wetland Delineation Manual. In this method, vegetation, hydrology, and soil criteria are used to identify jurisdictional/isolated wetlands. The delineation method and vegetation sampling methodology uses the procedures for Routine Determinations found in the 1987 and 2010 manuals.

To establish the presence of jurisdictional/isolated wetlands, three characteristics are required to be present. These wetland characteristics consist of hydric soils, a dominance of hydrophytic (i.e. wetland) vegetation, and wetland hydrology. All three criteria must be present for an area to be identified as wetland. These three criteria are defined and explained in detail in the Corps of Engineers' Wetland Delineation Manual (USACE, 1987) and the 2010 Midwest Regional Supplement to the 1987 Wetland Delineation Manual. The Wetlands Research Program of the USACE Waterways Experiment Station developed the manual in 1987. COWC followed the methods described in these manuals in performing the delineation.

Wetland and waterbody delineation of field-verified water features are made using COWC's professional judgment and interpretation of the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). For the purposes of this report, "non-jurisdictional" or "excluded" is defined as aquatic features that are not regulated by the USACE under the provisions of Section 404 of the Clean Water Act (CWA). Isolated wetlands that do not have a surface water connection to waters of the U.S. and ephemeral streams are non-jurisdictional from the perspective of the USACE; however, are regulated by the Ohio EPA under the provisions of Section 401 of the CWA.

## 4.1 METHODOLOGY

After collecting pertinent information through the review of published information, COWC uses the routine method to determine if wetland areas exist within the evaluation area. The approach used for the routine determination is the plant community assessment procedure. This approach requires initial identification of representative plant community types in the subject area followed by characterization of vegetation, soils, and hydrology for each community type.

The evaluation area is assessed in accordance with guidelines from the USACE pertaining to potential jurisdictional waters of the United States and/or isolated waters of the State of Ohio. All potential wetlands, streams, and drainage ditches are followed to determine the flow regime and whether such features have a surface water connection to waters of the U.S.

The field investigation is conducted by walking and visually surveying the evaluation area, and in the vicinity, to collect wetland and stream data, as necessary. Upon identification of hydrophytic (wetland) and non-wetland communities, the wetland boundary is surveyed with a Spectra SP20 handheld Global Navigation Satellite System (GNSS) receiver with sub-meter accuracy. Field notes are taken at points where the dominant vegetation species change from wetland to upland or hydrologic or soil indicators become transitional. Areas saturated or inundated by surface water at the time of our field reconnaissance are presumed to contain hydric soil characteristics. COWC records observations concerning hydrology and vegetation on the appropriate Wetland Determination Data Form.

### 4.1.1 HYDRIC SOIL CRITERIA

COWC performs shovel test pits to characterize soil conditions and to evaluate the presence or absence of hydric soil features. A drain spade is used to collect soil samples from a maximum depth of approximately 20 inches below ground surface. COWC determines the presence or absence of hydric soils by comparing soil samples to a Munsell soil color chart, as soil colors often reveal whether a soil is hydric or non-hydric. The standardized Munsell soil colors consist of three components: hue, value, and chroma. Soil in hydric soil areas typically show yellow-red hues, varying gray color values,

and chromas of one or two. Chromas of two or less are considered low, and are often diagnostic of hydric soils. Hydric mineral soils saturated for long periods of the growing season, but unsaturated for some time, often develop mottles and/or a low chroma matrix. Soils are considered hydric if at least one primary indicator, or at least one problematic hydric soil indicator is present, as defined by the USACE.

Mineral based soils (as opposed to carbon- or organic-based soils) generally contain significant amounts of iron and manganese. As the iron component of the soil matrix comes into contact with the atmosphere, the iron tends to oxidize giving soils a high "chroma" or rust-like color. This characteristic is typically observed in upland (i.e., non-wetlands) areas where oxygen is abundant. On the contrary, mineral soils that are saturated for extended periods (e.g., hydric soils) tend to have oxygen ions stripped, chemically reducing iron and giving these soils bluish-grayish coloring or low chroma. This reduced condition in mineral soils is known as "gleying" and is typically observed in wetlands, where soil oxygen contents are generally lower relative to upland soils. Low oxygen levels in reduced soils also tend to slow decomposition, leading to increased organic content.

The evaluation area is predominately comprised of Urban land-Celina complex soils. Wooded areas adjacent to the west of the existing railroad lines on the Central Section are mapped with Crosby, Celina, and Kokomo soil units. Areas saturated or inundated by surface water at the time of our field reconnaissance were presumed to contain hydric soil characteristics. COWC observed hydric soil characteristics within the areas delineated as Wetland 1 through Wetland 12.

### 4.1.2 WETLAND HYDROLOGY CRITERIA

Wetland hydrology is determined present in areas that are periodically inundated or have soils saturated to the surface sometime during the growing season. This is a dynamic characteristic and is usually not present during drier periods of the year. Primary wetland hydrology indicators include, but are not limited to, surface water, high water table, inundation, soil saturation in the upper 12 inches of the soil, water marks, sediment deposits, drift deposits, and water-stained leaves. Secondary wetland hydrology indicators include surface soil cracks, drainage patterns, dry-season water table, crayfish burrows, saturation visible on aerial imagery, stunted or stressed plants, geomorphic position, and FAC-Neutral Test of vegetation. One primary indicator or two or more secondary indicators are required to establish a positive indication of wetland hydrology.

COWC observed primary and secondary hydrology indicators for wetlands within the areas delineated as Wetland 1 through Wetland 12.

### 4.1.3 HYDROPHYTIC VEGETATION CRITERIA

Hydrophytic vegetation is determined present if more than 50 percent of plant species within a plant community have an indicator status of obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC). The indicator status of plant species found in wetlands is listed in the 2018 National Wetland Plant List - Midwest Region published by the USACE[5].

COWC used this data and determined hydrophytic vegetation dominance was present within the areas delineated as Wetland 1 through Wetland 12.

## 4.2 JURISDICTIONAL WATERS DELINEATION FINDINGS

COWC's field reconnaissance identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres, thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet, and two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area. The centerline of the streams and the boundary of the ponds and wetlands were surveyed with a Spectra SP20 handheld GNSS receiver with sub-meter accuracy. Appendix 3 provides maps showing the location of the delineated wetlands, ponds, and streams. Multi-directional photographs of each stream and wetland, and general landscape photographs are provided in Appendix 4.

Several streams delineated within the evaluation area are depicted on USGS maps as unnamed tributaries to the Scioto River, prior to development of the evaluation area as a railroad yard. Streams within the evaluation area have been placed in culverts, channelized, and relocated as part of development of the evaluation area for railroad use in the mid to late 1960s.

Wetlands within the evaluation area are generally located in low-lying areas between existing railroad lines, and appear to be attributed to poor surface water drainage. Manipulation of on-site drainage features by beavers (*Castor canadensis)* has resulted in the establishment of several of the delineated wetlands.

### 4.2.1 STREAMS

COWC identified thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet within the evaluation area. These streams were delineated as Stream 1 (260± LF), Stream 2 (59± LF), Stream 3 (97± LF), Stream 4 (119± LF), Stream 5 (50± LF), Stream 6 (158± LF), Stream 7 (114± LF), Stream 8 (61± LF), Stream 9 (320± LF), Stream 10 (2,552± LF), Stream 11 (3,921± LF), Stream 12 (369± LF), and Stream 13 (2,297± LF). These streams are further described below.

[5] NWPL Home v3.4-f9c (army.mil)

**TABLE 2**
**STREAM INFORMATION**

| Stream ID | Length (On-Site) | Classification | Start Location | End Location |
|---|---|---|---|---|
| Stream 1 (Roberts Millikin Ditch) | 260± LF | Perennial | 40.007903 -83.128758 | 40.008136 -83.127289 |
| Stream 2 | 59± LF | Ephemeral | 40.00785 -83.128597 | 40.008003 -83.128575 |
| Stream 3 | 97± LF | Intermittent | 40.008131 -83.127797 | 40.008025 -83.127517 |
| Stream 4 | 119± LF | Intermittent | 40.008147 -83.127458 | 40.007983 -83.127319 |
| Stream 5 | 50± LF | Intermittent | 40.007975 -83.127436 | 40.007878 -83.127350 |
| Stream 6 | 158± LF | Intermittent | 40.007728 -83.127353 | 40.008128 -83.127278 |
| Stream 7 | 114± LF | Ephemeral | 40.008425 -83.127272 | 40.008136 -83.127278 |
| Stream 8 | 61± LF | Ephemeral | 40.008403 -83.127339 | 40.008244 -83.127281 |
| Stream 9 | 320± LF | Intermittent | 40.002356 -83.129508 | 40.002489 -83.128431 |
| Stream 10 | 2,552± LF | Perennial | 39.997258 -83.132658 | 40.002511 -83.128356 |
| Stream 11 | 3,921± LF | Perennial | 39.993333 -83.134142 | 39.983883 -83.130006 |
| Stream 12 | 369± LF | Perennial | 39.989911 -83.134697 | 39.990389 -83.133558 |
| Stream 13 | 2,297± LF | Perennial | 39.969858 -83.138011 | 39.966231 -83.132869 |
| **Total** | **10,377± LF** | | | |

Stream 1 – Roberts Millikin Ditch (260± linear feet North Section)
Stream 1 is an east/west oriented portion of Roberts Millikin Ditch crossing the central part of the North Section of the evaluation area. Roberts Millikin Ditch flows through residential and industrial areas to the west prior to entering the evaluation area. This stream is littered with trash and debris and has perennial flow characteristics. Surface water was flowing within Stream 1 during our field reconnaissance on April 9, 2021.

Stream 1 originates at a round concrete culvert near the western boundary of the North Section of the evaluation area. Stream 1 flows unobstructed for approximately 73 LF before entering double round culverts beneath elevated railroad lines. Upon exiting these culverts, Stream 1 flows for an additional 187 LF before entering a second set of double round culverts beneath elevated railroad lines and exiting the evaluation area to the east.

Stream 1 is located within a wooded corridor on the central part of the North Section. This area appears frequently flooded with numerous deposits of sand and gravel. Stream 1 is highly braided within this frequently flooded area, and overflow drainage from Stream 1 has created several other smaller order streams (Streams 3, 4, and 5). Substrate material within Stream 1 consists of cobble, silt, sand, and gravel.

Stream 2 (59± linear feet North Section)
Stream 2 is an ephemeral stream that drains Wetland 4 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 4 follows a natural gradient to the north, where it has cut a channel. Substrate material within Stream 2 consists of silt and hardpan. Surface water was flowing within Stream 2 during our field reconnaissance on April 9, 2021. Stream 2 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 3 (97± linear feet North Section)
Stream 3 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 3 during our field reconnaissance on April 9, 2021. Substrate material within Stream 3 consists of silt, sand, and gravel.

Stream 4 (119± linear feet North Section)
Stream 4 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 4 during our field reconnaissance on April 9, 2021. Substrate material within Stream 4 consists of silt, sand, and gravel.

Stream 5 (50± linear feet North Section)
Stream 5 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 5 during our field reconnaissance on April 9, 2021. Substrate material within Stream 5 consists of silt, sand, and gravel.

Stream 6 (158± linear feet North Section)
Stream 6 is an intermittent stream that drains Wetland 6 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 6 follows a natural gradient to the north, where it has cut a

channel. This channel transitions to intermittent flow characteristics at the confluence with Streams 4 and 5. Substrate material within Stream 6 consists of silt, sand, and gravel. Surface water was flowing within Stream 6 during our field reconnaissance on April 9, 2021. Stream 6 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 7 (114± linear feet North Section)
Stream 7 is an ephemeral stream that drains Wetland 5 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 5 follows a natural gradient to the south, where it has cut a channel. Substrate material within Stream 7 consists of silt and hardpan. Surface water was flowing within Stream 7 during our field reconnaissance on April 9, 2021. Stream 7 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 8 (61± linear feet North Section)
Stream 8 is an ephemeral stream that drains Wetland 5 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 5 follows a natural gradient to the south, where it has cut a channel. Substrate material within Stream 8 consists of silt and hardpan. Surface water was flowing within Stream 8 during our field reconnaissance on April 9, 2021. Stream 8 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 9 (320± linear feet Central Section)
Stream 9 is a west to east flowing intermittent stream on the north part of the Central Section of the evaluation area. Stream 9 originates at the outfall of a round concrete culvert pipe which discharges surface water from a west adjoining stormwater management pond. This stream is littered with trash and debris. Stream 9 has a direct surface water connection with Stream 10 on the northwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 9 during our field reconnaissance on April 13, 2021. Substrate material within Stream 9 consists of silt, sand, and gravel.

Stream 10 (2,552± linear feet Central Section)
Stream 10 is a general southwest to northeast flowing perennial stream on the northwest part of the Central Section of the evaluation area. Stream 10 originates at the outfall of an oval-shaped concrete culvert pipe near the western boundary of the Central Section of the evaluation area. This culvert discharges surface water from the west. Surface water was flowing within Stream 10 during our field reconnaissance on April 13, 2021. Substrate material within Stream 10 consists of cobble, silt, sand, and gravel. Stream 10 is partially impounded by Pond 1.

Stream 11 (3,921± linear feet Central Section)
Stream 11 is a north to south flowing perennial stream contained within a ditch on the southwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 11 during our field reconnaissance on April 13, 2021.

Stream 12 (369± linear feet Central Section)
Stream 12 is a west to east flowing perennial stream contained within a ditch on the southwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 12 during our field reconnaissance on April 13, 2021. Stream 12 has a direct surface water connection to Stream 11.

Stream 13 (2,297± linear feet South Section)
Stream 13 is a west to southeast flowing perennial stream contained within a ditch on the South Section of the evaluation area. Stream 13 enters the South Section of the evaluation area from a culvert beneath Manor Park Drive. Portions of Stream 13 have been impounded by beavers in numerous locations, resulting in the creation of Wetland 11. Surface water was flowing within Stream 13 during our field reconnaissance on April 12, 2021.

### 4.2.1 WETLANDS

COWC identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres within the evaluation area. These areas exhibit a dominance of hydrophytic species, primary and secondary wetland hydrology indicators, and hydric soil characteristics. These wetlands were delineated as Wetland 1 (0.40± acre), Wetland 2 (0.31± acre), Wetland 3 (1.53± acre), Wetland 4 (1.67± acre), Wetland 5 (4.72± acre), Wetland 6 (1.45± acre), Wetland 7 (0.49± acre), Wetland 8 (0.29± acre), Wetland 9 (1.10± acre), Wetland 10 (0.22± acre), Wetland 11 (0.92± acre), and Wetland 12 (0.43± acre). These wetlands are further described below.

**TABLE 3**
**WETLAND INFORMATION**

| Wetland ID | Acreage (On-Site) | Cowardin Classification | ORAM Score | Status | Location |
|---|---|---|---|---|---|
| Wetland 1 | 0.40± | Palustrine Emergent (PEM) | 29 (Cat. 1) | Jurisdictional | 40.014106 -83.127944 |
| Wetland 2 | 0.31± | Palustrine Forested (PFO) | 32 (Cat. 2) | Jurisdictional | 40.012344 -83.126881 |
| Wetland 3 | 1.53± | Palustrine Emergent (PEM) | 42 (Cat. 2) | Jurisdictional | 40.011019 -83.128378 |

| | | | | | |
|---|---|---|---|---|---|
| Wetland 4 | 1.67± | Palustrine Emergent (PEM) | 25 (Cat. 1) | Jurisdictional | 40.006775 -83.128611 |
| Wetland 5 | 4.72± | Palustrine Emergent (PEM) | 27 (Cat. 1) | Jurisdictional | 40.009728 -83.127467 |
| Wetland 6 | 1.45± | Palustrine Emergent (PEM) | 26 (Cat. 1) | Jurisdictional | 40.006722 -83.127569 |
| Wetland 7 | 0.49± | Palustrine Forested (PFO) | 49 (Cat. 2) | Jurisdictional | 39.998444 -83.130556 |
| Wetland 8 | 0.29± | Palustrine Emergent (PEM) | 38 (Cat. 2) | Jurisdictional | 39.997300 -83.131078 |
| Wetland 9 | 1.10± | Palustrine Emergent (PEM) | 34 (Cat. 2) | Jurisdictional | 39.970158 -83.133319 |
| Wetland 10 | 0.22± | Palustrine Emergent (PEM) | 24 (Cat. 1) | Jurisdictional | 39.969094 -83.133639 |
| Wetland 11 | 0.92± | Palustrine Forested (PFO) | 52 (Cat. 2) | Jurisdictional | 39.968056 -83.133531 |
| Wetland 12 | 0.43± | Palustrine Emergent (PEM) | 35 (Cat. 2) | Jurisdictional | 39.963508 -83.131206 |
| **Total** | **13.53±** | | | | |

COWC completed Ohio Rapid Assessment Method (ORAM) score sheets for the wetland areas delineated within the evaluation area. Wetland areas identified within the evaluation area scored within Category 1 and Category 2, according to Ohio EPA standards. The ORAM forms are appended.

Using the USACE OMBIL Regulatory Module (ORM) Project Upload Template, COWC determined the Cowardin classification of wetlands within the evaluation area as palustrine emergent (PEM) and palustrine forested (PFO).

<u>Wetland 1 (0.40± acre North Section)</u>
Wetland 1 is a flooded depression on the north part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 1 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Based on visual observation, Wetland 1 appears to be regularly inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 1 is generally dominated by various Dogwood species (*Cornus species*), Green Ash (*Fraxinus pennsylvanica*), Black Willow (*Salix nigra*), Narrow-Leaf Cattail (T*ypha angustifolia*), and Marsh Primrose (*Ludwigia palustris*).

<u>Wetland 2 (0.31± acre North Section)</u>
Wetland 2 is a flooded, forested depression on the north part of the North Section of the evaluation area. Wetland 2 is located within a low-lying area surrounded by elevated railroad tracks. Establishment of Wetland 2

appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) provide a buffer between Wetland 2 and the surrounding railroad tracks. A culvert pipe is located along the eastern boundary of Wetland 2, partially draining this wetland with surface water flow to the east, beneath elevated railroad tracks. Based on visual observation, Wetland 2 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 2 is generally dominated by Eastern Cottonwood (*Populus deltoides*), Green Ash (*Fraxinus pennsylvanica*), Black Willow (*Salix nigra*), and Narrow-Leaf Cattail (T*ypha angustifolia*).

Wetland 3 (1.53± acre North Section)
Wetland 3 is located along the western boundary of the North Section of the evaluation area. This wetland is part of a larger wetland complex that extends off-site to the west. Portions of Wetland 3 are located within a channelized ditch that has been impounded by beavers in numerous locations. These beaver impoundments of an apparently perennial ditch have also facilitated the establishment of additional wetlands to the west of the evaluation area. Wetland 3 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 3 appears to receive hydrology from precipitation and stormwater drainage from areas to the west of the evaluation area. Wetland 3 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*), Black Willow (*Salix nigra)*, and various Dogwood species (*Cornus species*). Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 3.

Wetland 4 (1.67± acre North Section)
Wetland 4 is located within a low-lying area on the central part of the North Section of the evaluation area. Railroad tracks abut the wetland to the east with higher surface elevations to the west. Wetland 4 is dominated by Narrow-leaf Cattail (*Typha angustifolia*) and Common Reed (*Phragmites australis).* This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 2. Based on visual observation, Wetland 4 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands.

Wetland 5 (4.72± acre North Section)
Wetland 5 is located within a low-lying area on the central part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 5 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Wetland 5 is

dominated by Narrow-leaf Cattail (*Typha angustifolia*). This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 7 and 8. Based on visual observation, Wetland 5 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 5 is mapped with a PEM1C designation on the NWI map.

Wetland 6 (1.45± acre North Section)
Wetland 6 is located within a low-lying area on the central part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 6 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Wetland 6 is dominated by Narrow-leaf Cattail (*Typha angustifolia*). This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 6. Based on visual observation, Wetland 6 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands.

Wetland 7 (0.49± acre Central Section)
Wetland 7 is located within the wooded northwest part of the Central Section of the evaluation area. According to the USDA web soil survey map, this wetland is located within hydric Kokomo silty clay loam soils. Wetland 7 is mapped with a PFO1A designation on the NWI map. The wetland appears to receive hydrology from precipitation, overland flow from adjacent uplands, and flood waters from Stream 10. Stream 10 abuts the east side of the wetland and appears to provide surface water to Wetland 7 during prolonged precipitation events. Based on visual observation, Wetland 7 appears to be regularly inundated/saturated. Wetland 7 is generally dominated by American Elm (*Ulmus americana*), Swamp White Oak (*Quercus bicolor*), and Green Ash (*Fraxinus pennsylvanica*).

Wetland 8 (0.29± acre Central Section)
Wetland 8 is located within the wooded northwest part of the Central Section of the evaluation area. According to the USDA web soil survey map, this wetland is located within hydric Kokomo silty clay loam soils. The wetland appears to receive hydrology from precipitation, overland flow from adjacent uplands, and flood waters from Stream 10. Stream 10 abuts the north side of the wetland and appears to provide surface water to Wetland 8 during prolonged precipitation events. Based on visual observation, Wetland 8 appears to be seasonally saturated. Wetland 8 is generally dominated by Reed Canary Grass (*Phalaris arundinacea*) and Black Willow (*Salix nigra).*

Wetland 9 (1.10± acre South Section)
Wetland 9 is located within a channelized ditch along the western boundary of the South Section of the evaluation area. Based on visual observation, Wetland 9 appears to be semi to permanently inundated/saturated. Wetland 9 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*) and Black Willow (*Salix nigra)*.

Wetland 10 (0.22± acre South Section)
Wetland 10 is a flooded depression on the western part of the South Section of the evaluation area. Railroad tracks abut the wetland to the south, east, and west with higher surface elevations to the north. Establishment of Wetland 10 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Based on visual observation, Wetland 10 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 10 is generally dominated by various Dogwood species (*Cornus species*), Black Willow (*Salix nigra*), and Narrow-Leaf Cattail (T*ypha angustifolia*).

Wetland 11 (0.92± acre South Section)
Wetland 11 is located along the western part of the South Section of the evaluation area. This wetland is part of a wetland complex established due to numerous beaver impoundments within Stream 13. Several of these beaver dam structures are elaborate, flooding areas west of Stream 13. Wetland 11 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 11 appears to receive hydrology from precipitation and perennial surface water from Stream 13. Wetland 11 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*), Black Willow (*Salix nigra),* American Elm (*Ulmus americana*), Green Ash (*Fraxinus pennsylvanica*), Eastern Cottonwood (*Populus deltoides*), and various Dogwood (*Cornus species*) and Carex (*Carex species*) species. Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 11.

Wetland 12 (0.43± acre South Section)
Wetland 12 is located on the southern part of the South Section of the evaluation area. This wetland is located within a channelized ditch that has been impounded by beavers in numerous locations. These beaver impoundments of an apparently perennial ditch have facilitated the establishment of wetlands within the ditch limits. Wetland 12 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 12 appears to receive hydrology from precipitation and stormwater flow from areas to the west of the evaluation area. Wetland 12 is generally dominated by Narrow-leaf Cattail (*Typha*

*angustifolia*), Black Willow (*Salix nigra)*, and various Dogwood species (*Cornus species*). Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 12.

### 4.2.2 PONDS

COWC identified two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area. These ponds were delineated as Pond 1 (0.23± acre) and Pond 2 (0.95± acre), and further described below.

Pond 1 (0.23± acre)

Pond 1 is located on the western part of the Central Section of the evaluation area. Pond 1 appears to be a heavily silted excavation that partially impounds Stream 10, which flows through the central part of Pond 1. Pond 1 may provide a limited amount of stormwater retention from areas to the west of the evaluation area, and may help reduce the flow volume of Stream 10. This pond contains no rooted or emergent vegetation. Pond 1 is mapped with a PUBG designation on the NWI map.

Pond 2 (0.95± acre)

Pond 2 is located on the southern part of the South Section of the evaluation area. This pond appears to have been created by excavation, and does not impound a stream or apparent surface water feature. Two (2) round culvert outlet structures are located in the northeast part of the pond. Pond 2 is mapped with a PEM1A designation on the NWI map.

**TABLE 4**
**POND INFORMATION**

| Pond ID | Acreage | Description | Location |
|---|---|---|---|
| Pond 1 | 0.23± | Impoundment | 39.997153<br>-83.131842 |
| Pond 2 | 0.95± | Stormwater Management | 39.964861<br>-83.131814 |
| **Total** | **1.18±** | | |

## 5.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

COWC identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres, thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet, and two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area.

COWC followed the Navigable Waters Protection Rule (effective June 22, 2020) to determine the potential regulatory status of surface water features identified with the evaluation area. Per Title 33 (Navigation and Navigable Waters) of the Code of Federal

Regulations (CFR), Chapter 2 (Corps of Engineers, Department of the Army, Department of Defense), Part 328 (Definition of Waters of the United States), Section 328.3 (Definitions), COWC has come to the following conclusions:

- Wetland 1 through Wetland 12 are likely considered waters of the U.S. per 33 CFR 328.3(a)(4), as they appear to meet the definition "adjacent wetlands" per 33 CFR 328.3(c)(1)(i)-(iv).
- Stream 1, Stream 3, Stream 4, Stream 5, Stream 6, Stream 9, Stream 10, Stream 11, Stream 12, and Stream 13 are likely considered waters of the U.S. per 33 CFR 328.3(a)(2), as they appear to meet the definition of ""tributaries" per 33 CFR 328.3(c)(12).
- Stream 2, Stream 7, and Stream 8 are likely considered "non-jurisdictional waters" or "excluded features" because they appear to be ephemeral. Ephemeral features are considered "non-jurisdictional waters" per 33 CFR 328.3(b)(3). "Ephemeral" is defined in 33 CFR 328.3(c)(3) as "surface water flowing or pooling only in direct response to precipitation (e.g. rain or snow fall).
- Pond 1 is likely considered waters of the U.S. per 33 CFR 328.3(a)(3), as Pond 1 appears to meet the definition of "lakes and ponds, and impoundments of jurisdictional waters" per 33 CFR 328.3(c)(6).
- Pond 2 may be considered "non-jurisdictional" or "excluded" per 33 CFR 328.3 (b)(10), as Pond 2 appears to meet the definition of a "stormwater control feature constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off".

Except for Stream 2, Stream 7, Stream 8, and Pond 2, surface water features identified within the evaluation area are likely to be regulated by the USACE. Section 404 of the CWA requires pre-construction notification (PCN) to the USACE and a Department of the Army (DA) permit prior to discharging dredged or fill material into waters of the U.S.

Stream 2, Stream 7, and Stream 8 appear to have ephemeral characteristics; therefore, may fall under the jurisdiction of the Ohio EPA. Ephemeral streams in the State of Ohio are regulated by the Ohio EPA. Certain situations may require a pre-activity notice (PAN) to the Ohio EPA for ephemeral stream impacts.

Pond 2 may be a non-regulated feature, as it appears to have been constructed for stormwater control use.

The USACE has authority to determine the jurisdictional status of surface water features identified within the evaluation area. Therefore, findings in this report are preliminary until verified by the USACE. COWC recommends obtaining an Approved Jurisdictional Determination (AJD) from the USACE Huntington, WV District Office for written verification of the findings documented within this report. With your authorization, COWC will supply the required information to process this request. With this reported

information and/or a site visit, the USACE will make the official determination on jurisdiction. The findings and conclusions of this delineation report are subject to change, pending USACE verification. This report will become public information upon submittal to the USACE.

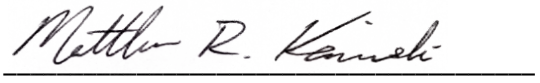
## 6.0 SIGNATURE OF PROFESSIONAL PERSONNEL

To the best of our professional knowledge and belief, COWC personnel responsible for this report declare we have the specific qualifications based on education, training, and experience to assess the evaluation area for waters of the U.S. and isolated waters of the State of Ohio. The jurisdictional waters delineation has been conducted in a manner consistent with the criteria contained in the USACE Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, and with the level of care and skill ordinarily used by similar professionals performing similar services under similar conditions in the vicinity of the evaluation area.

COWC appreciates the opportunity to serve you on this project. Please contact COWC owner Matt Kaminski at mkaminski434@gmail.com with any questions or concerns regarding this report.

Respectfully submitted,

**Central Ohio Wetland Consulting, LLC**

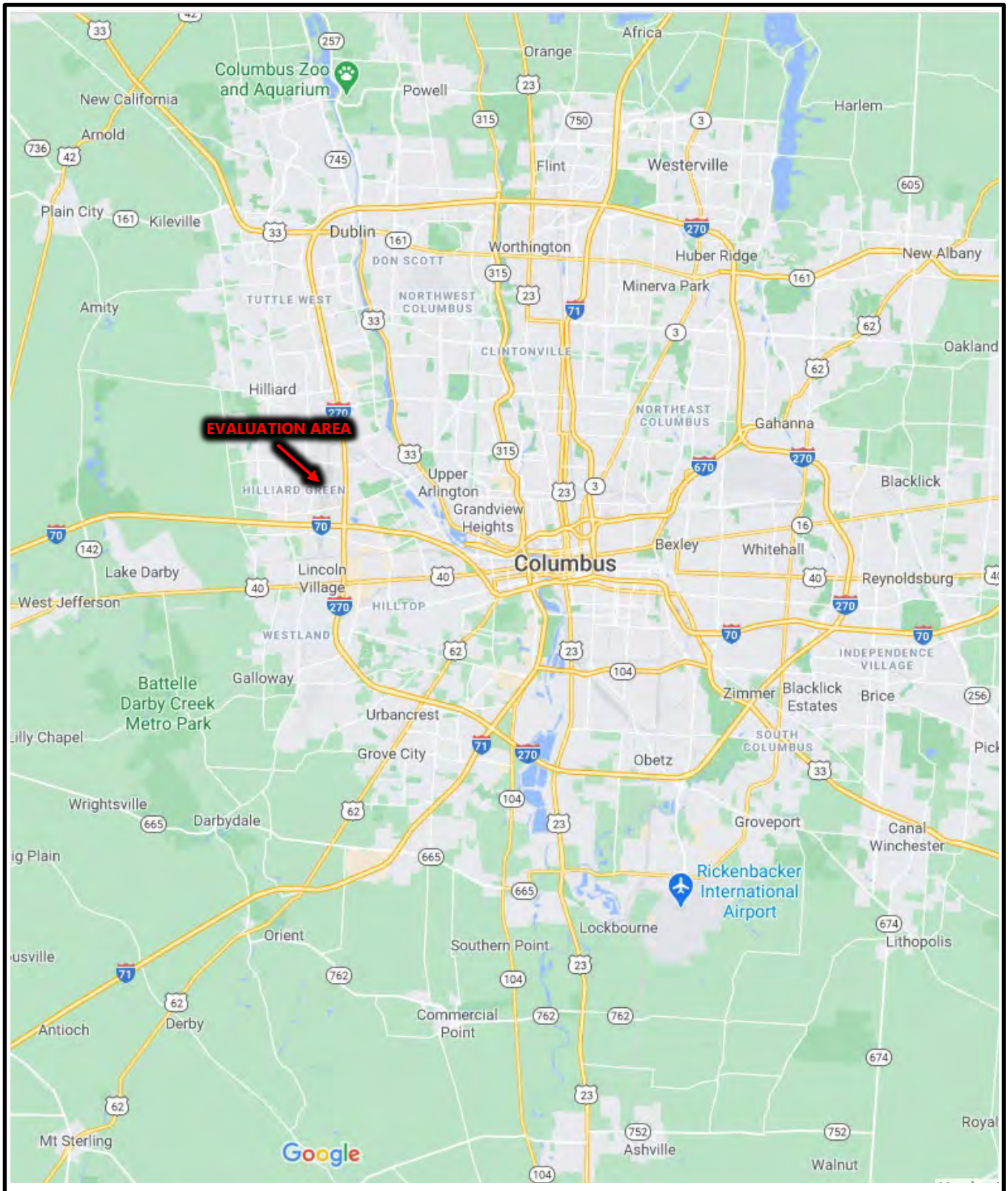
*Prepared by:* 

Matthew R. Kaminski, Owner
Wetland Scientist, 401/404 Specialist

Matthew R. Kaminski holds a Bachelor of Science Degree in Environmental Geography from Ohio University with 16 years of experience as an environmental consultant. Mr. Kaminski has completed hundreds of jurisdictional waters delineations throughout the State of Ohio upon completion of the 38 Hour Army Corps of Engineers Wetland Delineation & Management Training Program in 2006. Mr. Kaminski's experience includes wetland/stream delineation, plant identification, stream evaluations, 404/401 permitting, Ohio Rapid Assessment Method v. 5.0, Clean Water Act (CWA) regulations, Sections 7 & 9 of the Endangered Species Act (ESA), and Ohio Historic Preservation Office (OHPO) Section 106. Throughout his career, Mr. Kaminski has successfully facilitated regulatory approval of numerous residential, commercial, and institutional projects. Since September 2020, Mr. Kaminski has been sole proprietor of Central Ohio Wetland Consulting, LLC, offering comprehensive wetland and stream consultation and guidance for commercial and residential developers, architects, civil design professionals, and private individuals. Professional wetland and stream consulting services include preliminary jurisdictional waters assessments, wetland/stream delineation, approved and preliminary jurisdictional determination requests, and 404/401 permitting services.

# APPENDIX 1

# *GENERAL LOCATION MAP OF EVALUATION AREA*

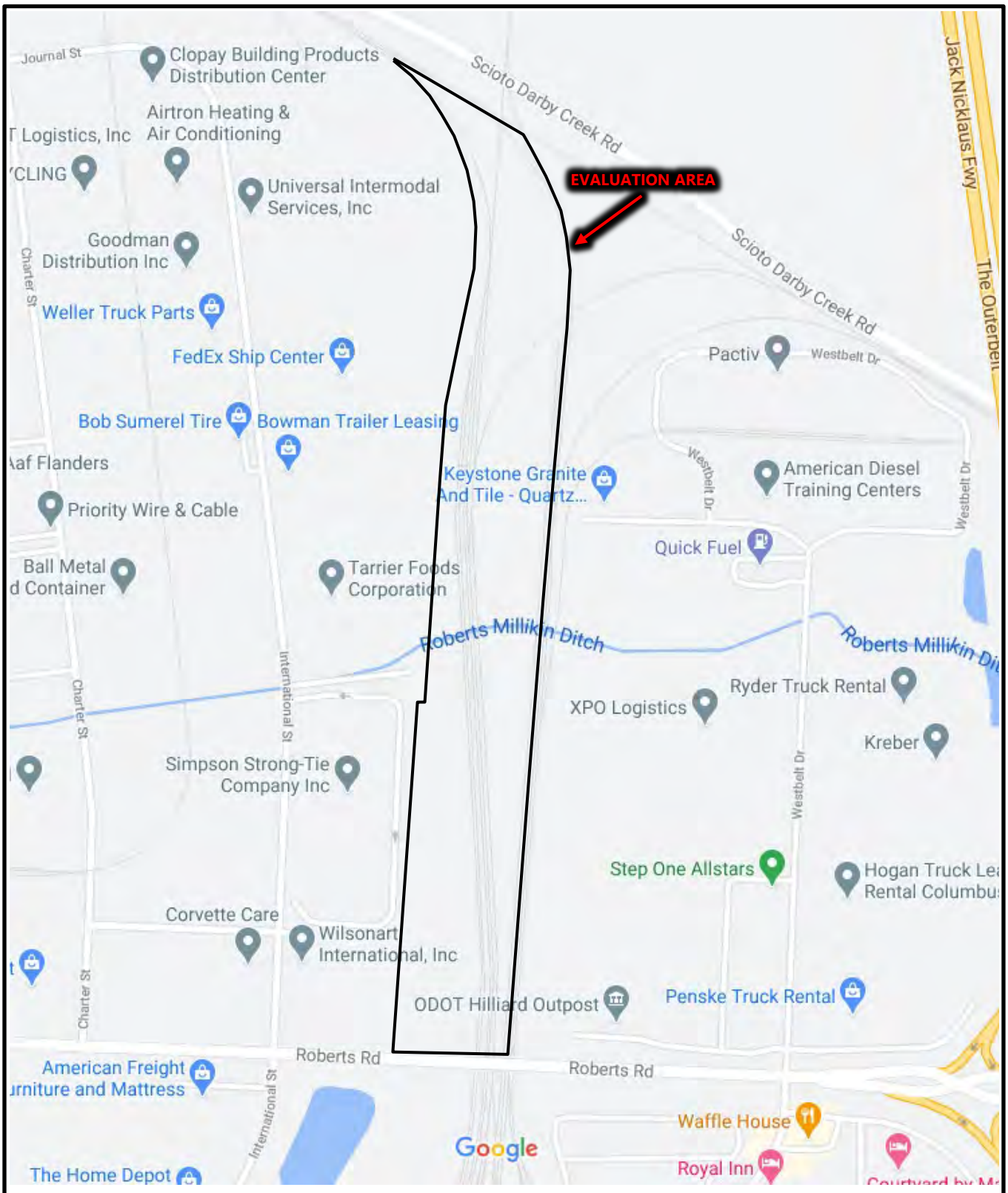



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*LOCATION MAP OF EVALUATION AREA (NORTH SECTION)*

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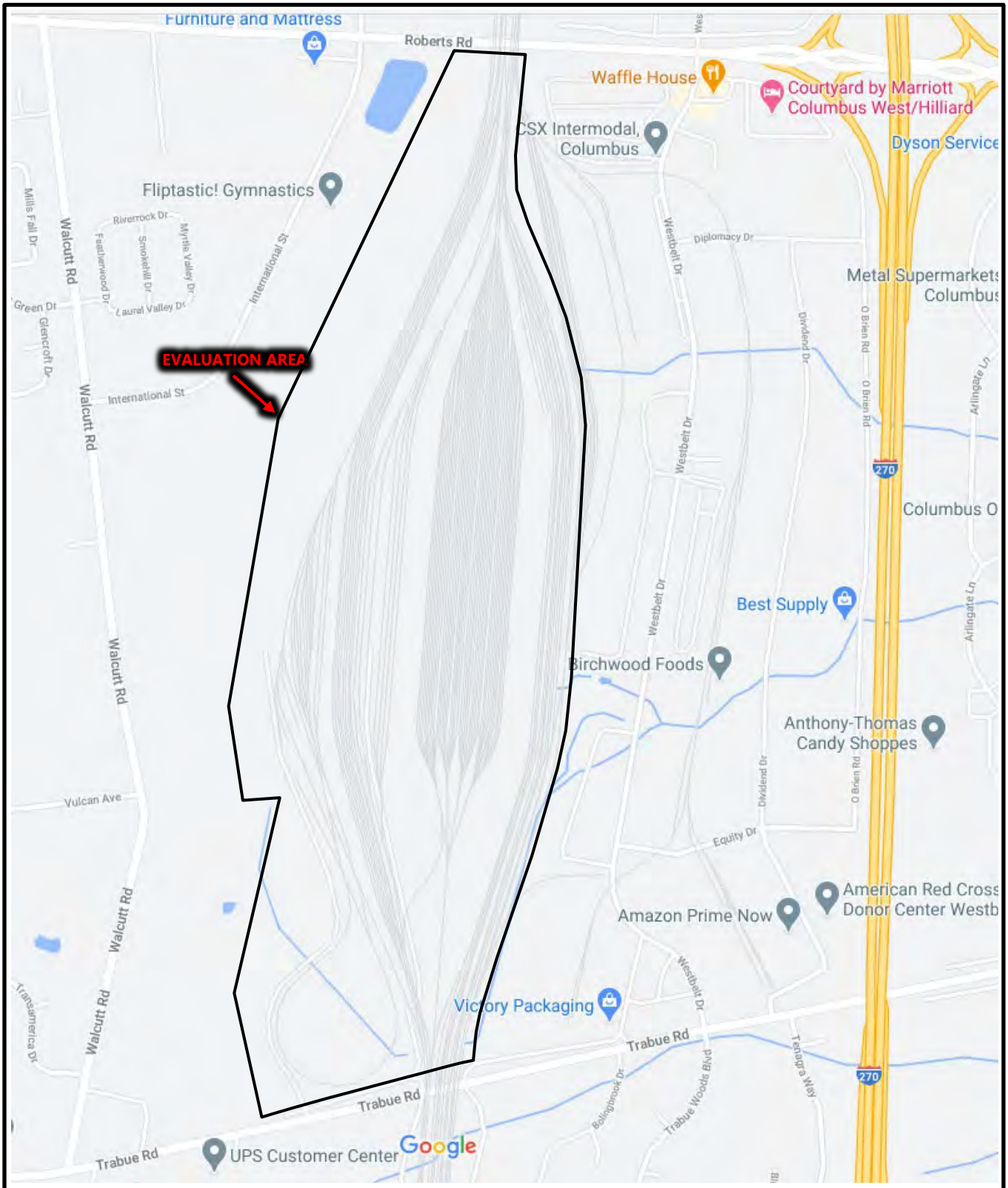
*LOCATION MAP OF EVALUATION AREA (CENTRAL SECTION)*




NORTH

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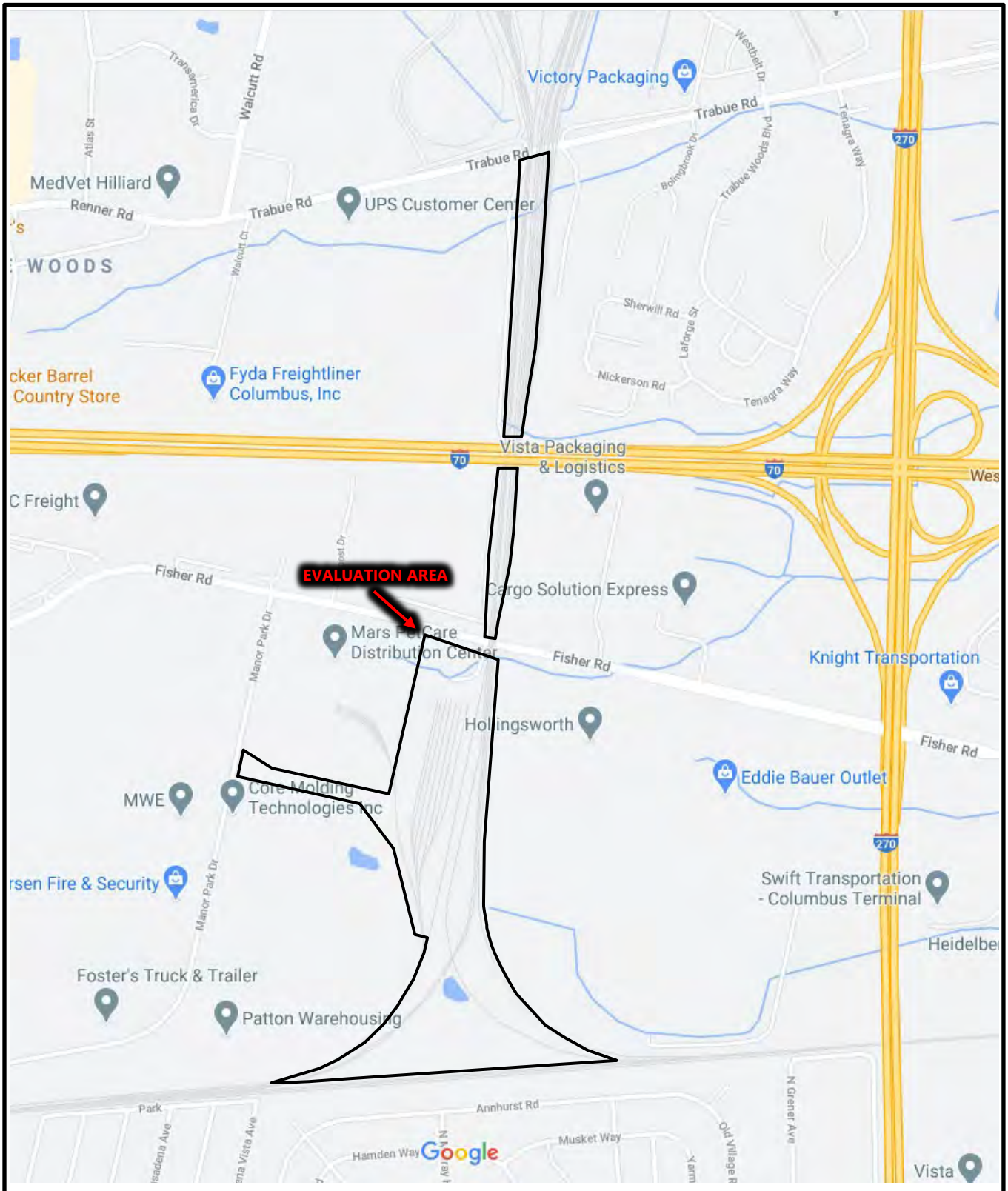
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*LOCATION MAP OF EVALUATION AREA (SOUTH SECTION)*

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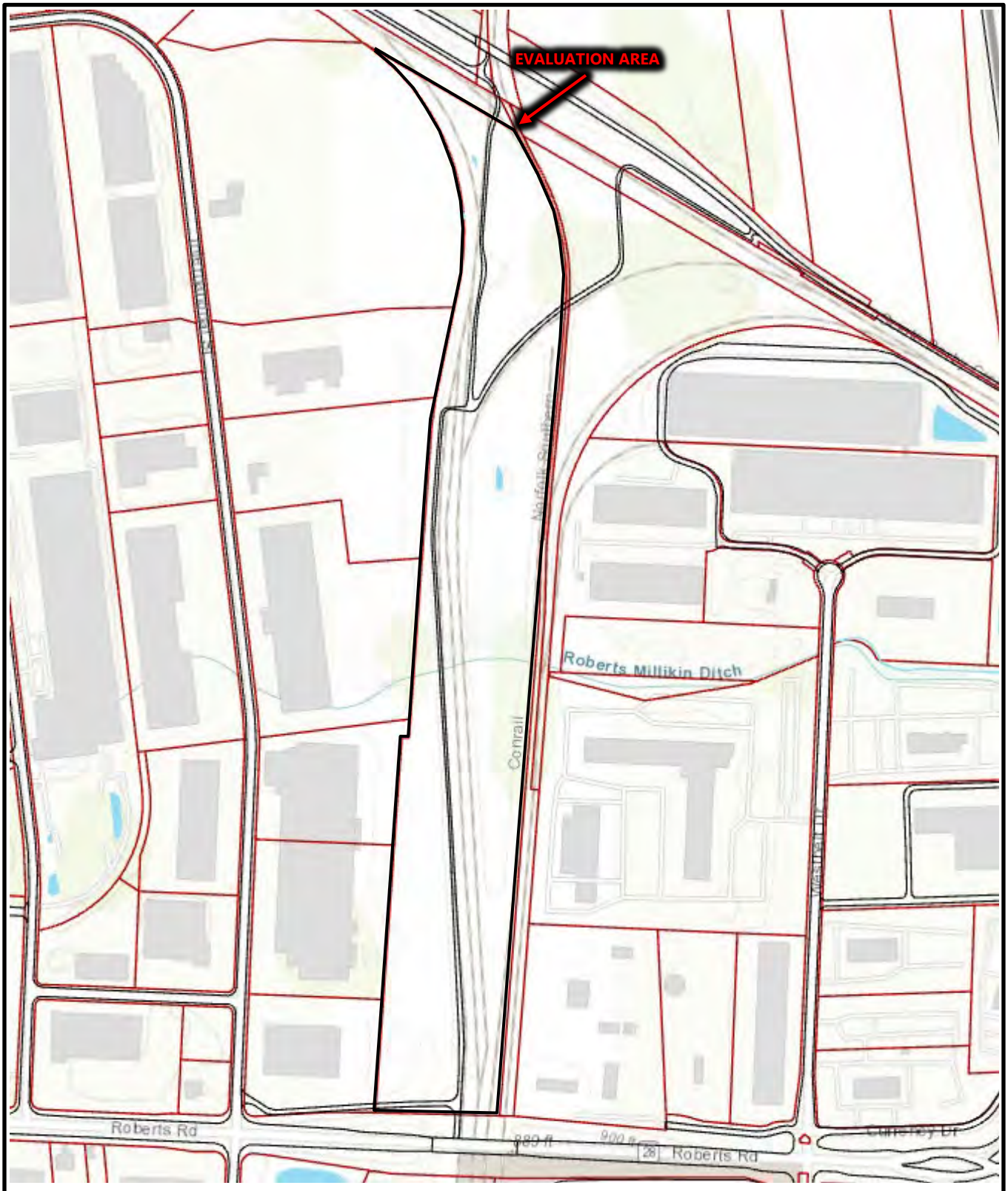
*CENTRAL OHIO WETLAND CONSULTING, LLC*

*FRANKLIN COUNTY AUDITOR GIS MAP (NORTH SECTION)*

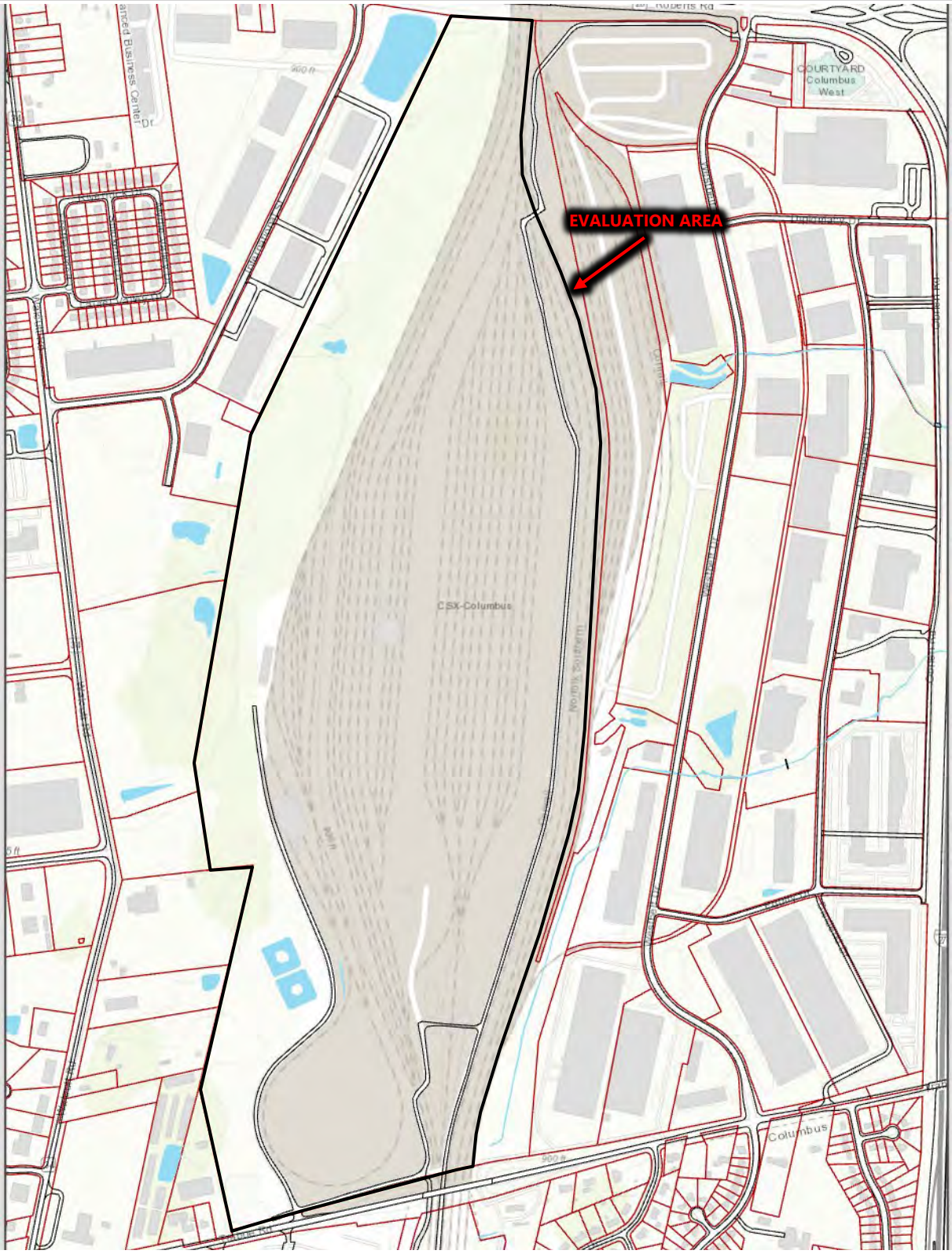



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*FRANKLIN COUNTY AUDITOR GIS MAP (CENTRAL SECTION)*




NORTH

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*FRANKLIN COUNTY AUDITOR GIS MAP (SOUTH SECTION)*


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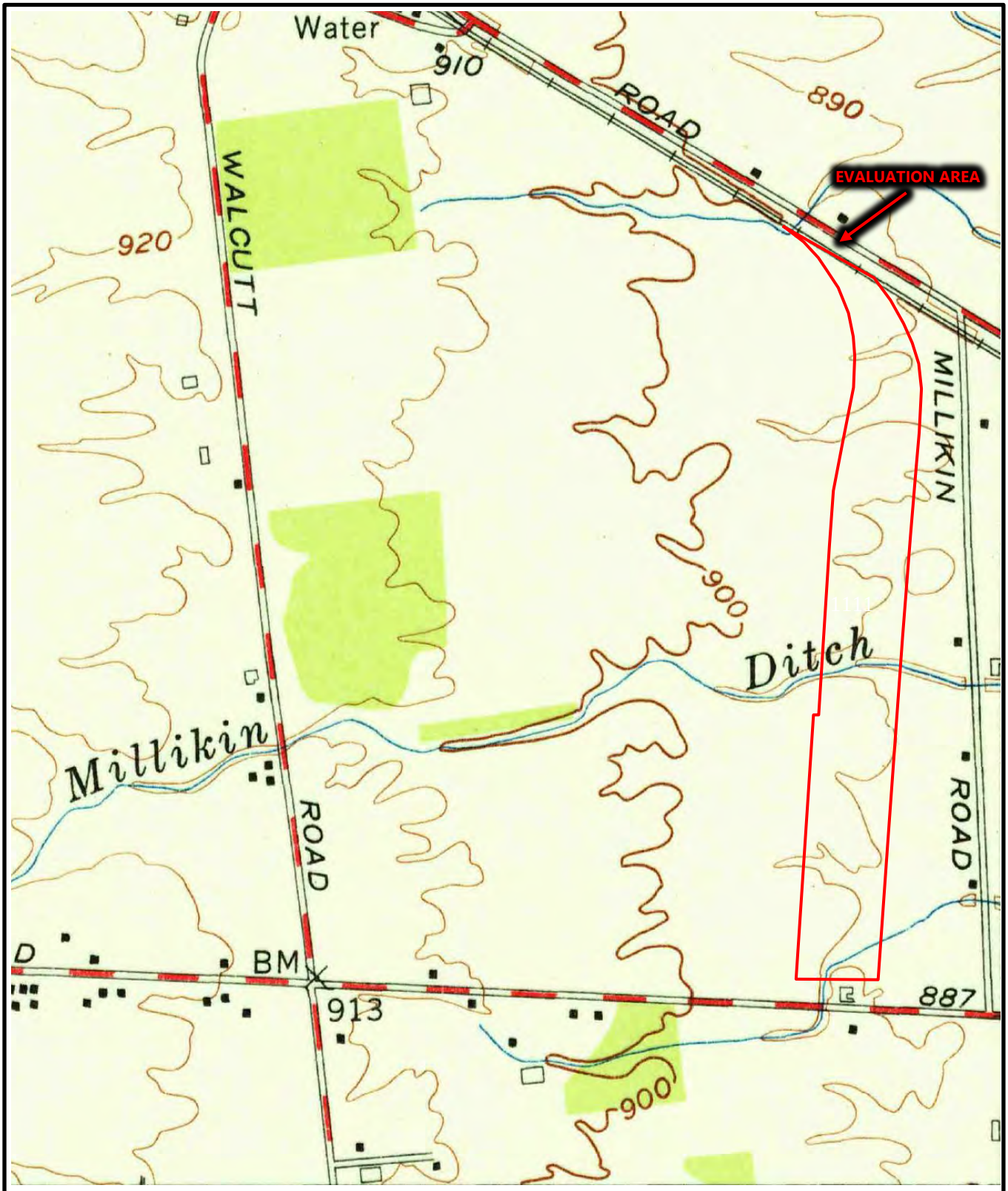
*1954 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*

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*COWC PROJECT #120120007*

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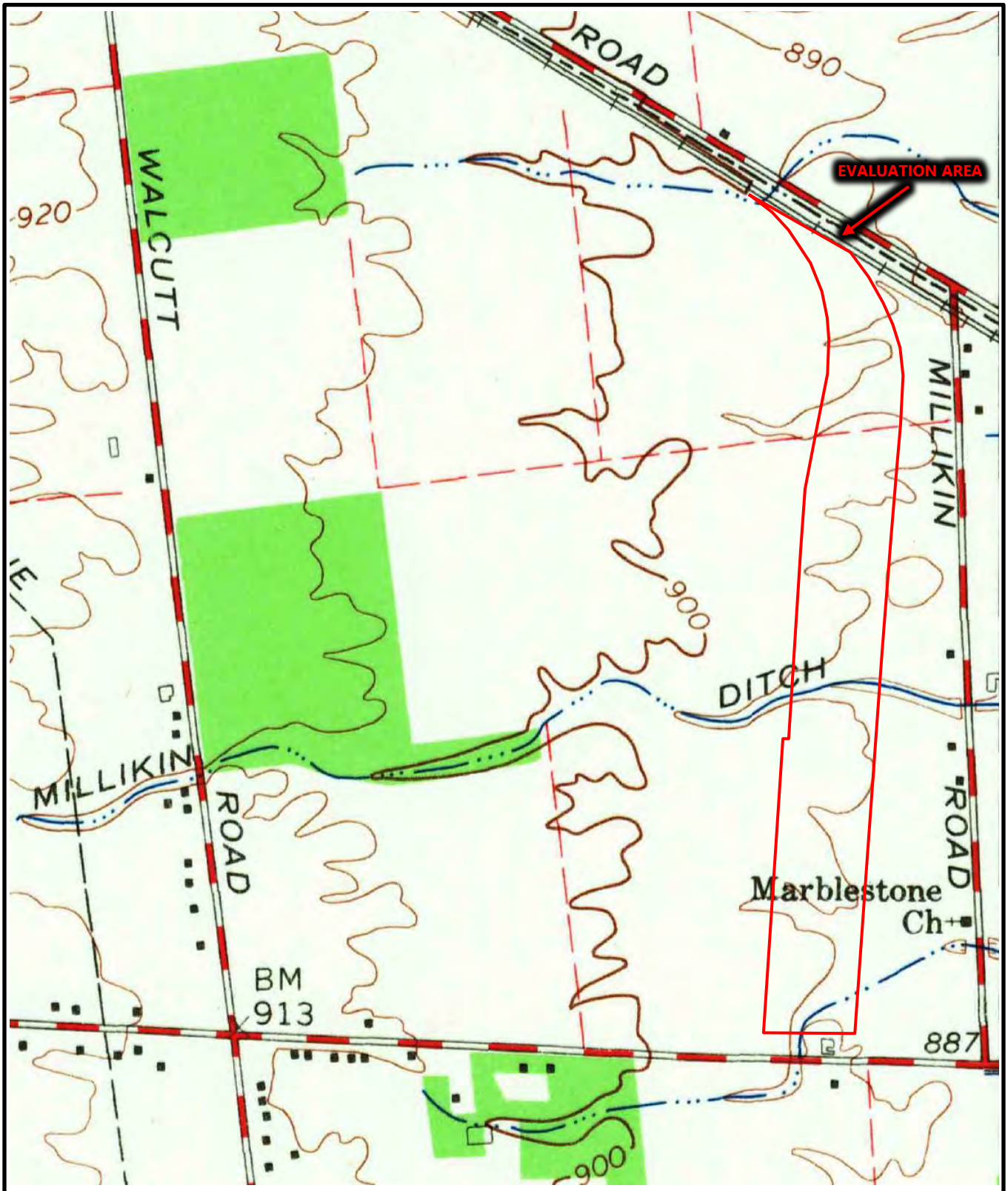
*1966 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*

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*1973 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*


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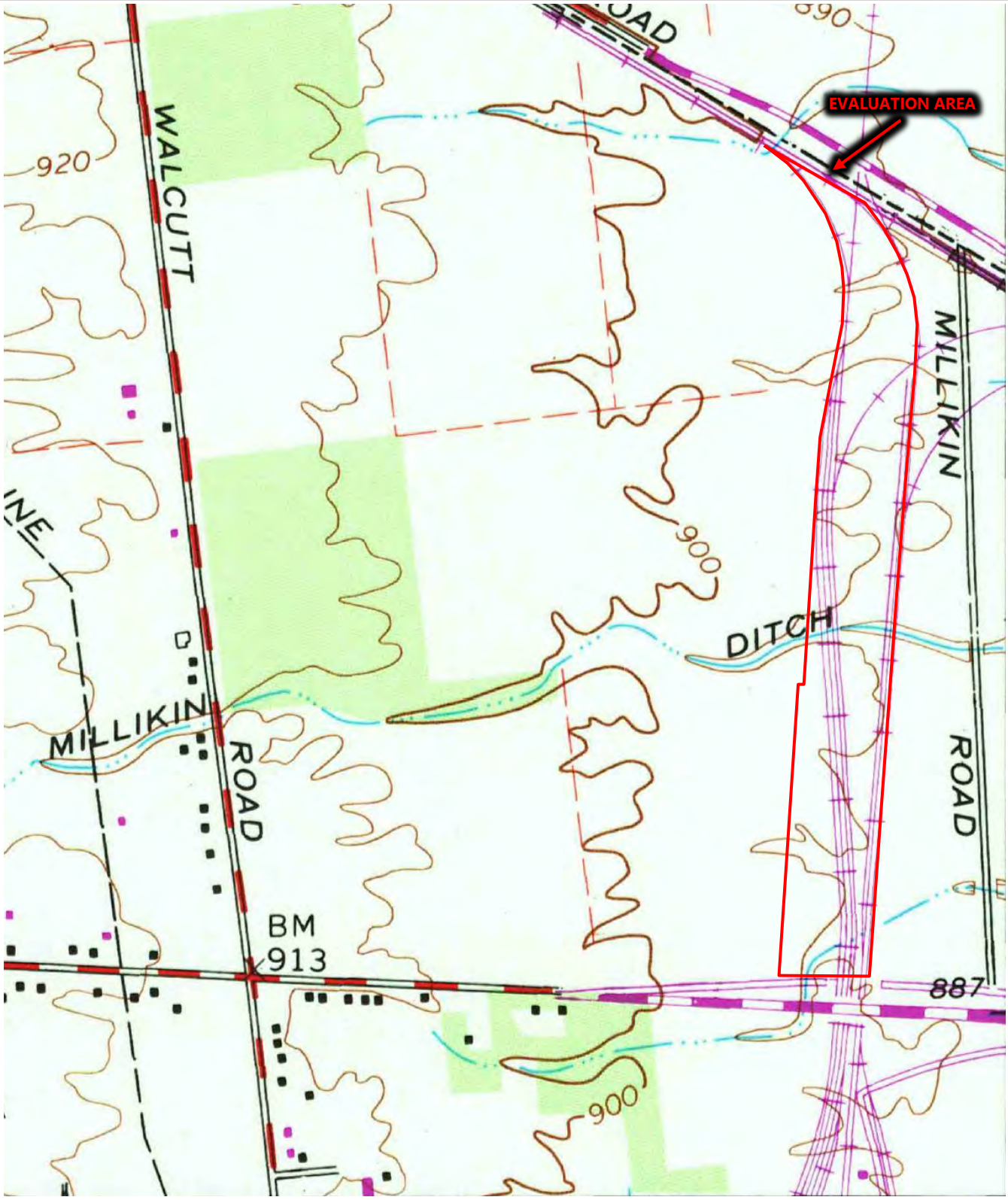
*1980 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*

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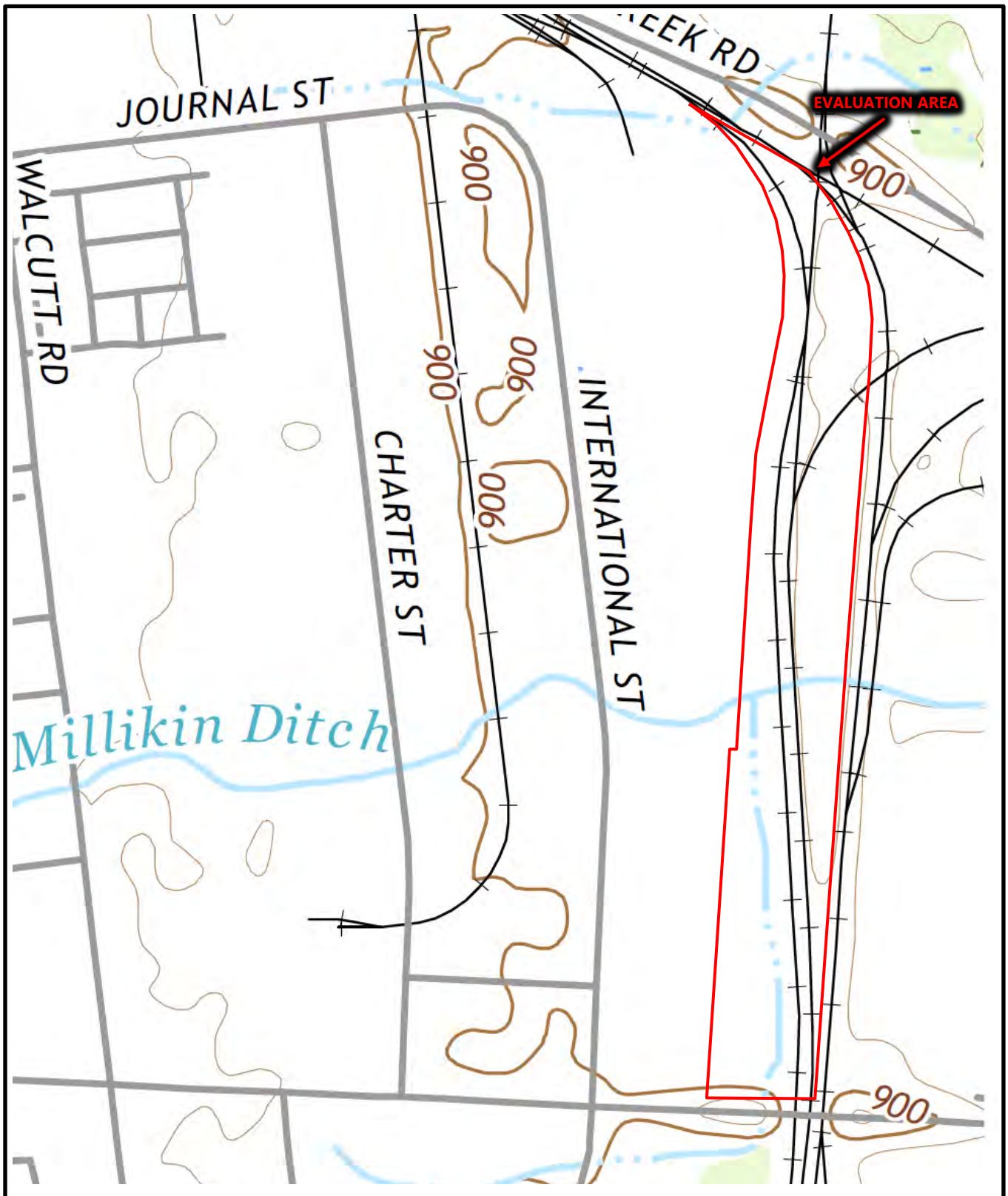
*2019 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*

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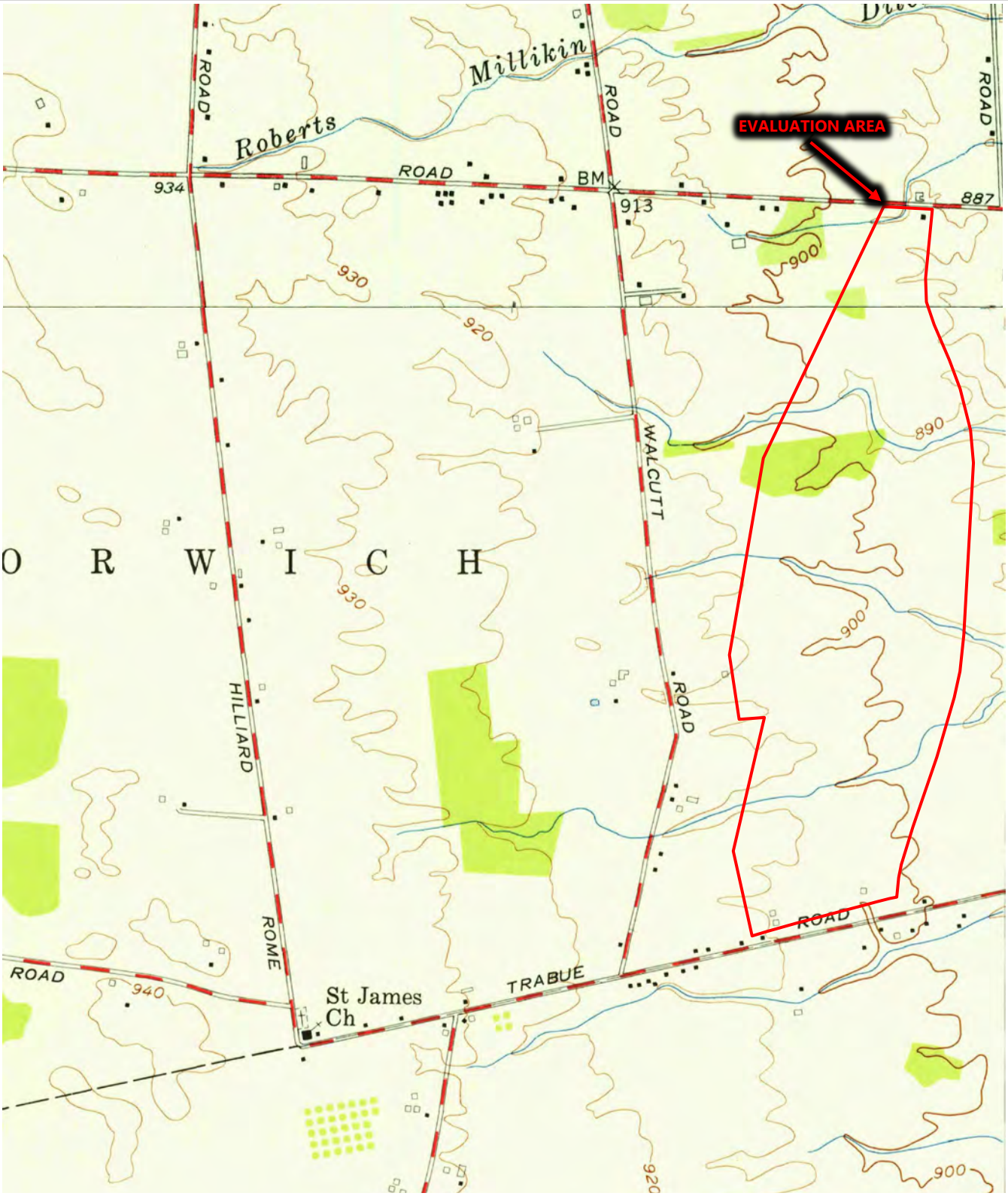
# 1954/1955 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)

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*COWC PROJECT #120120007*

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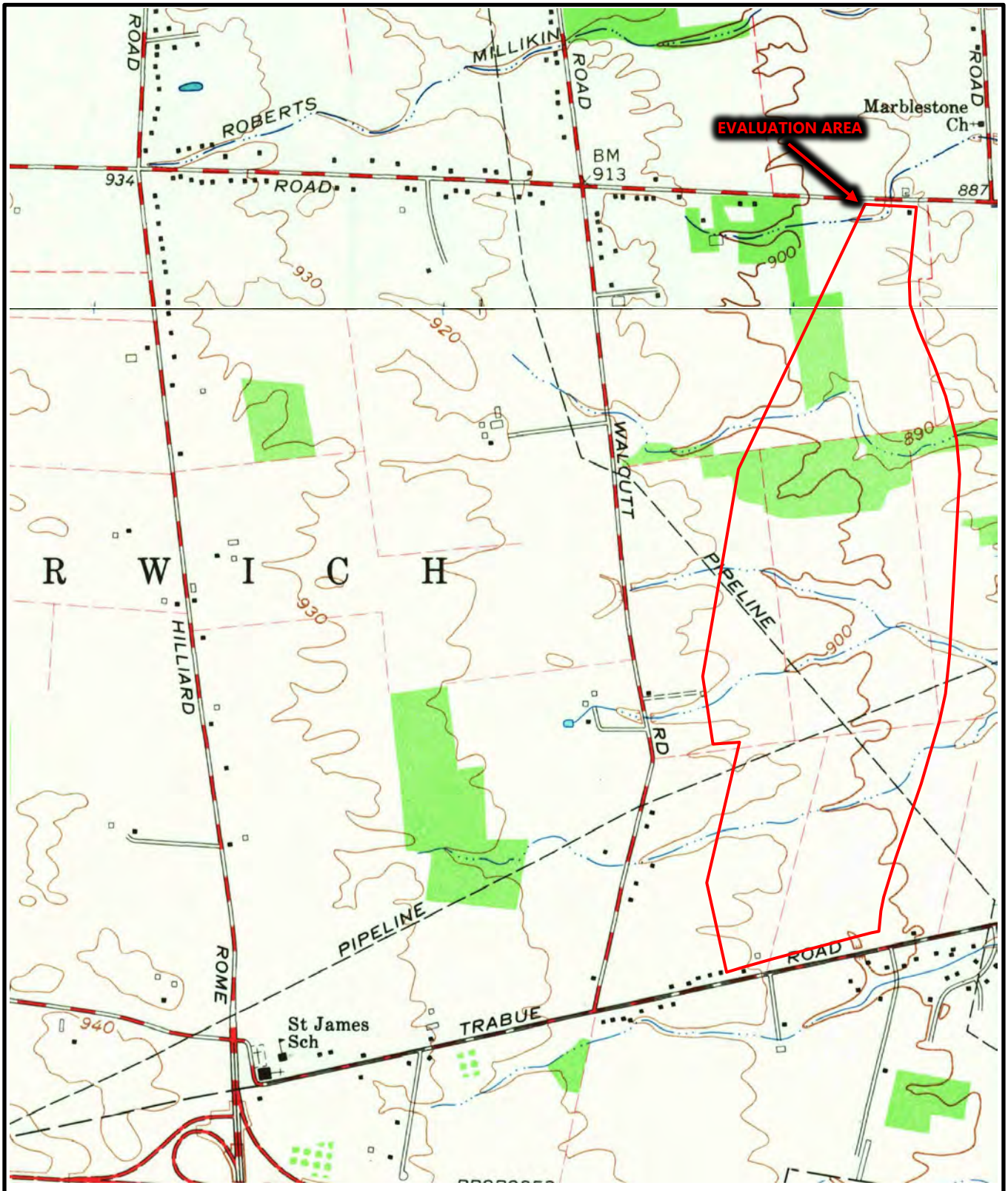
*1966 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)*




NORTH

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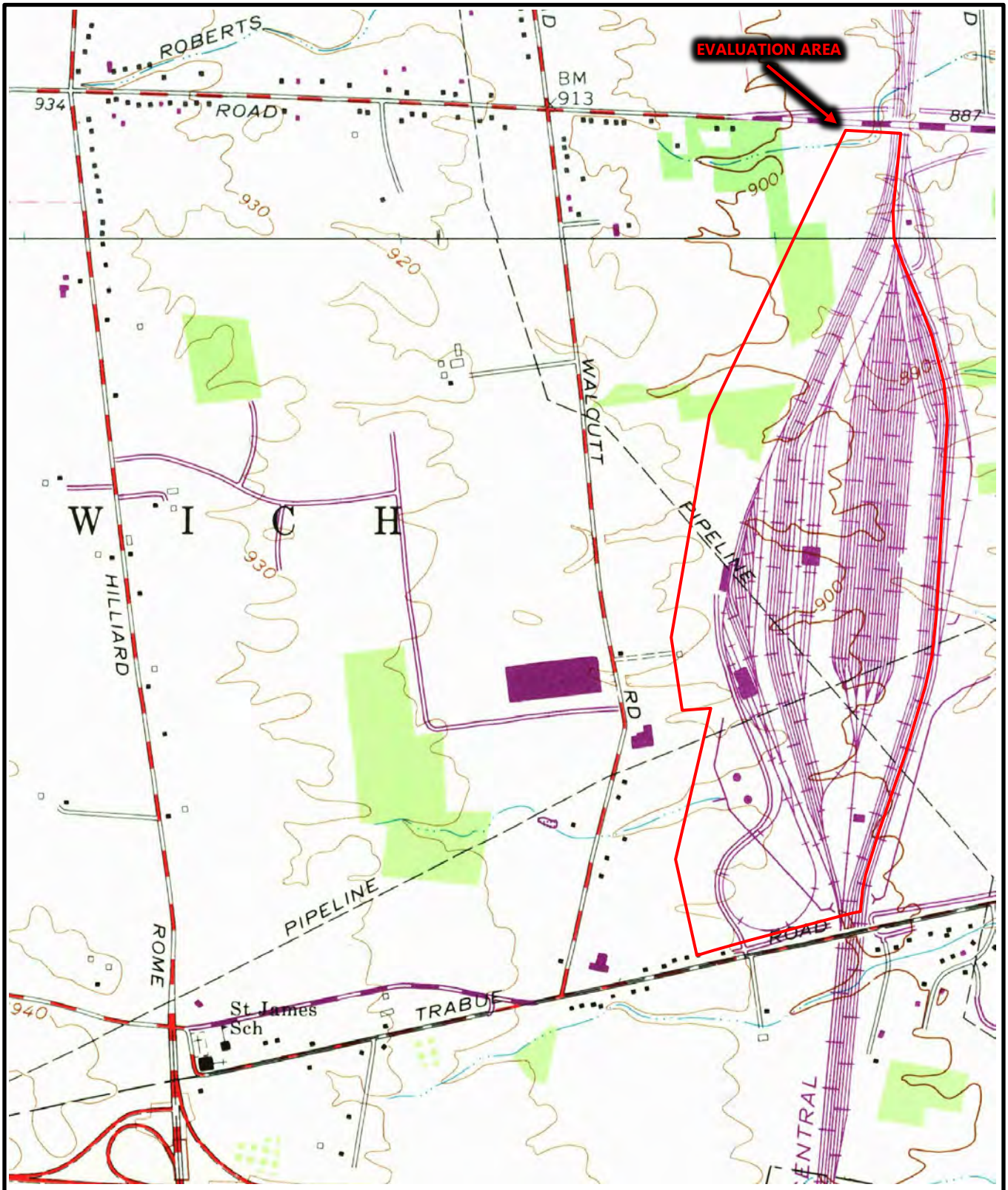
# 1973 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)




NORTH

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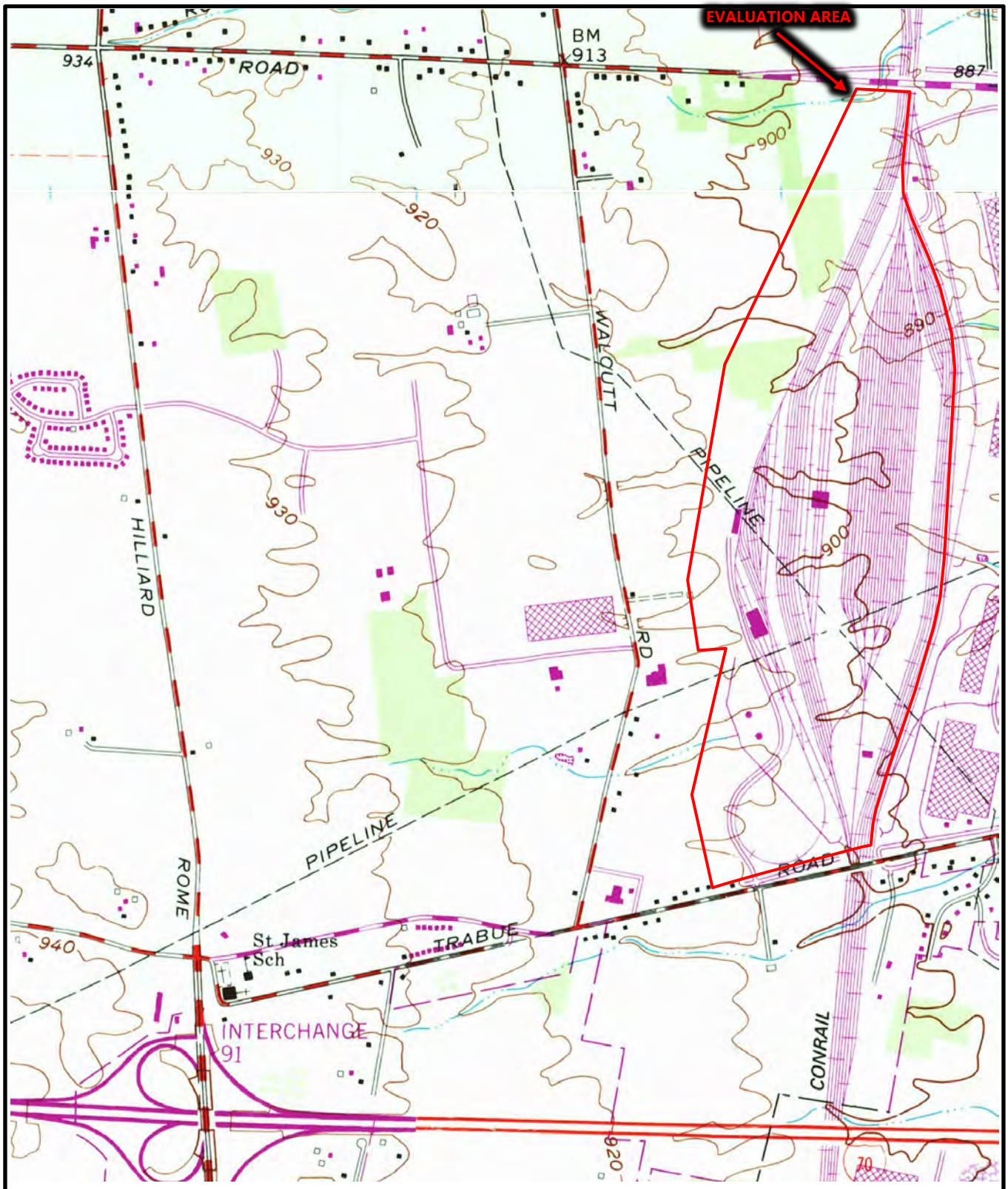
# 1980/1981 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)

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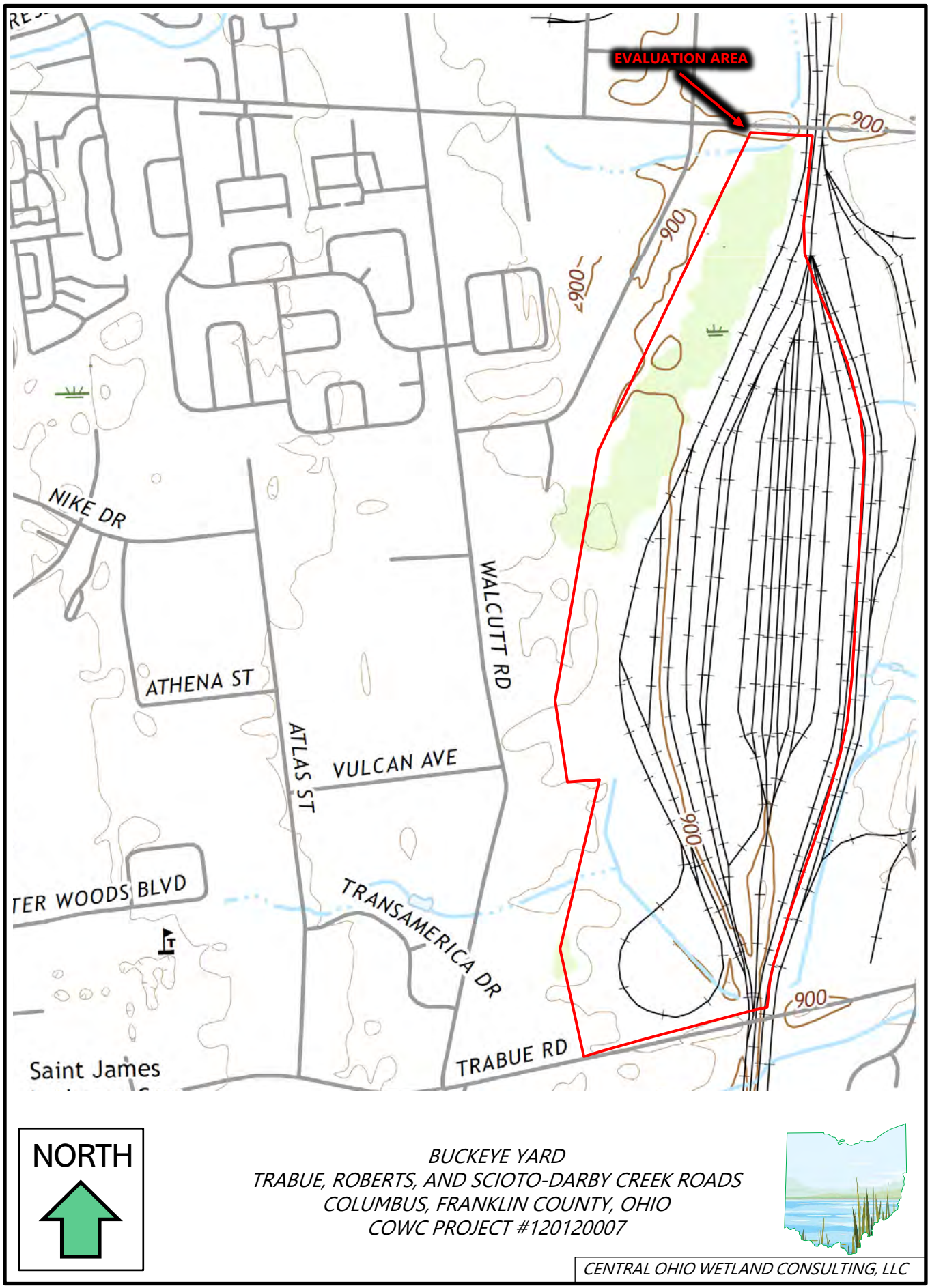
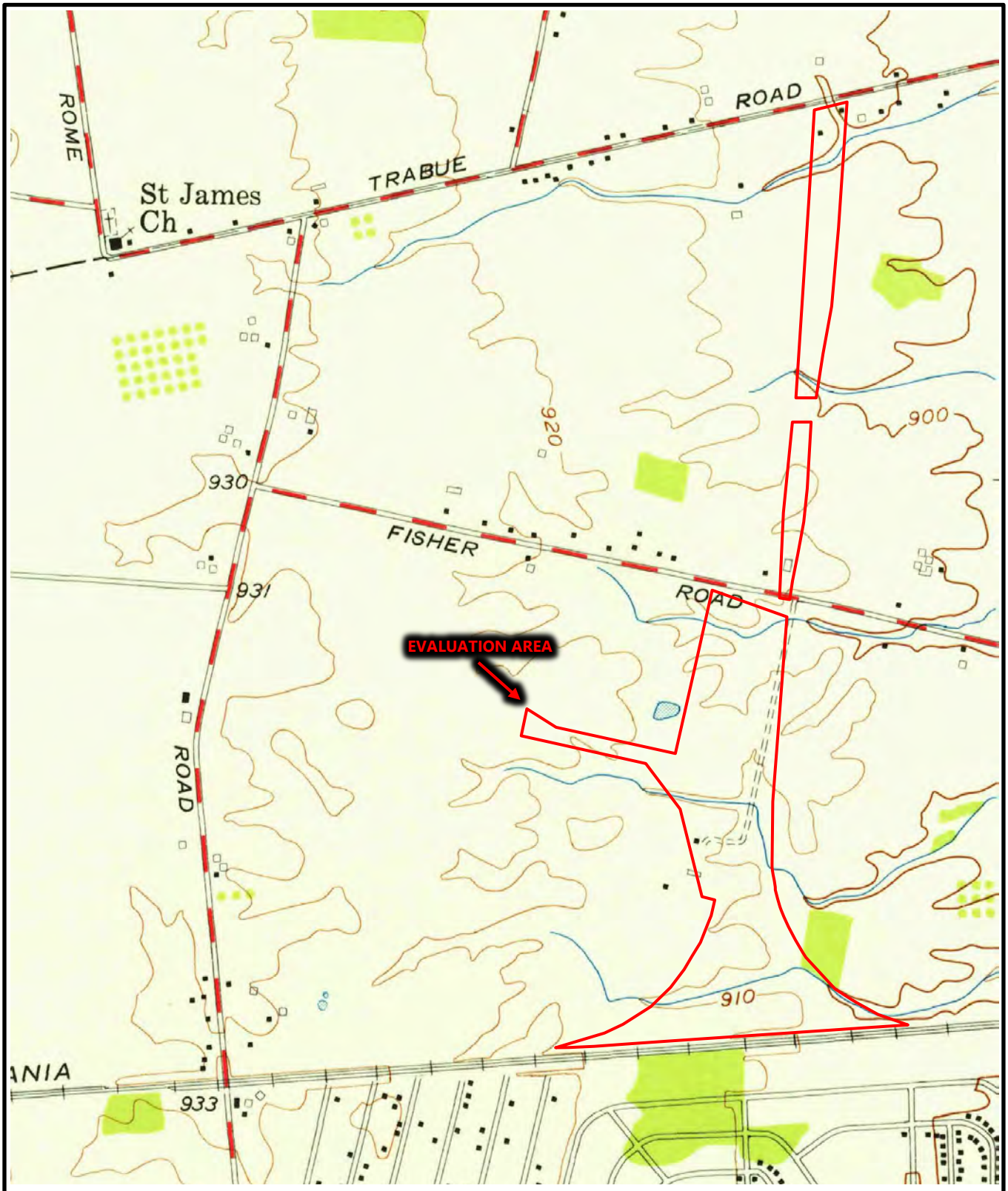
*2019 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)*




*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1955 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)




NORTH

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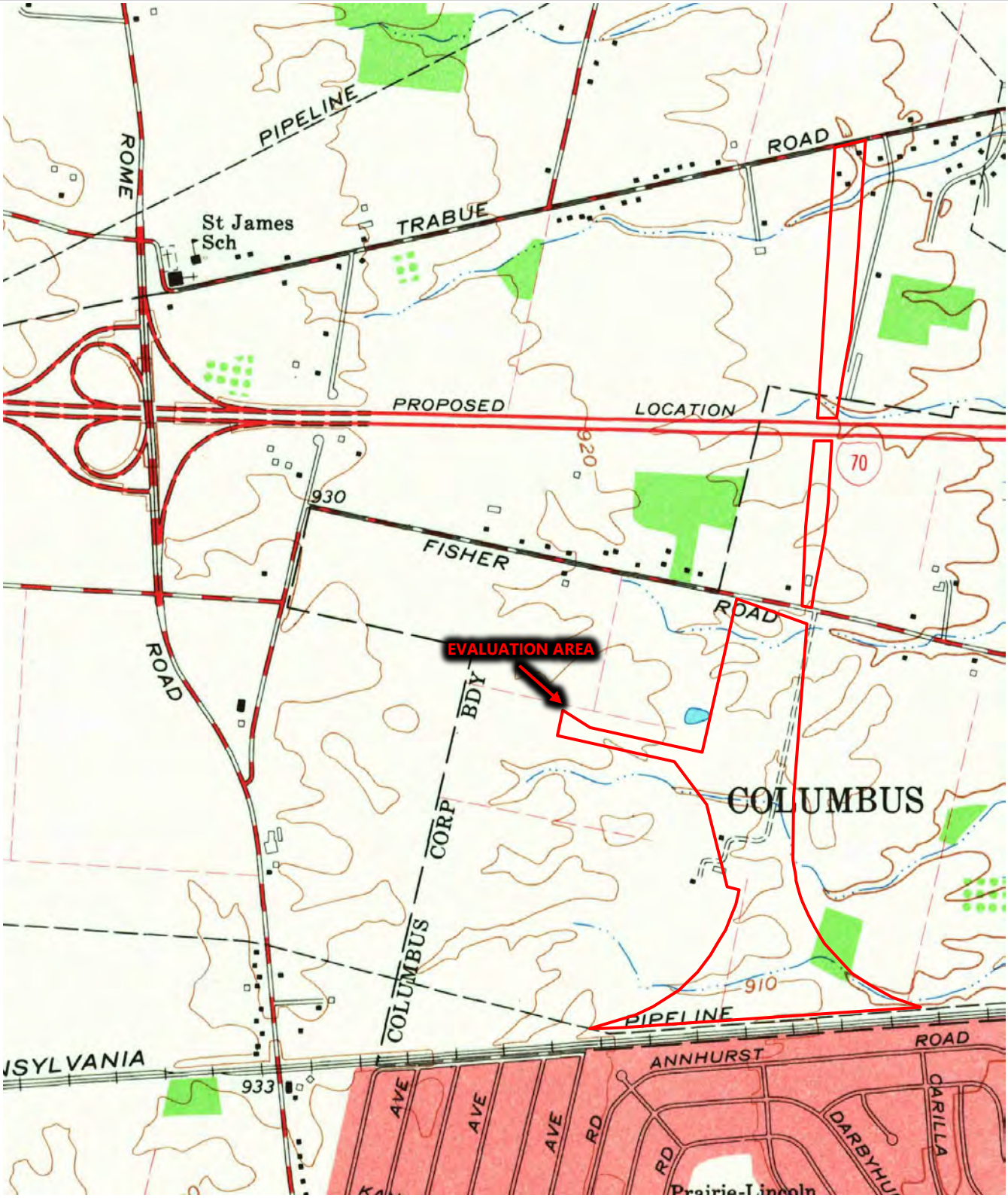
*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1966 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*

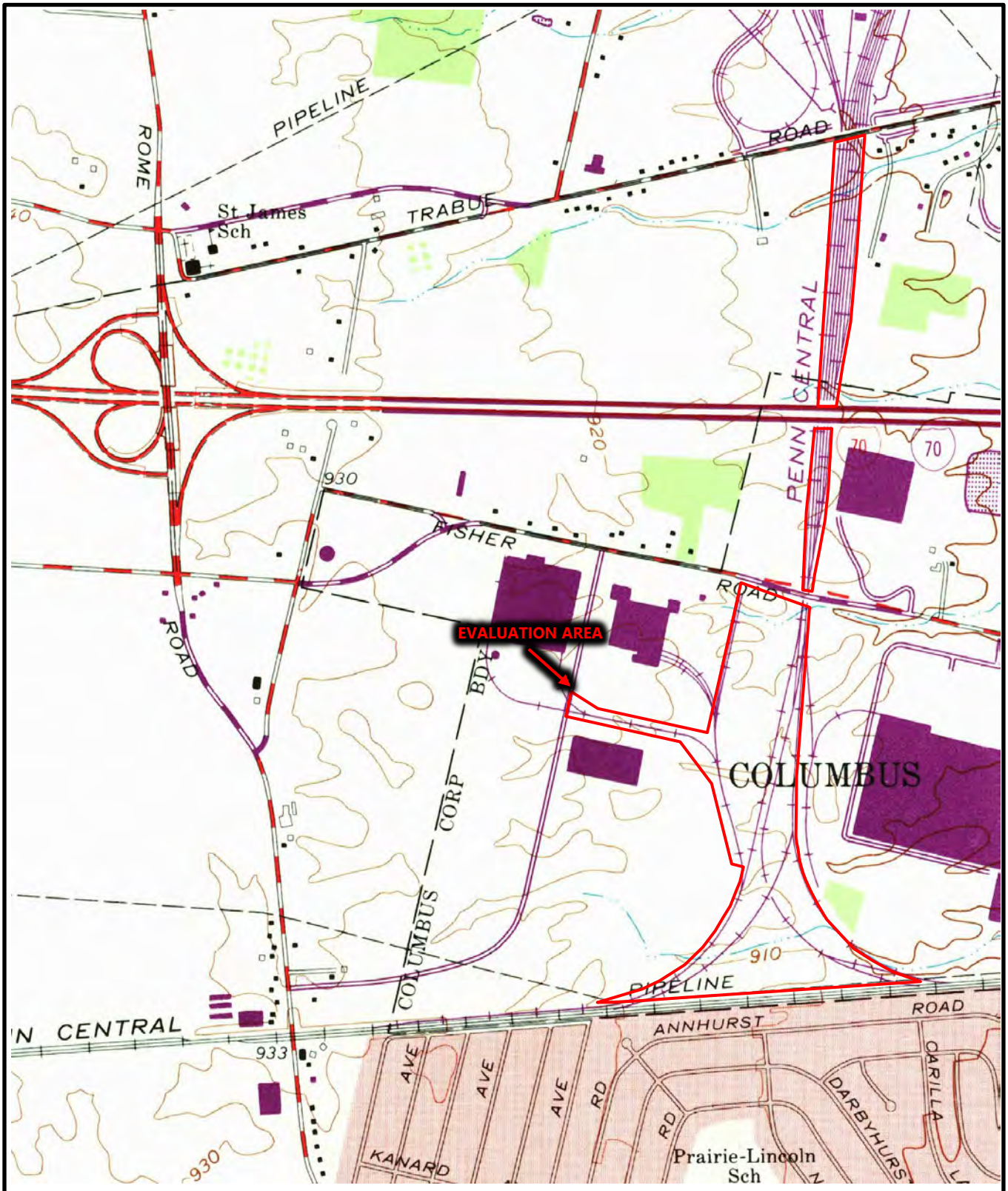



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1973 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*

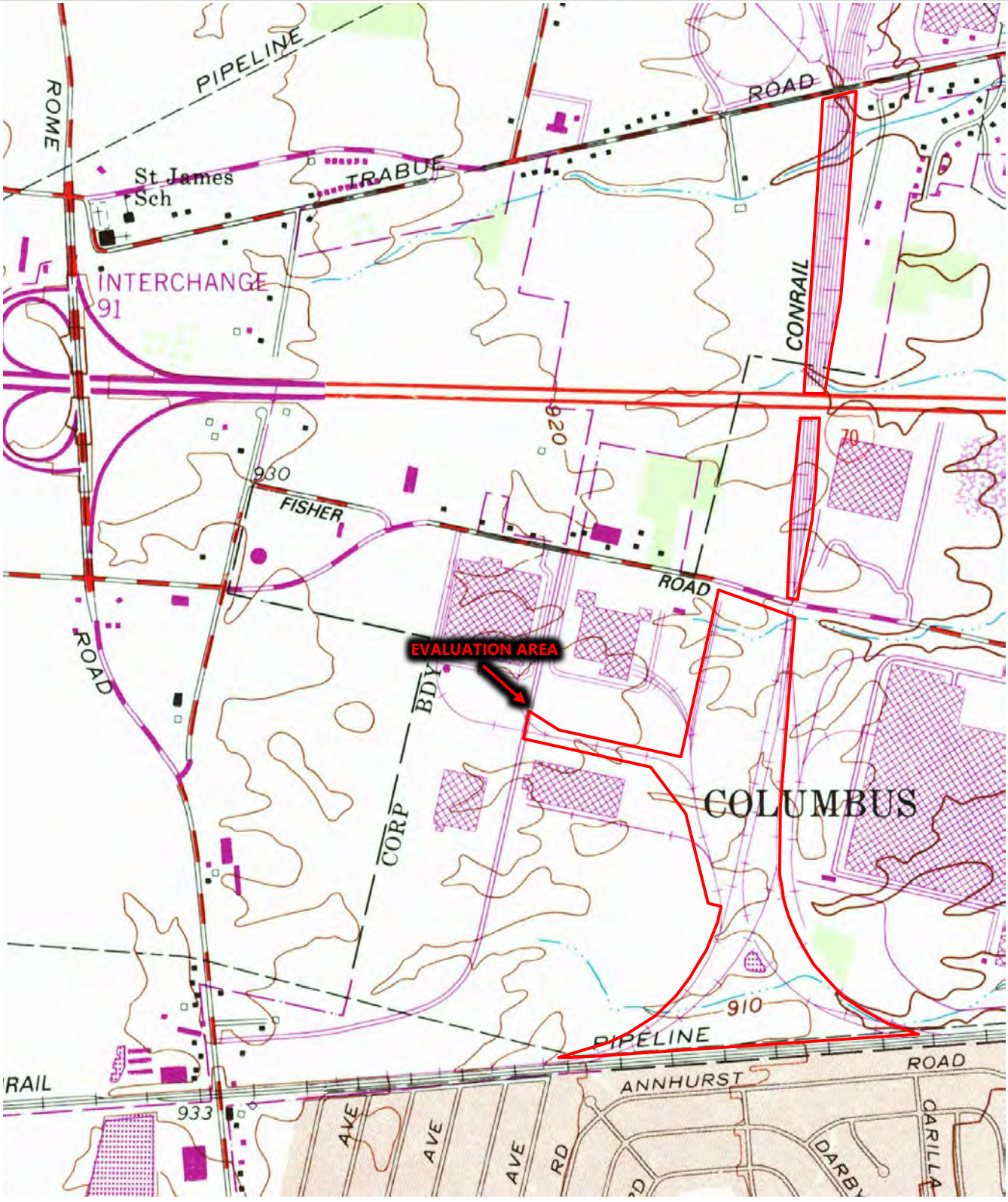



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1981 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*




NORTH

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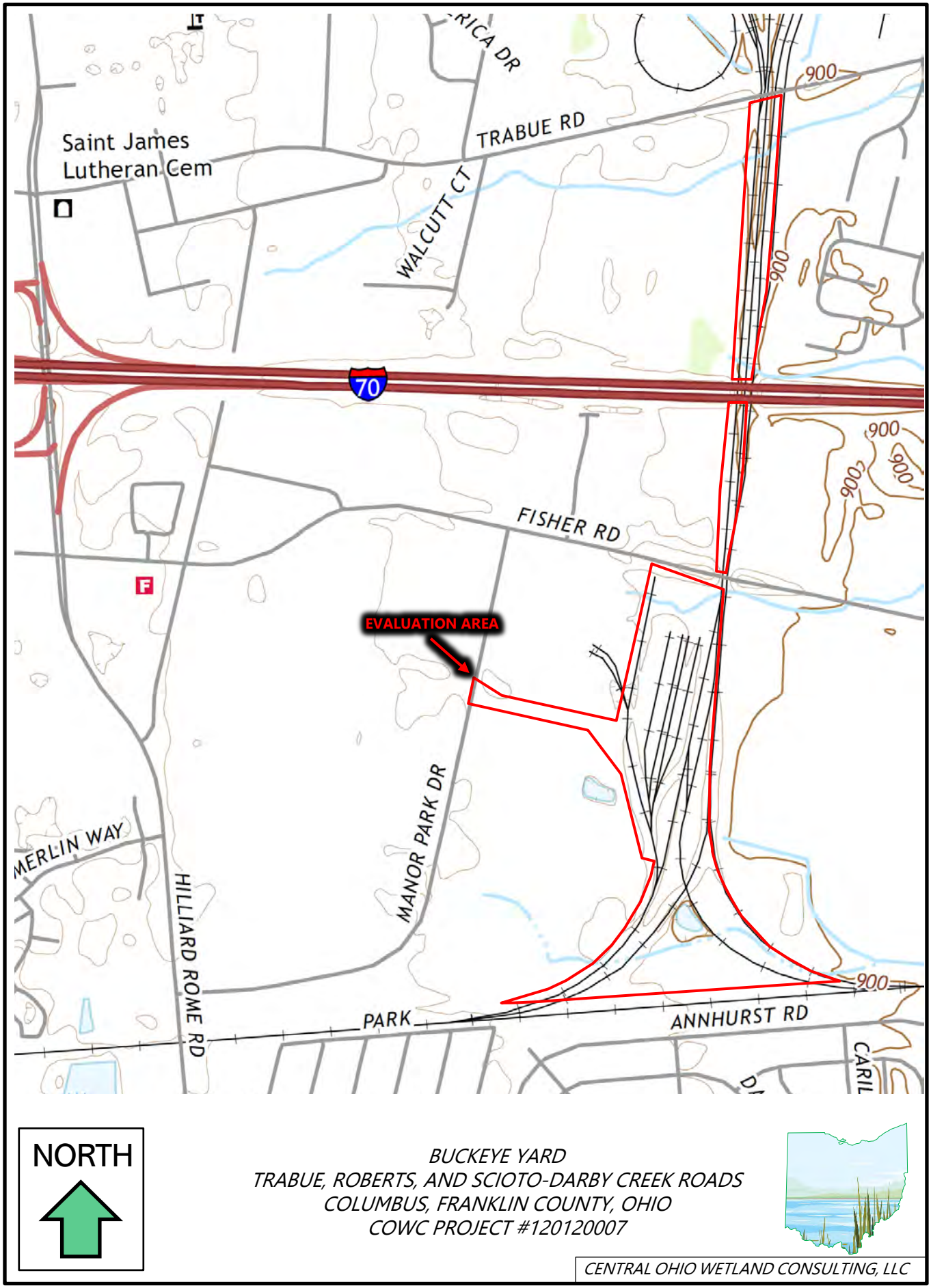
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*




*BUCKEYE YARD*
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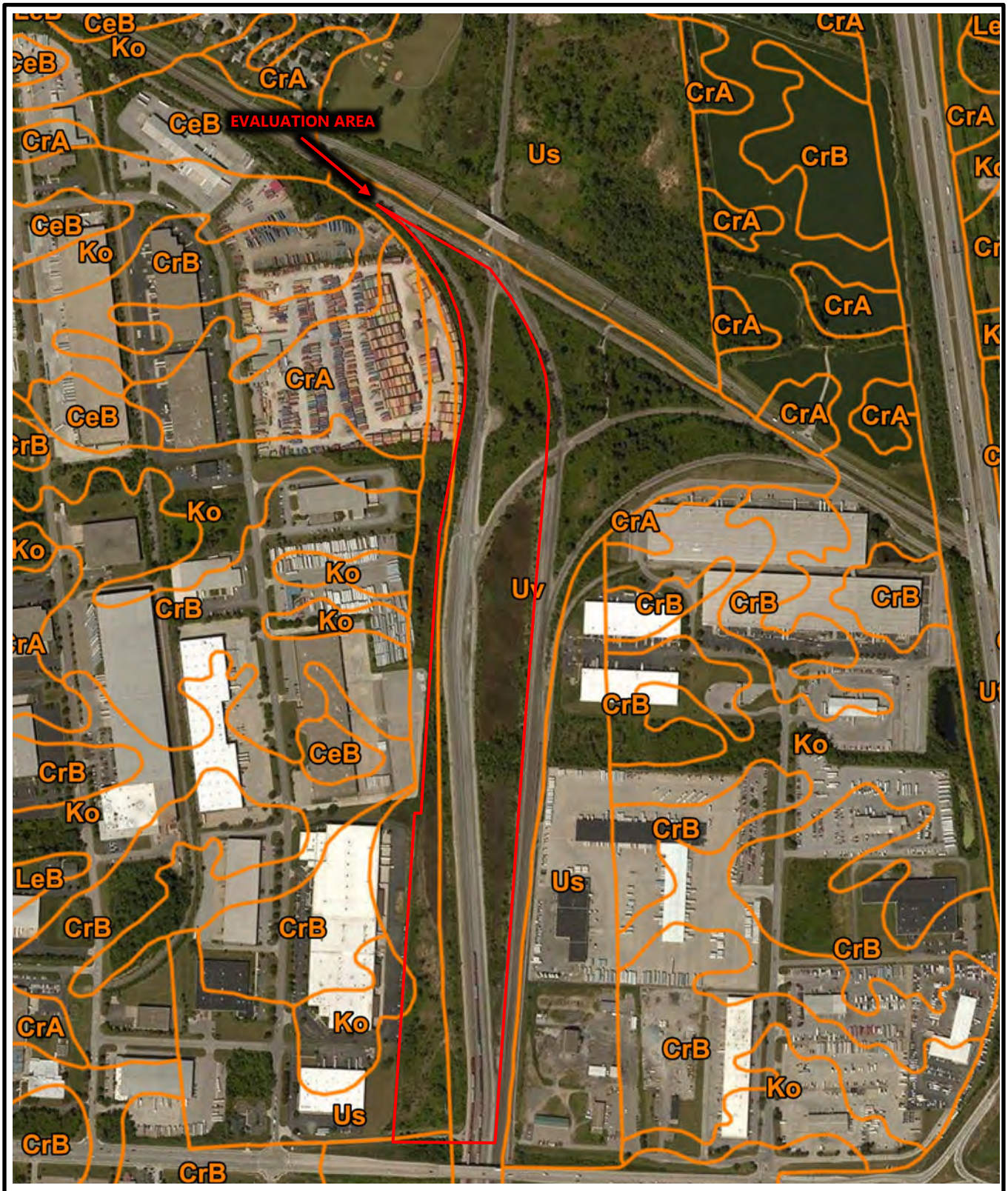
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (NORTH SECTION)*




NORTH

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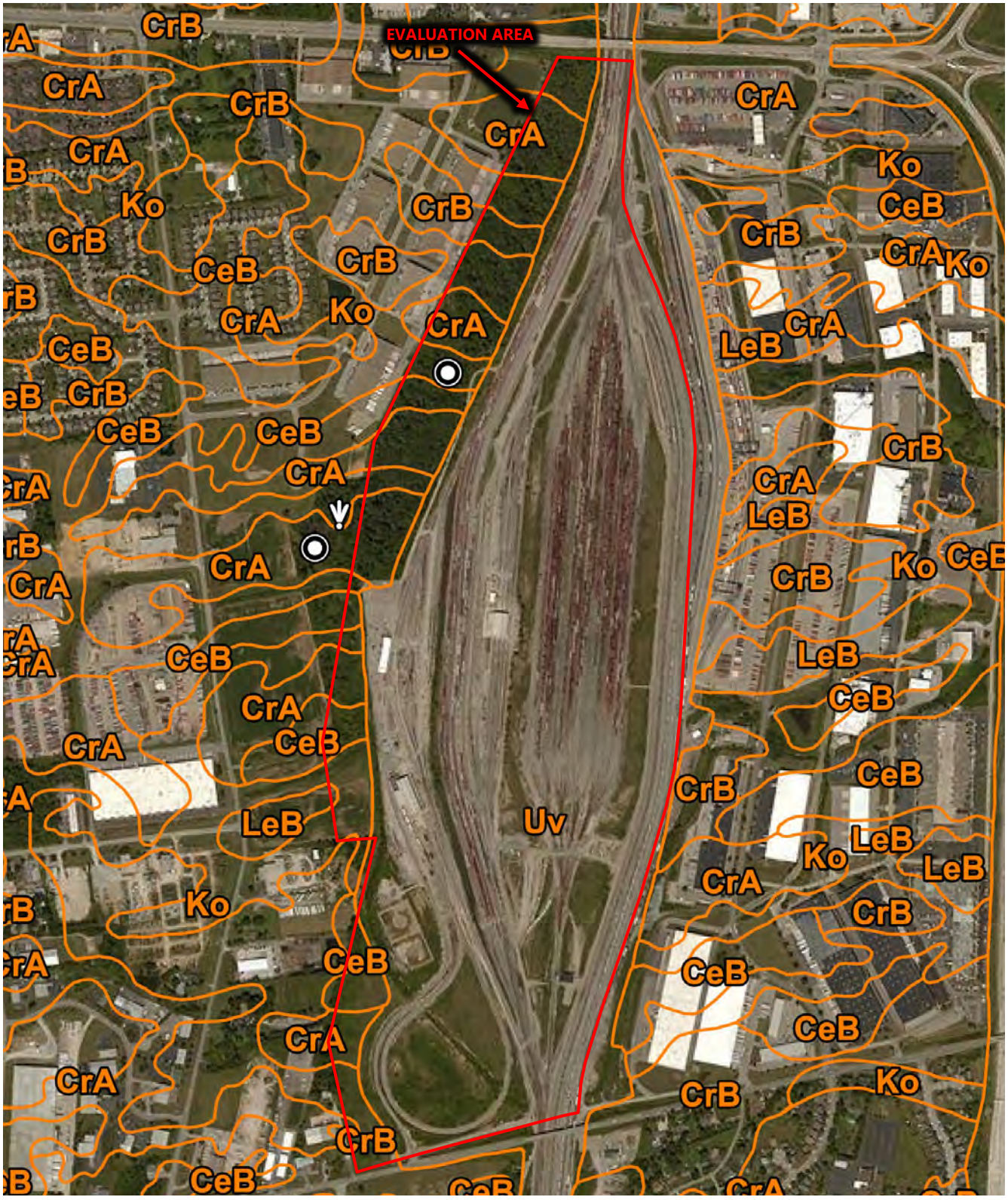
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (CENTRAL SECTION)*




NORTH

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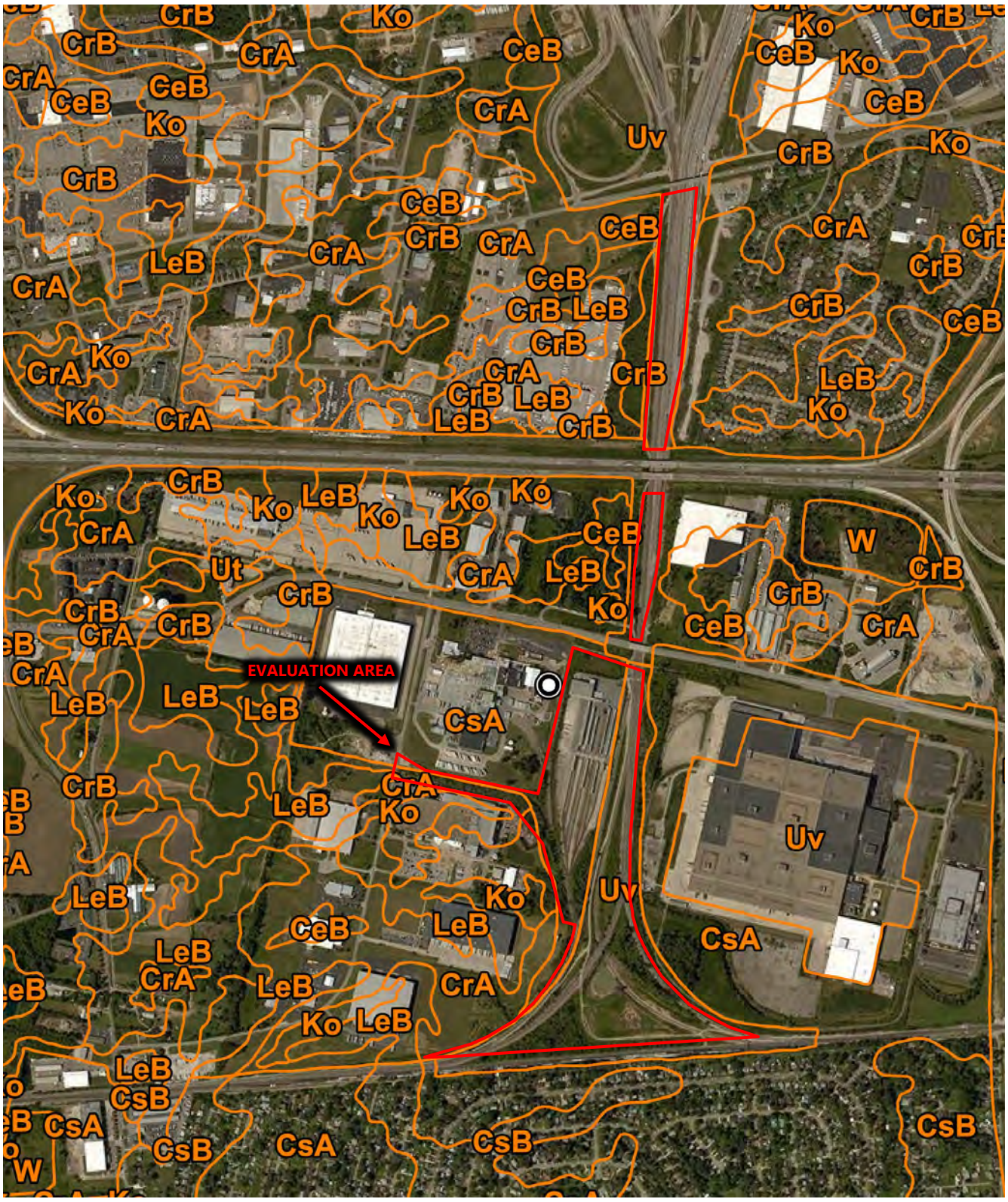
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (SOUTH SECTION)*




NORTH

*BUCKEYE YARD*
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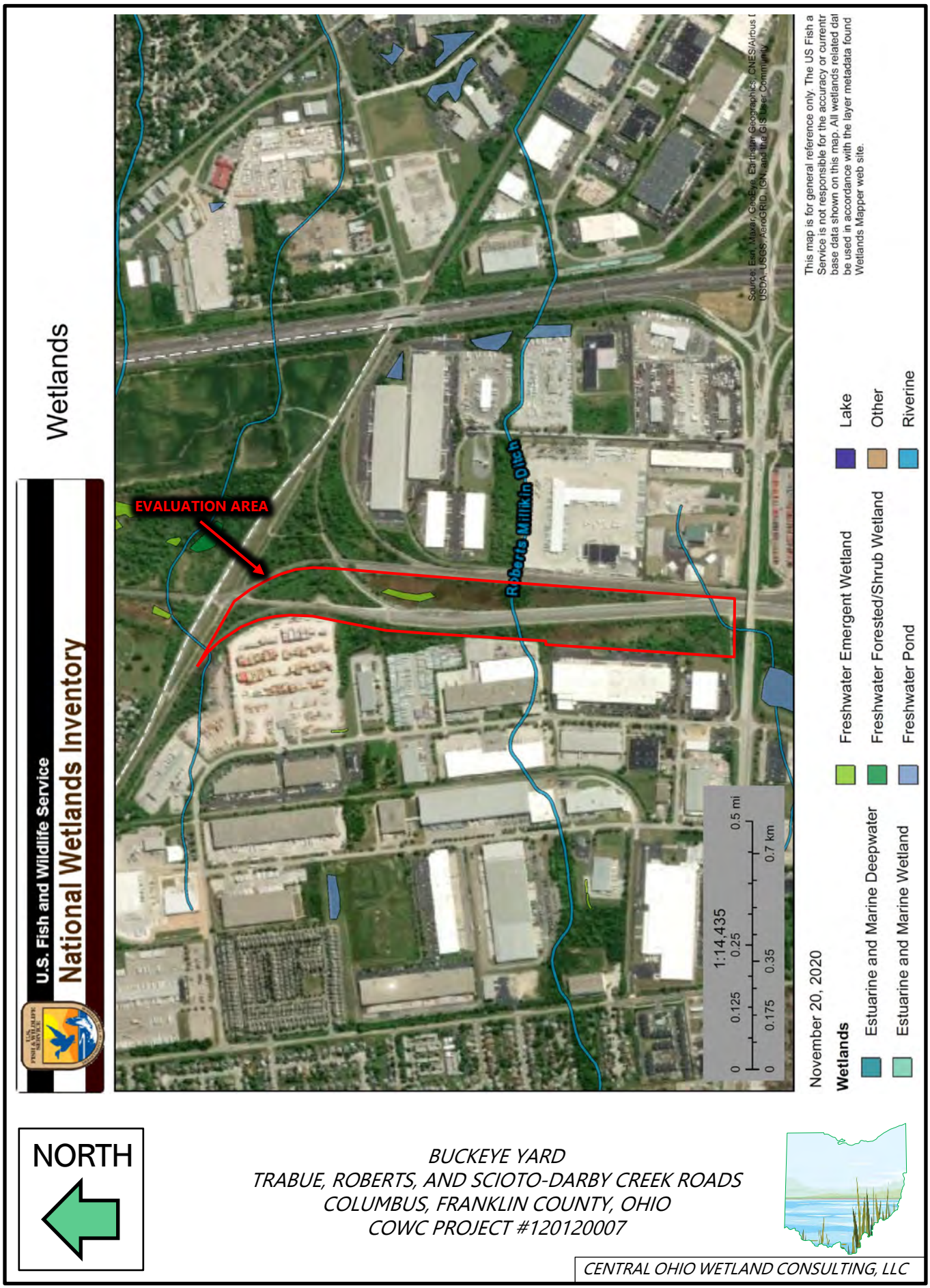
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# NATIONAL WETLANDS INVENTORY (NWI) MAP (NORTH SECTION)




*BUCKEYE YARD*
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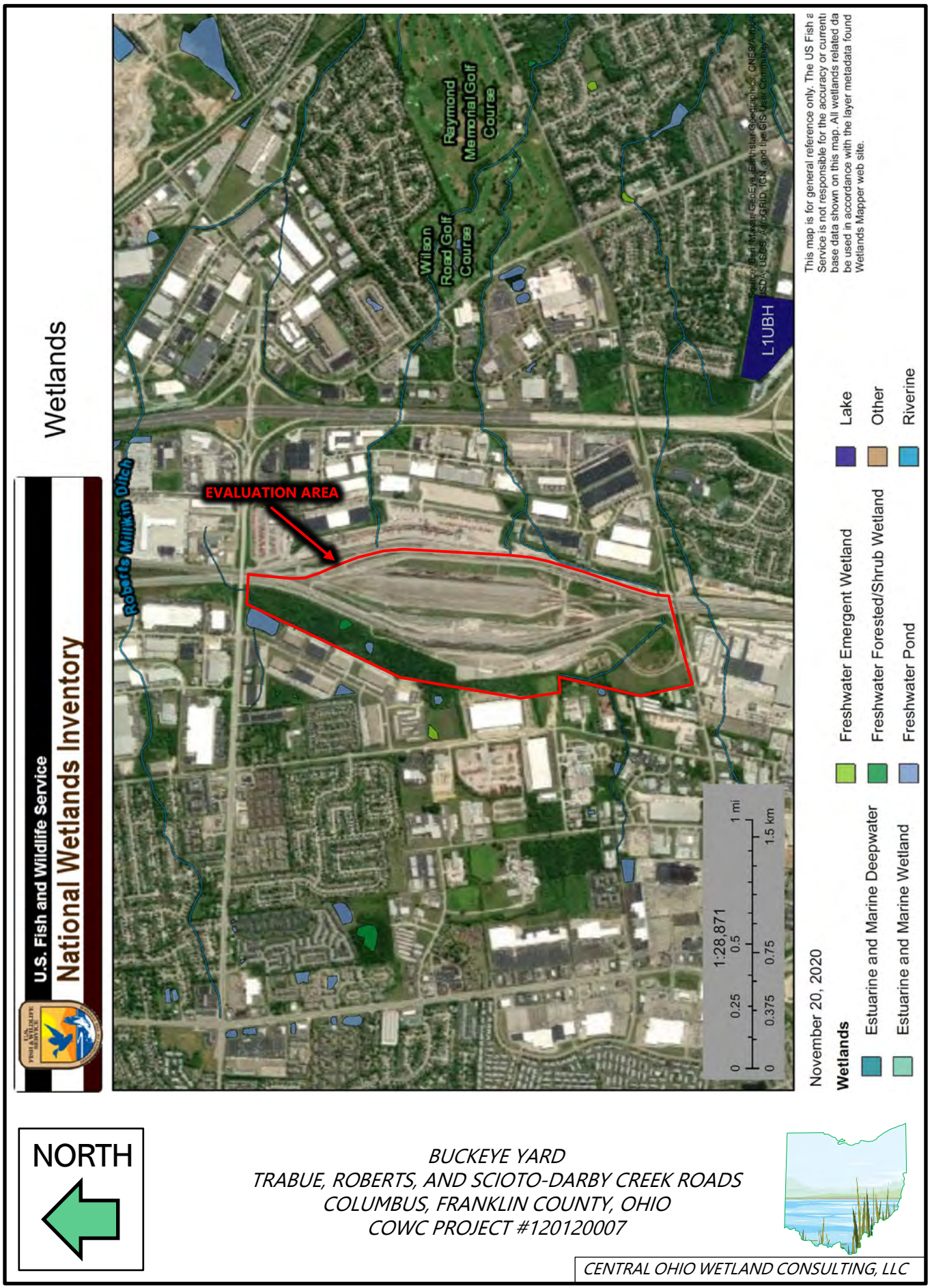
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*



*CENTRAL OHIO WETLAND CONSULTING, LLC*

# NATIONAL WETLANDS INVENTORY (NWI) MAP (CENTRAL SECTION)




*BUCKEYE YARD*
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*COLUMBUS, FRANKLIN COUNTY, OHIO*
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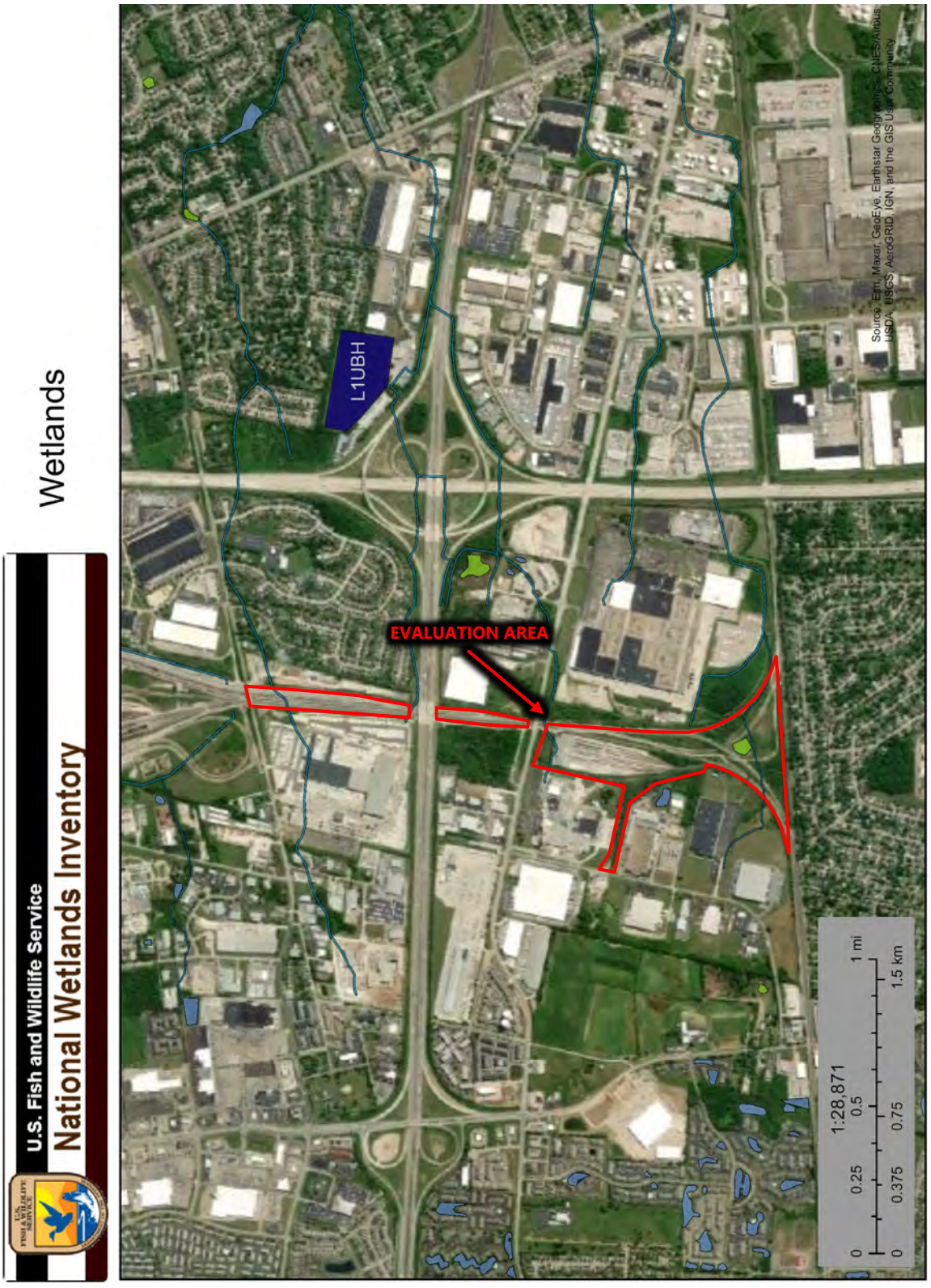
*CENTRAL OHIO WETLAND CONSULTING, LLC*

# NATIONAL WETLANDS INVENTORY (NWI) MAP (SOUTH SECTION)




NORTH

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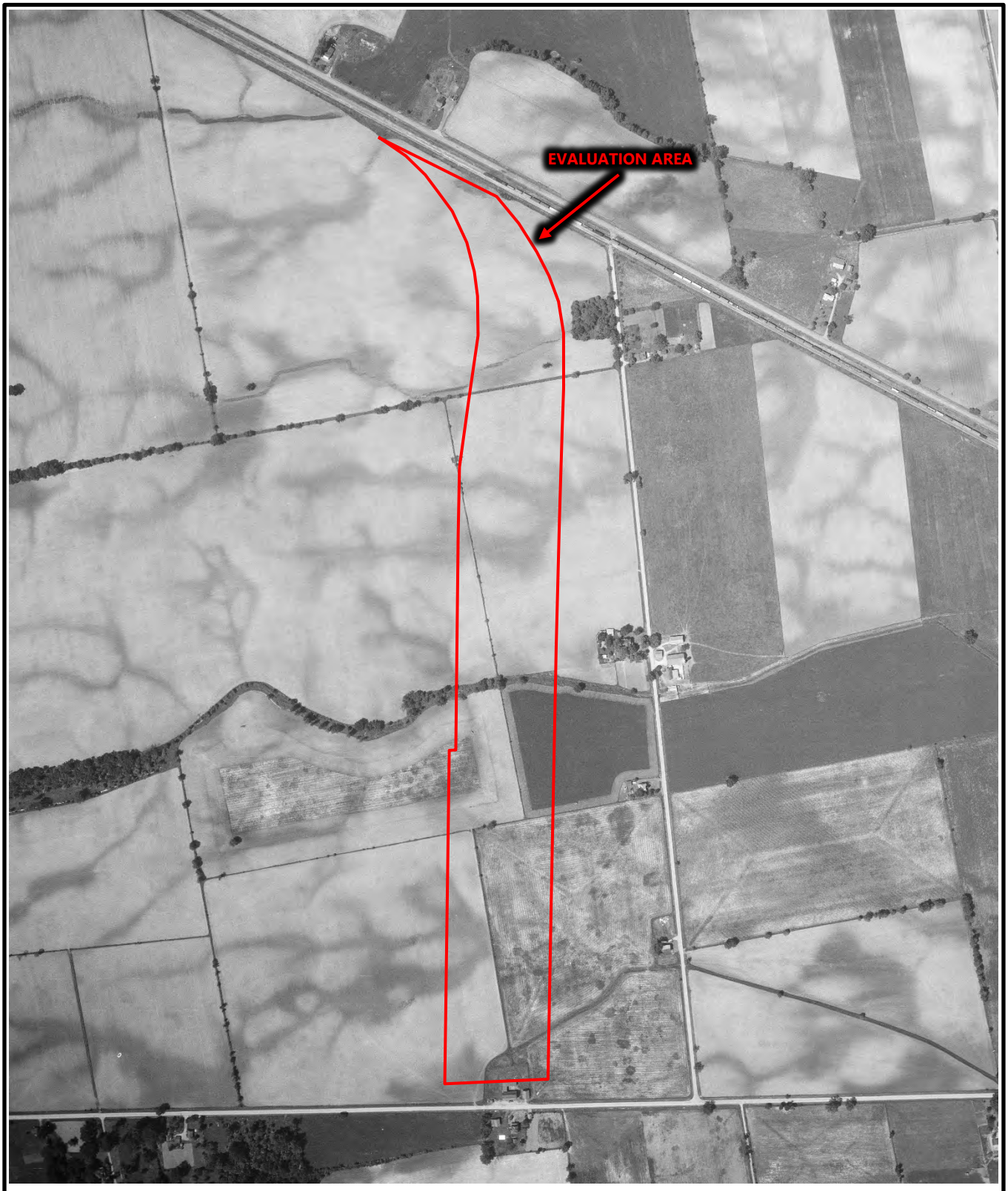
# APPENDIX 2

*1956 AERIAL PHOTOGRAPH (NORTH SECTION)*




NORTH

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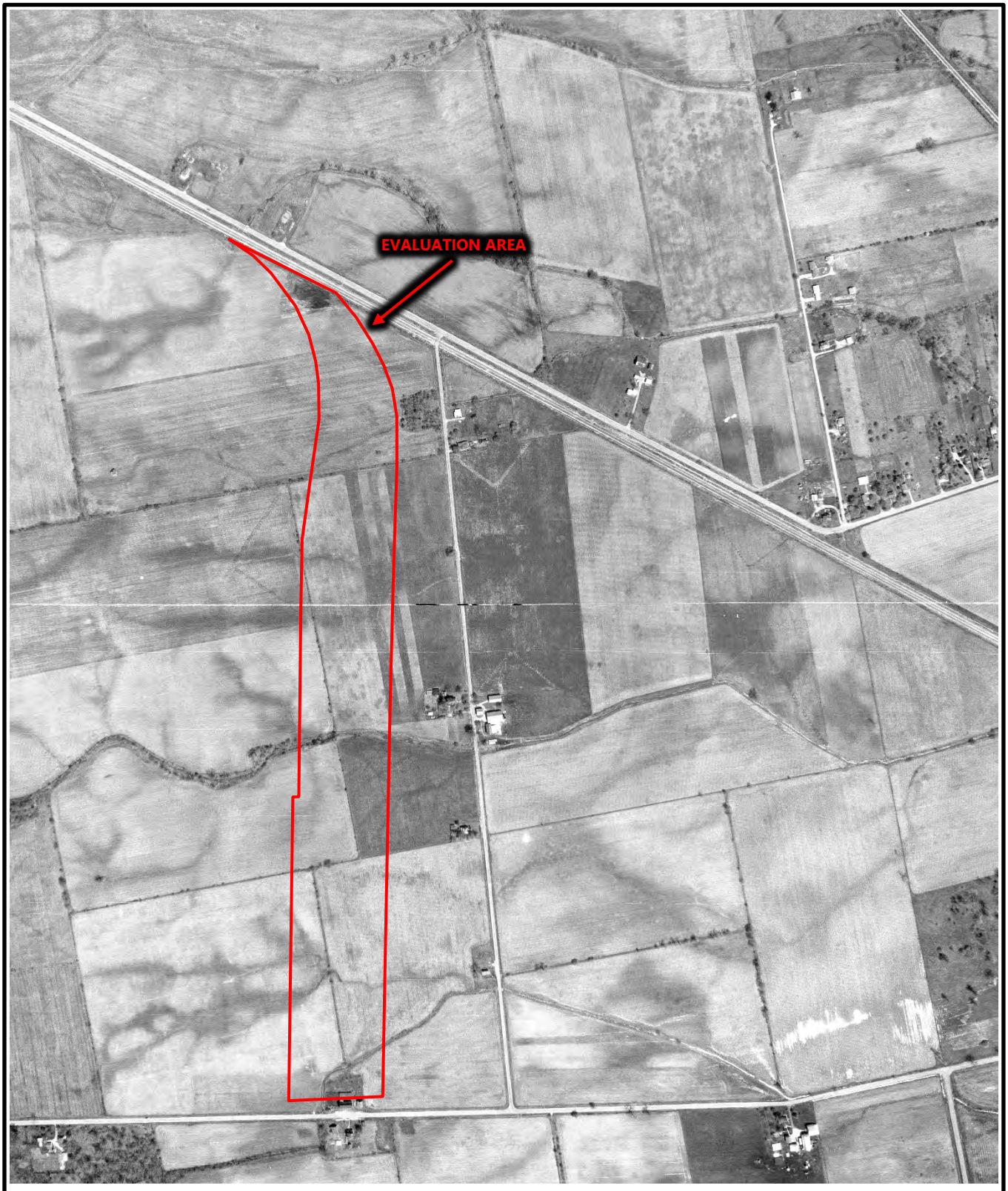
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1964 AERIAL PHOTOGRAPH (NORTH SECTION)




NORTH

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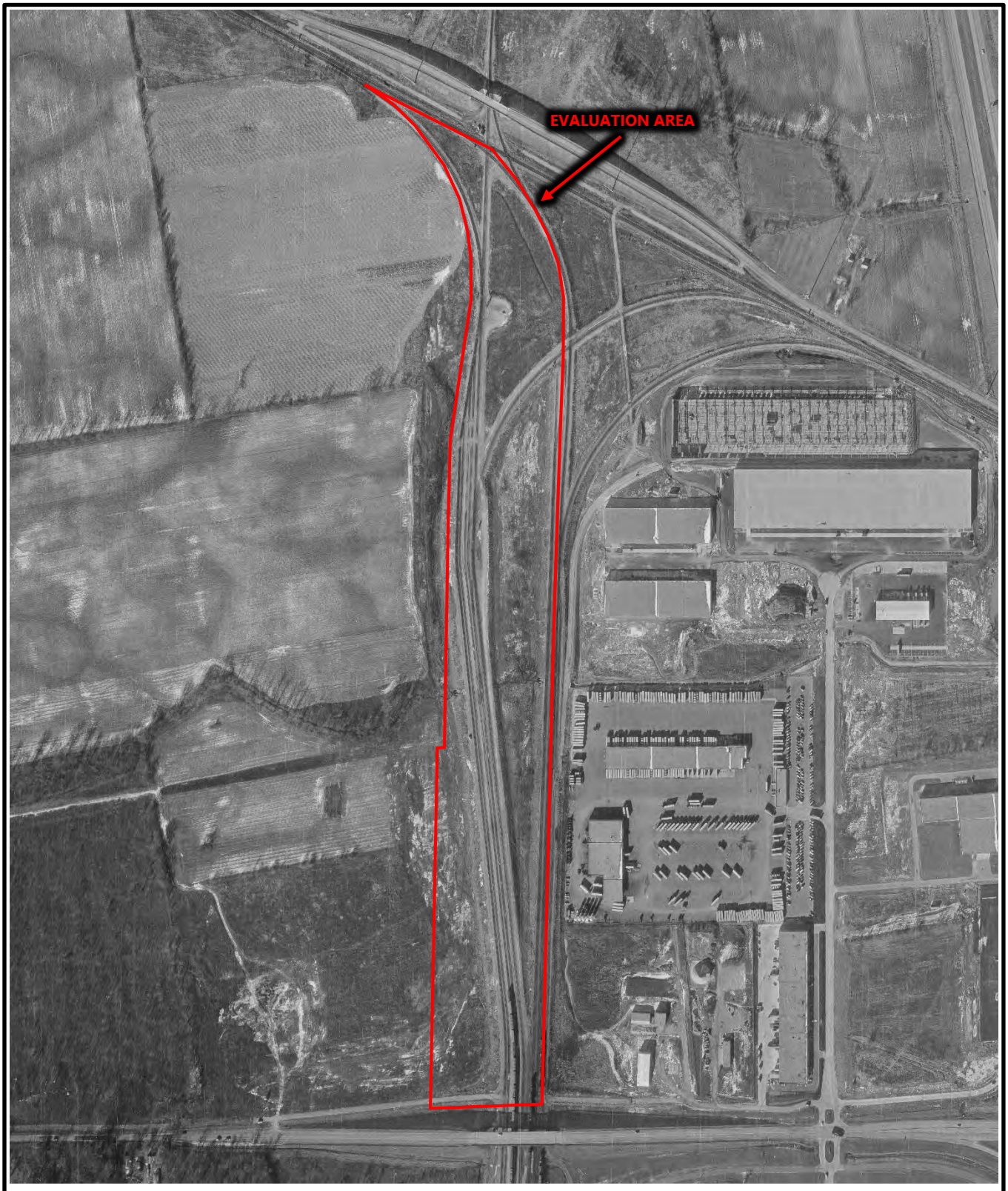
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1979 AERIAL PHOTOGRAPH (NORTH SECTION)*




NORTH

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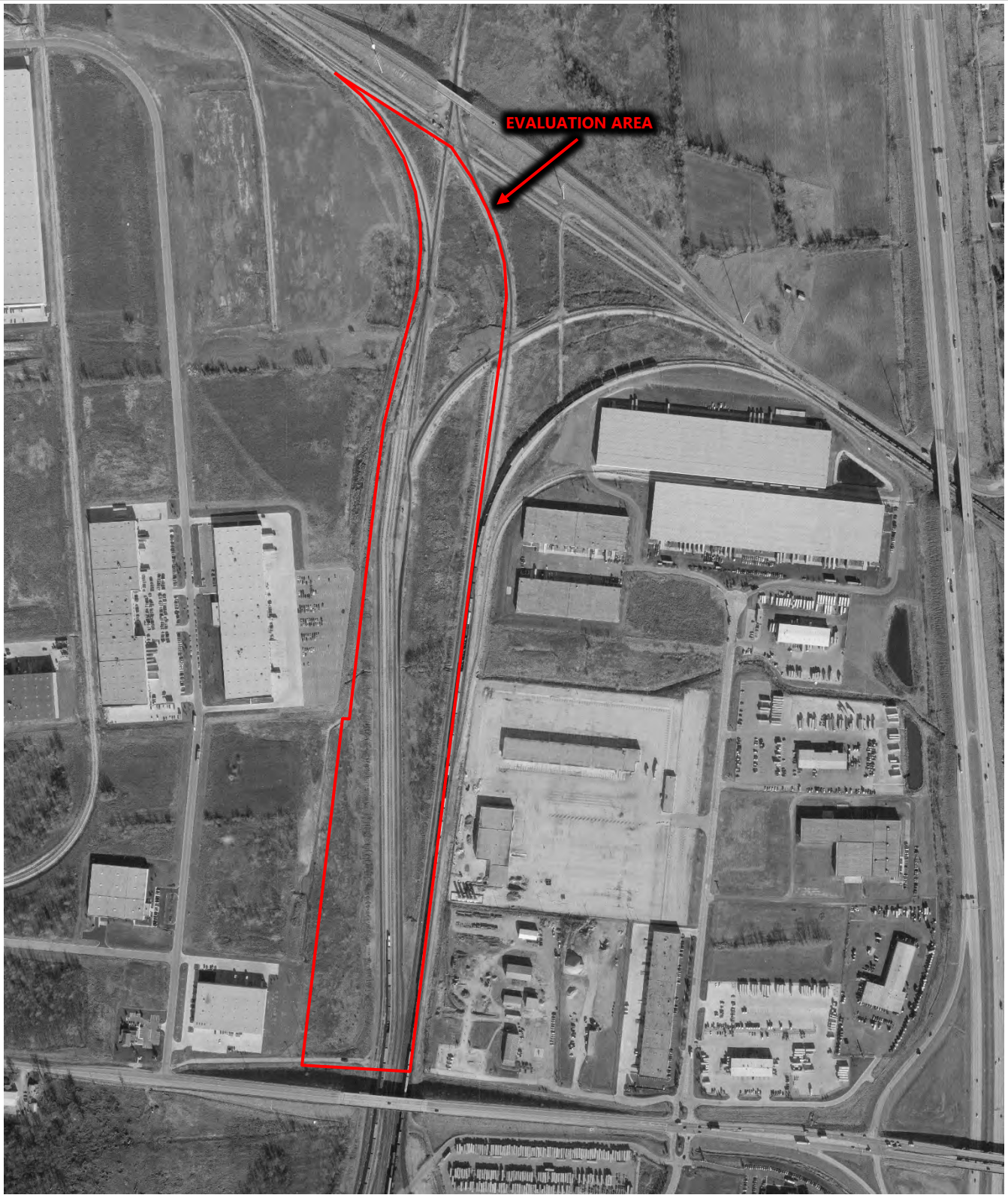
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1989 AERIAL PHOTOGRAPH (NORTH SECTION)




NORTH

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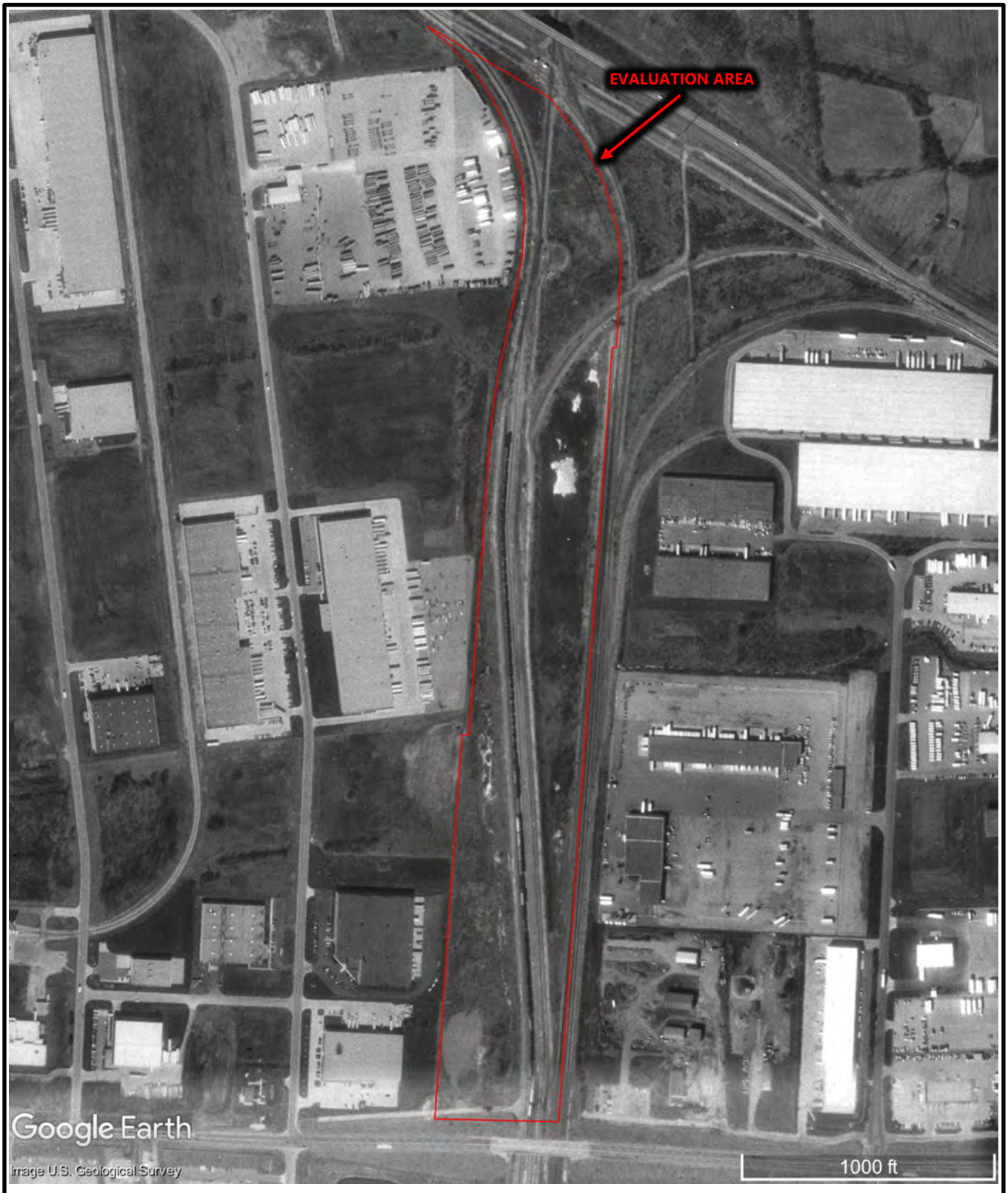
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1994 AERIAL PHOTOGRAPH (NORTH SECTION)*




NORTH

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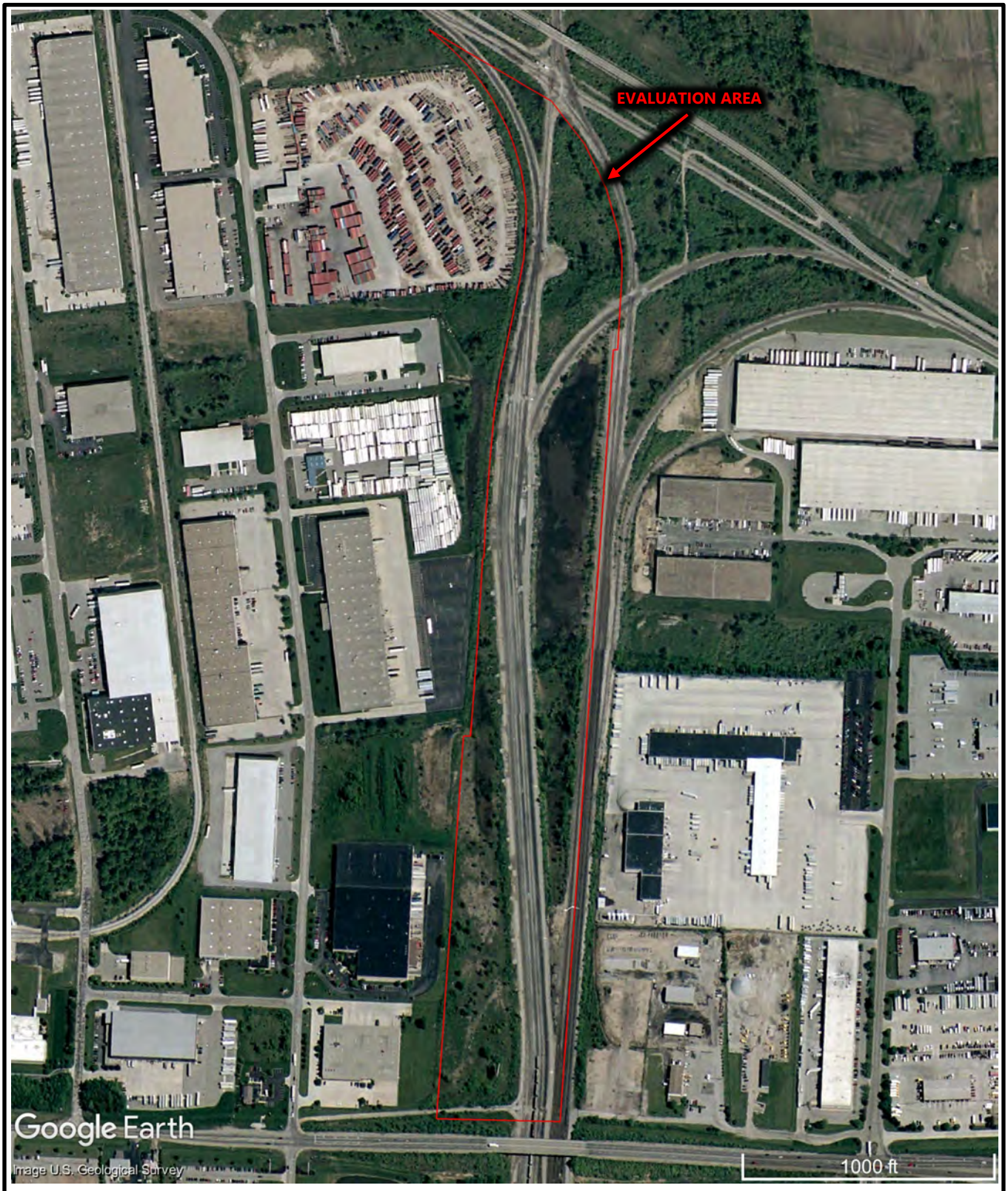
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2002 AERIAL PHOTOGRAPH (NORTH SECTION)

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

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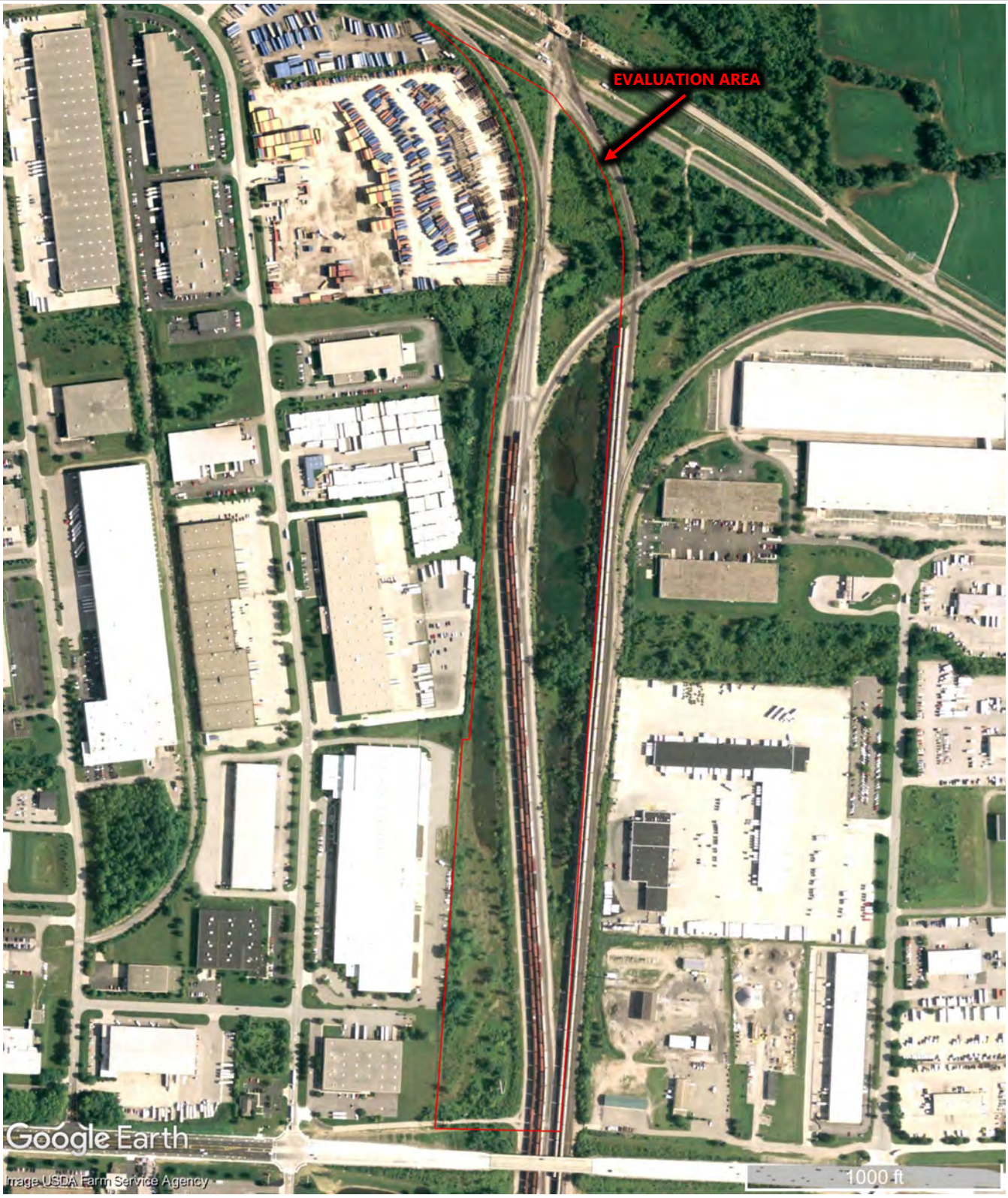
*2009 AERIAL PHOTOGRAPH (NORTH SECTION)*




NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

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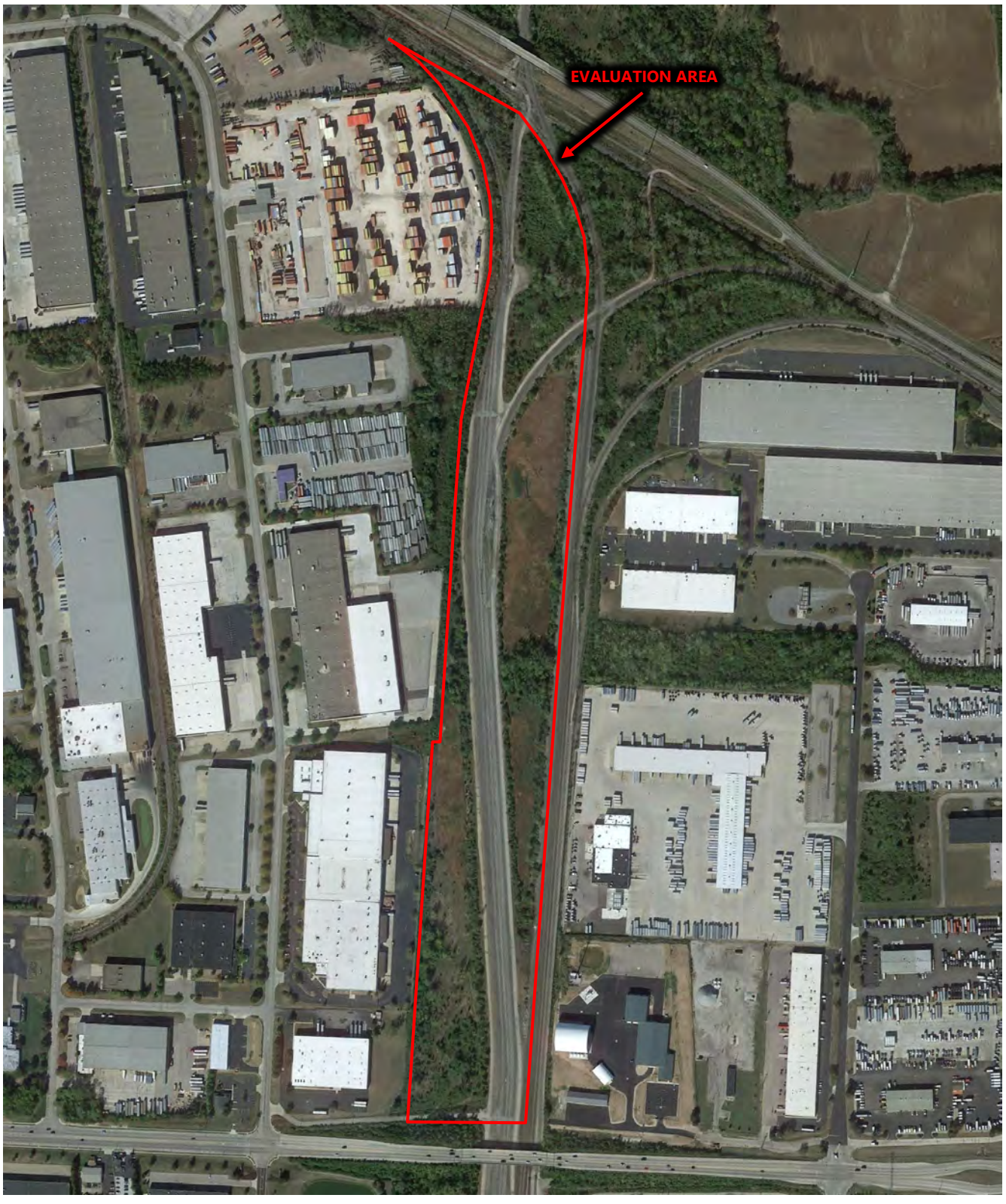
*2019 AERIAL PHOTOGRAPH (NORTH SECTION)*

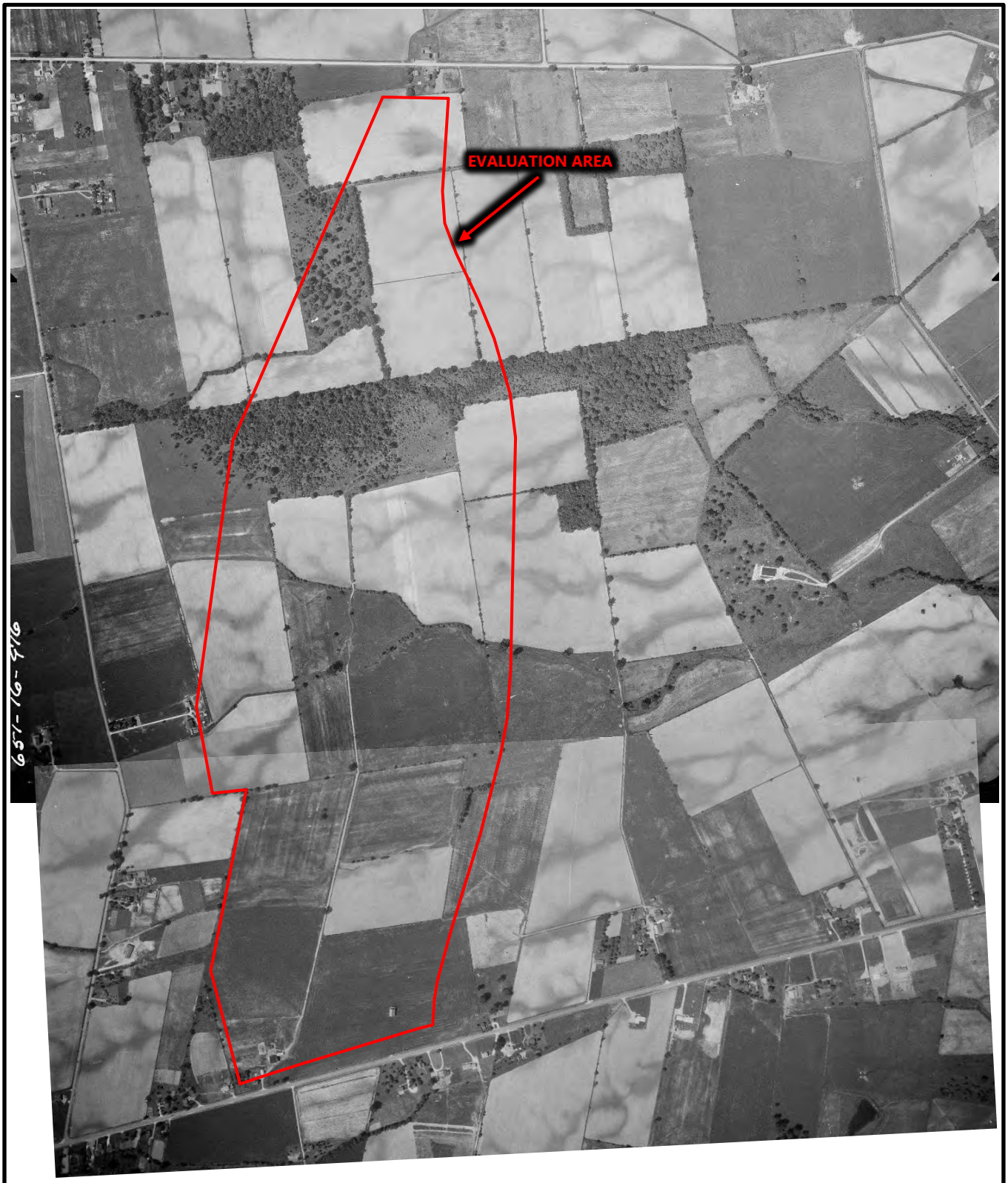



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1956 AERIAL PHOTOGRAPH (CENTRAL SECTION)




NORTH

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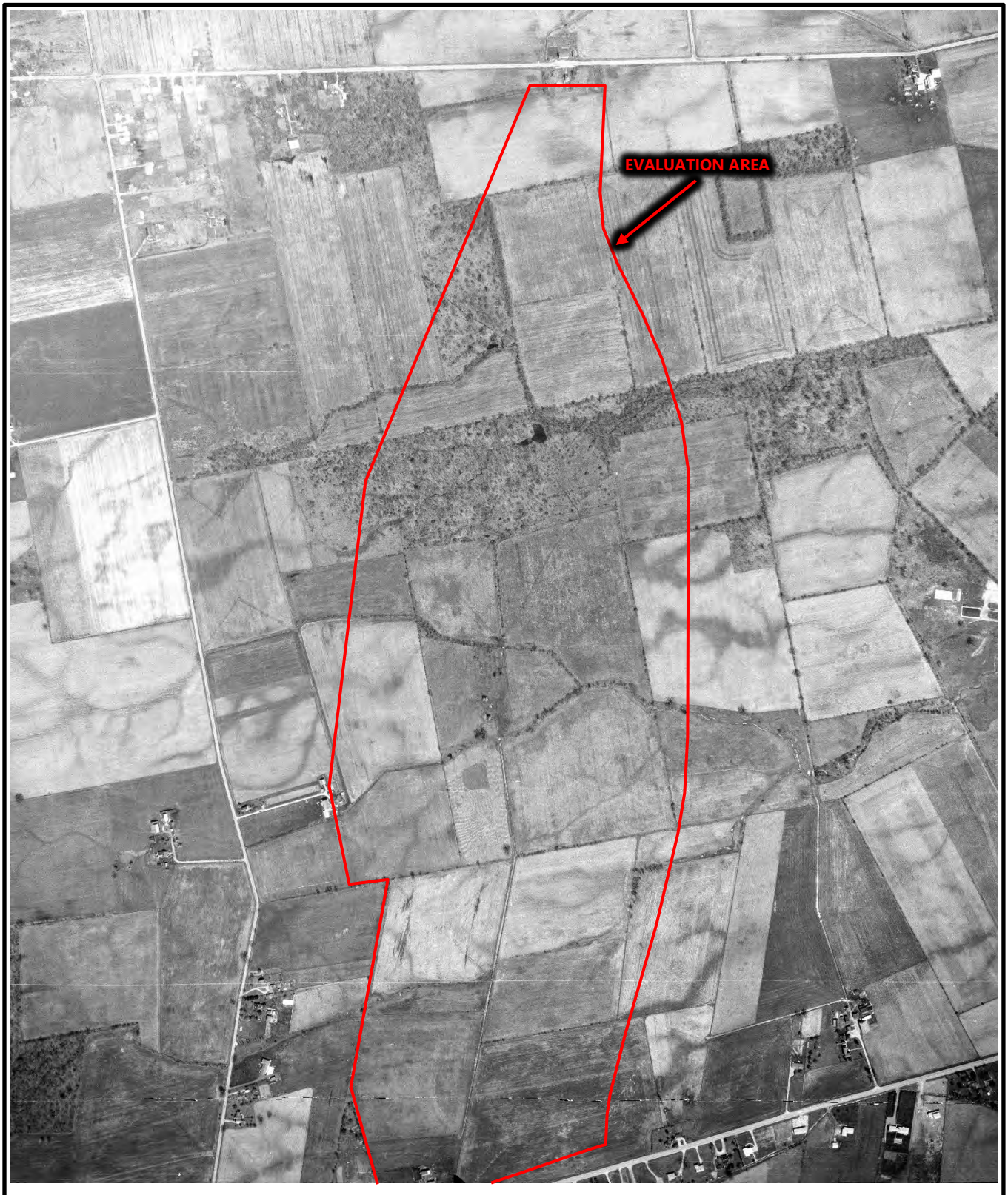
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1964 AERIAL PHOTOGRAPH (CENTRAL SECTION)*

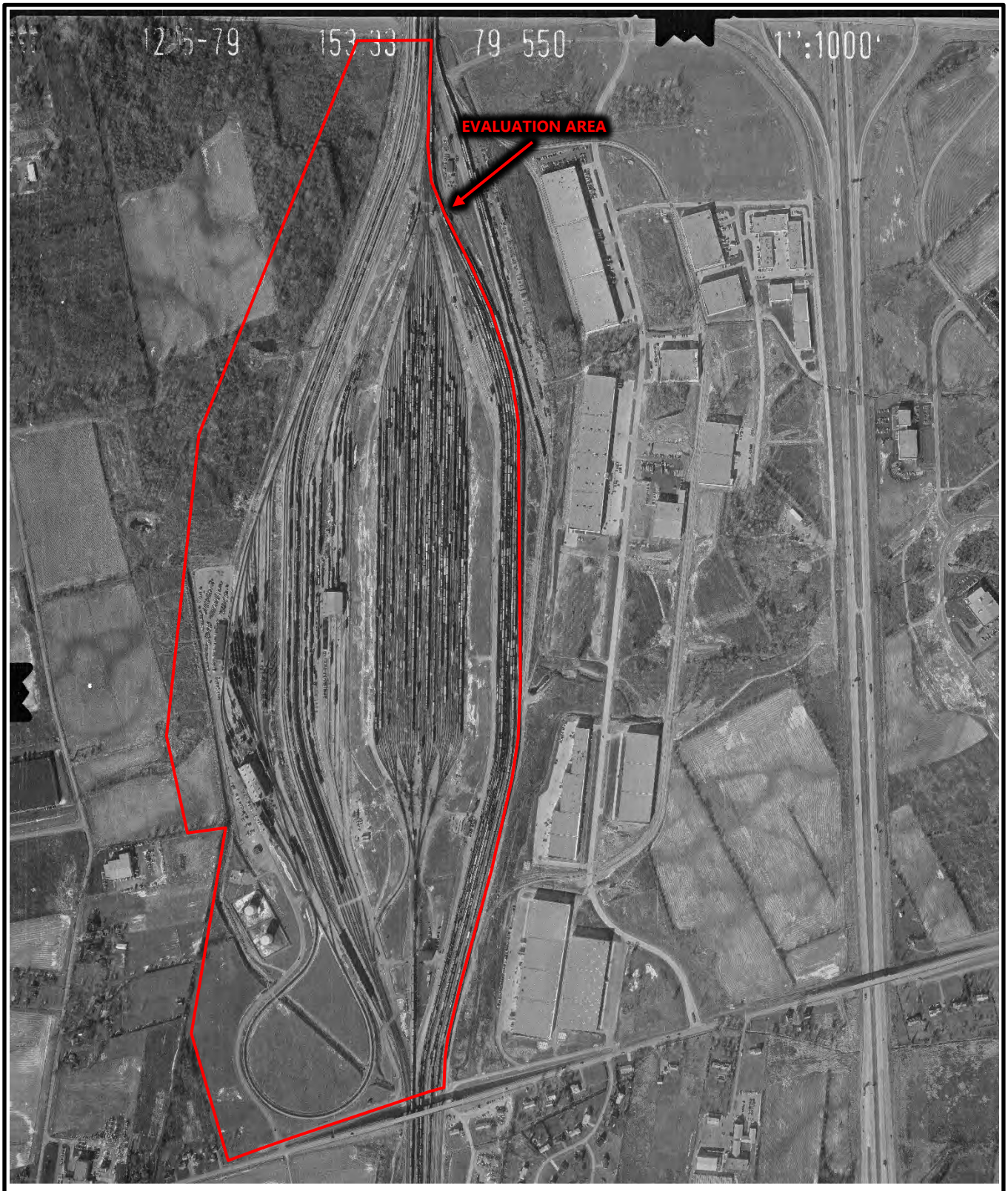



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1979 AERIAL PHOTOGRAPH (CENTRAL SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

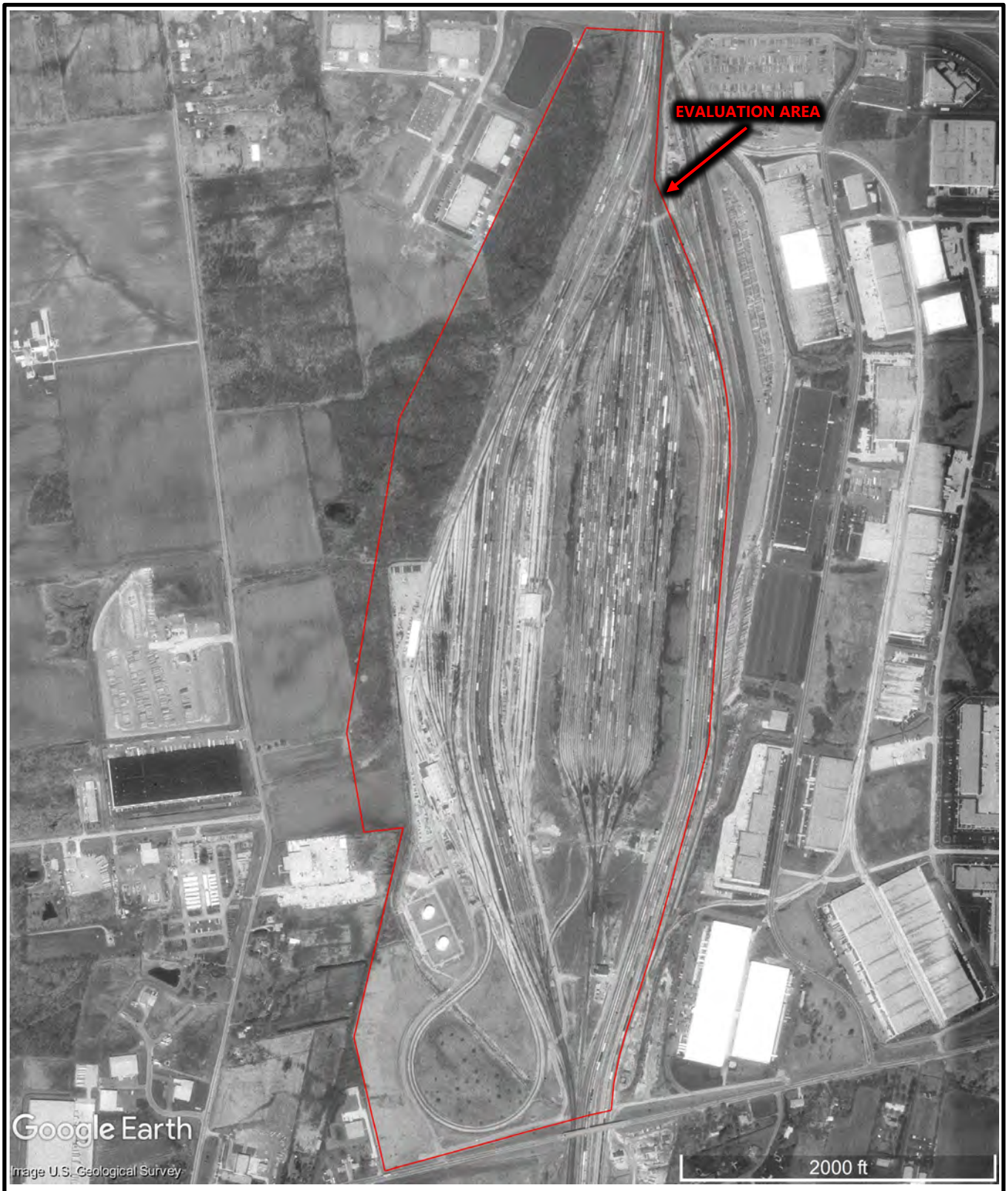
# 1989 AERIAL PHOTOGRAPH (CENTRAL SECTION)


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1994 AERIAL PHOTOGRAPH (CENTRAL SECTION)*




NORTH

*BUCKEYE YARD*
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*COWC PROJECT #120120007*

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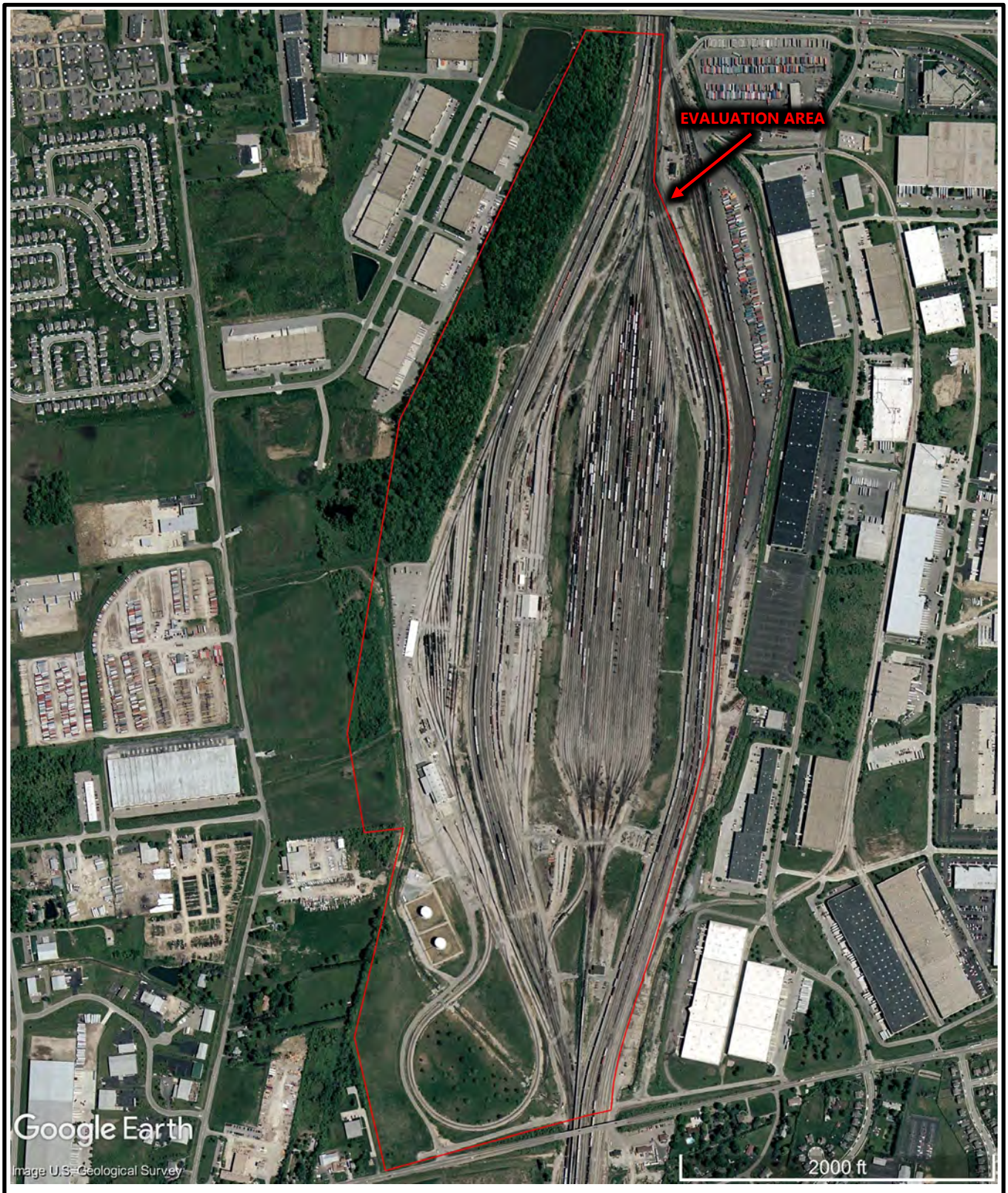
# 2002 AERIAL PHOTOGRAPH (CENTRAL SECTION)




NORTH

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*2009 AERIAL PHOTOGRAPH (CENTRAL SECTION)*


NORTH

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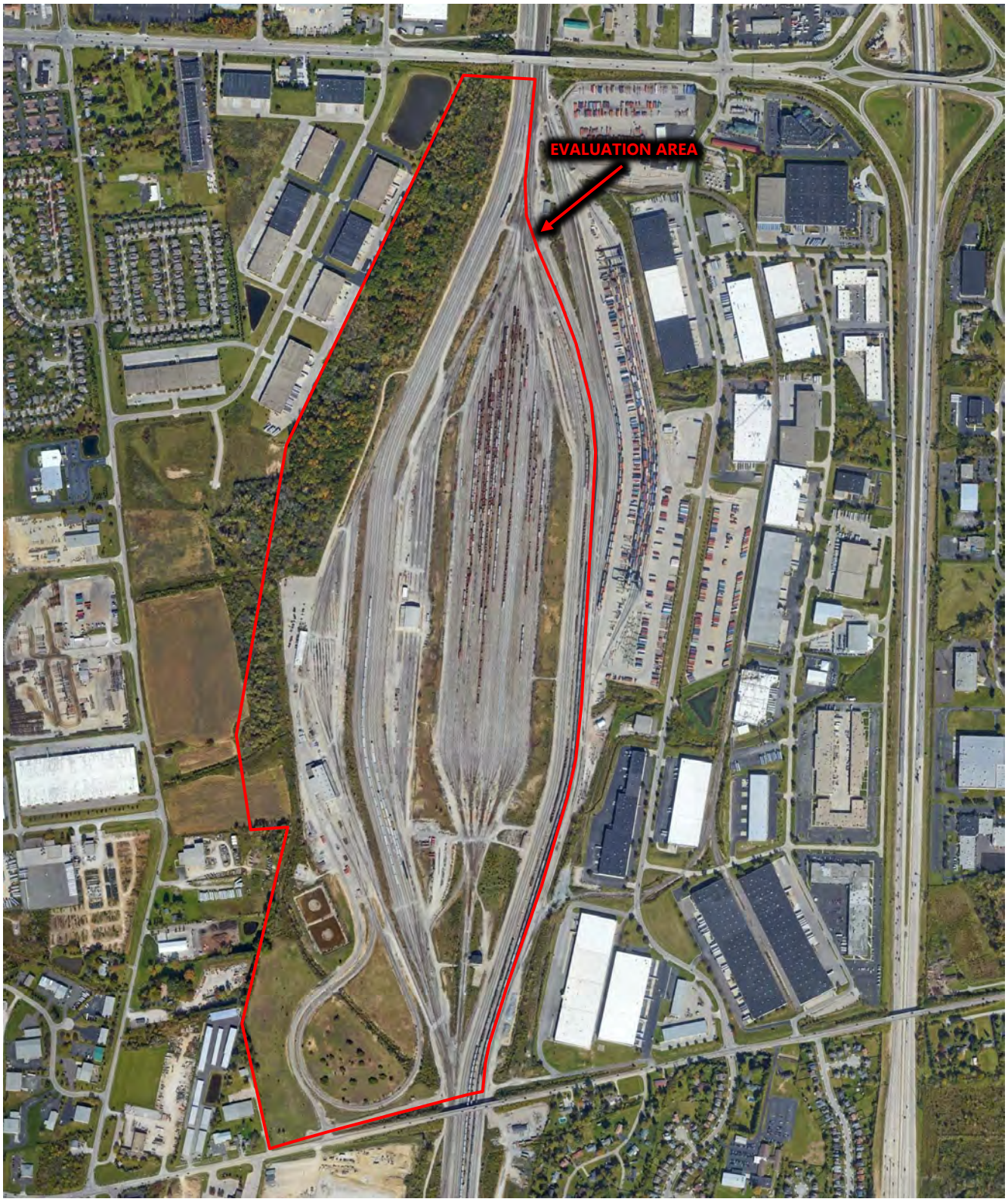
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 AERIAL PHOTOGRAPH (CENTRAL SECTION)*

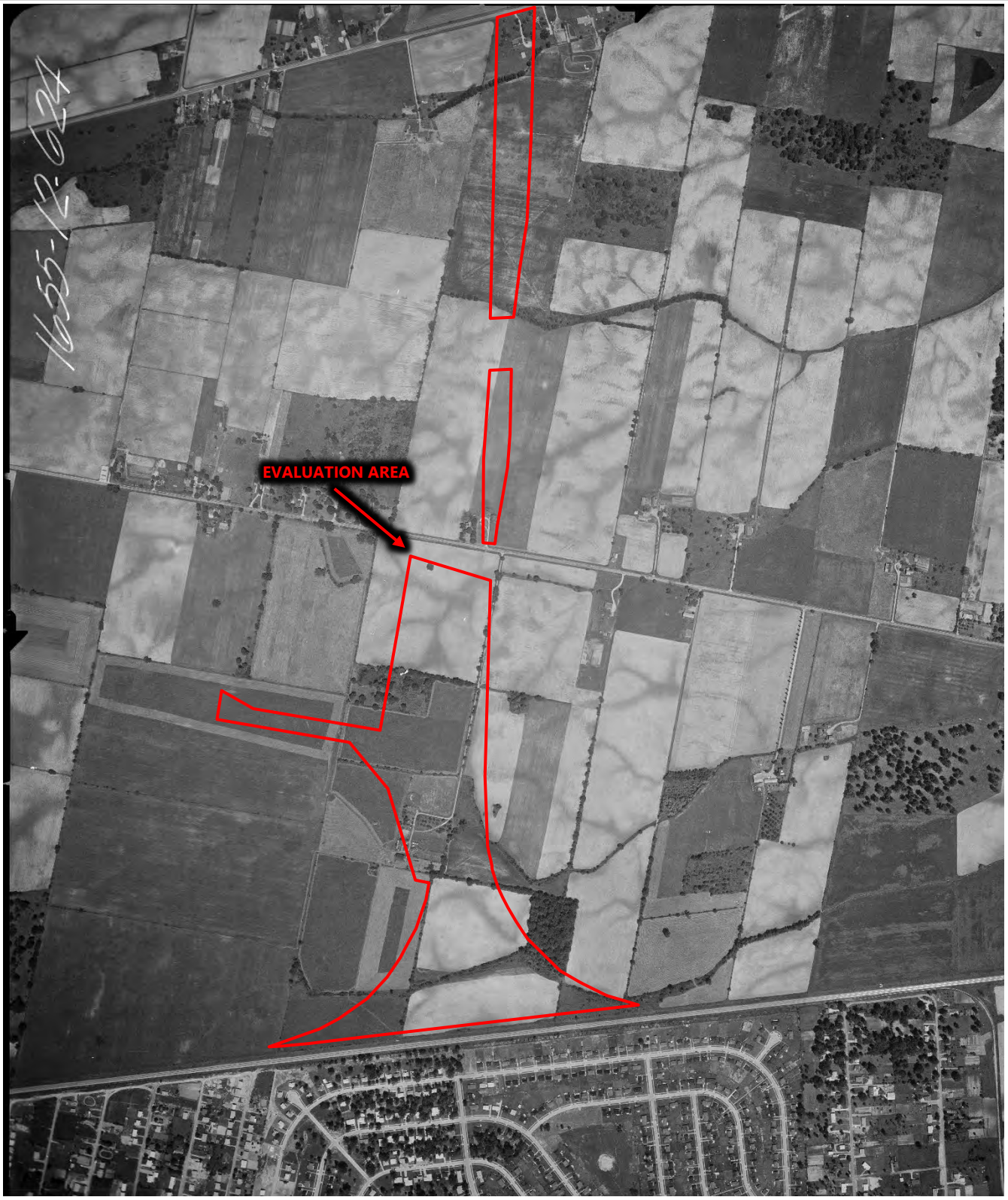



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1960 AERIAL PHOTOGRAPH (SOUTH SECTION)




NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

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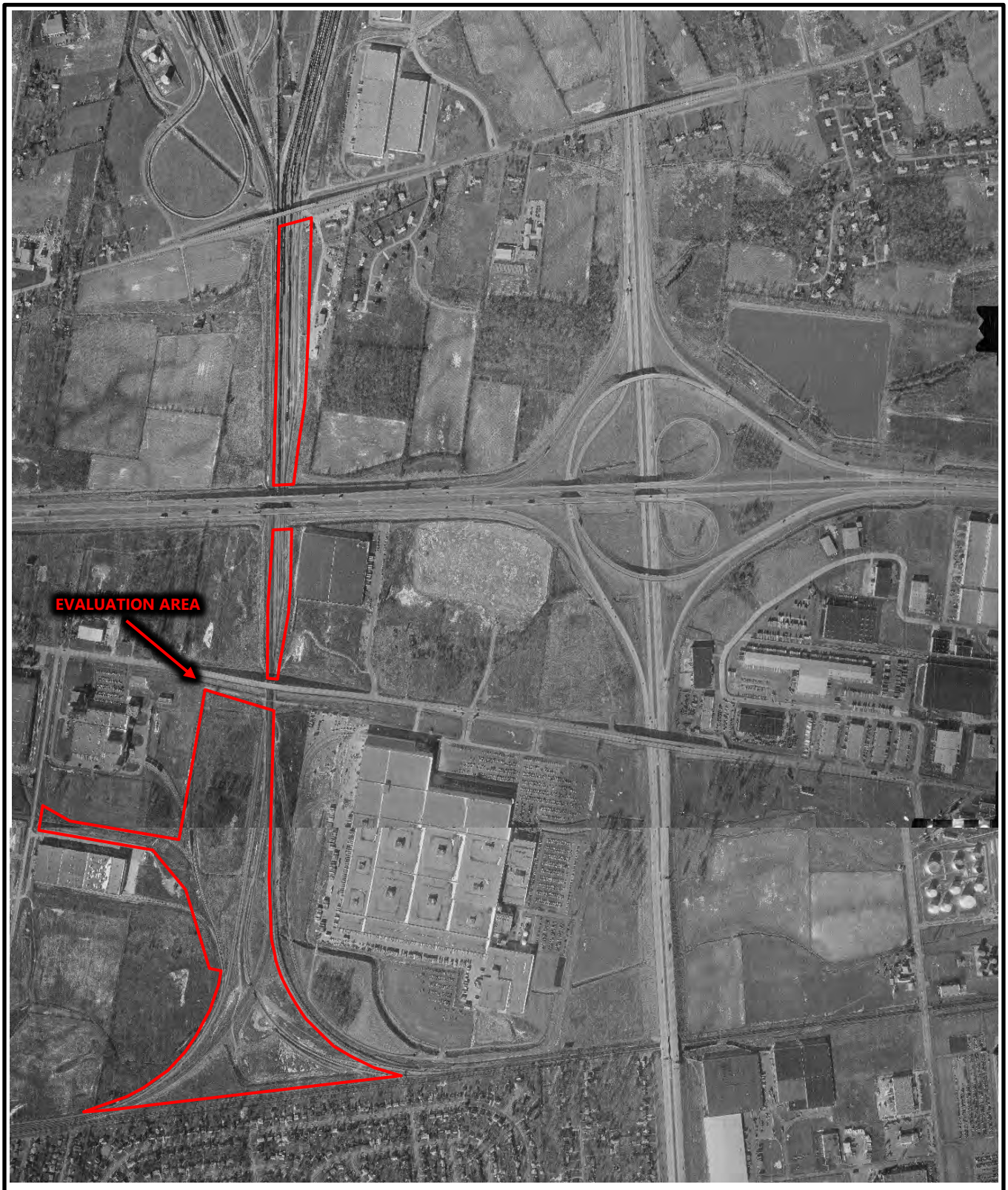
# 1979 AERIAL PHOTOGRAPH (SOUTH SECTION)




NORTH

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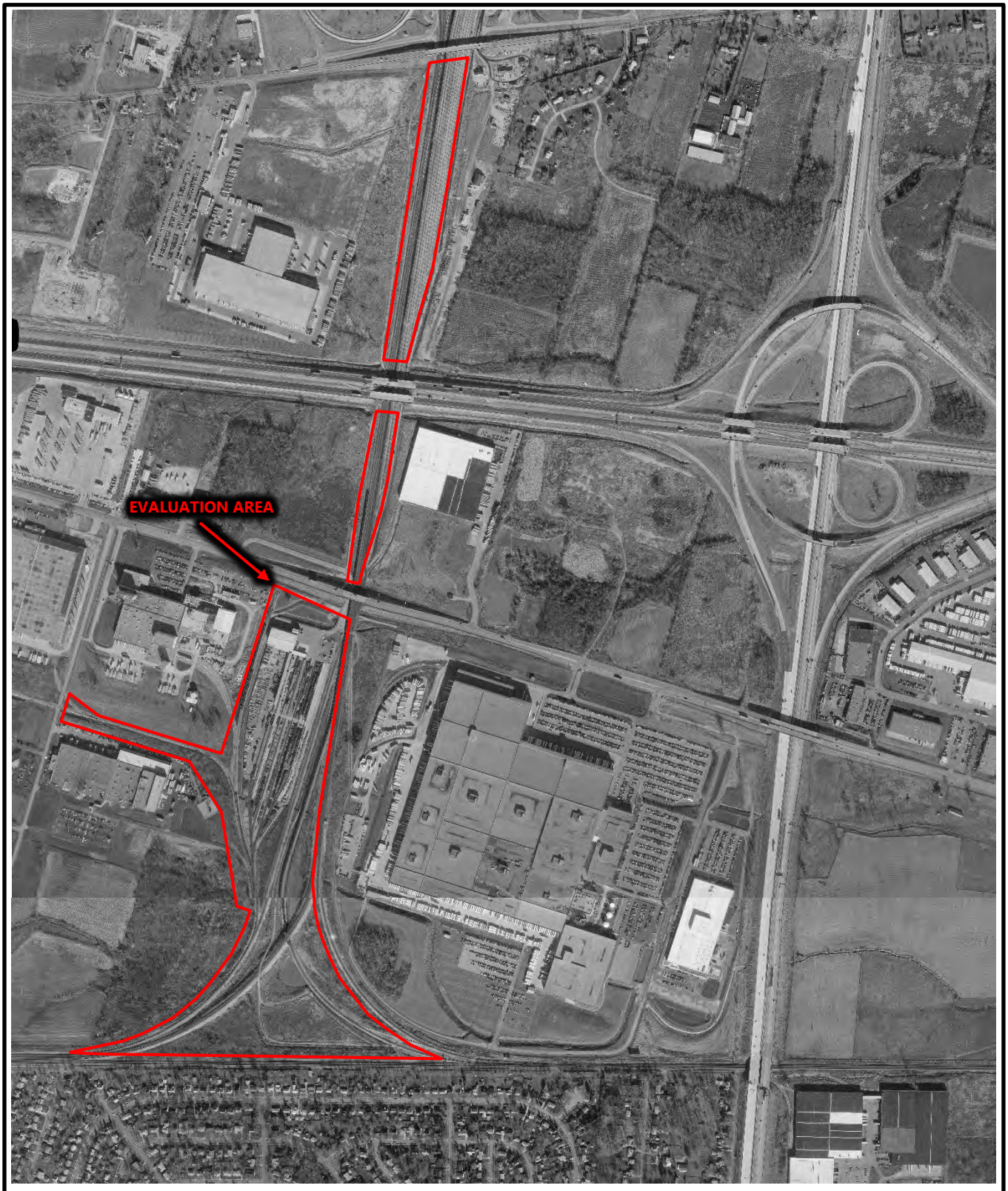
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1989 AERIAL PHOTOGRAPH (SOUTH SECTION)

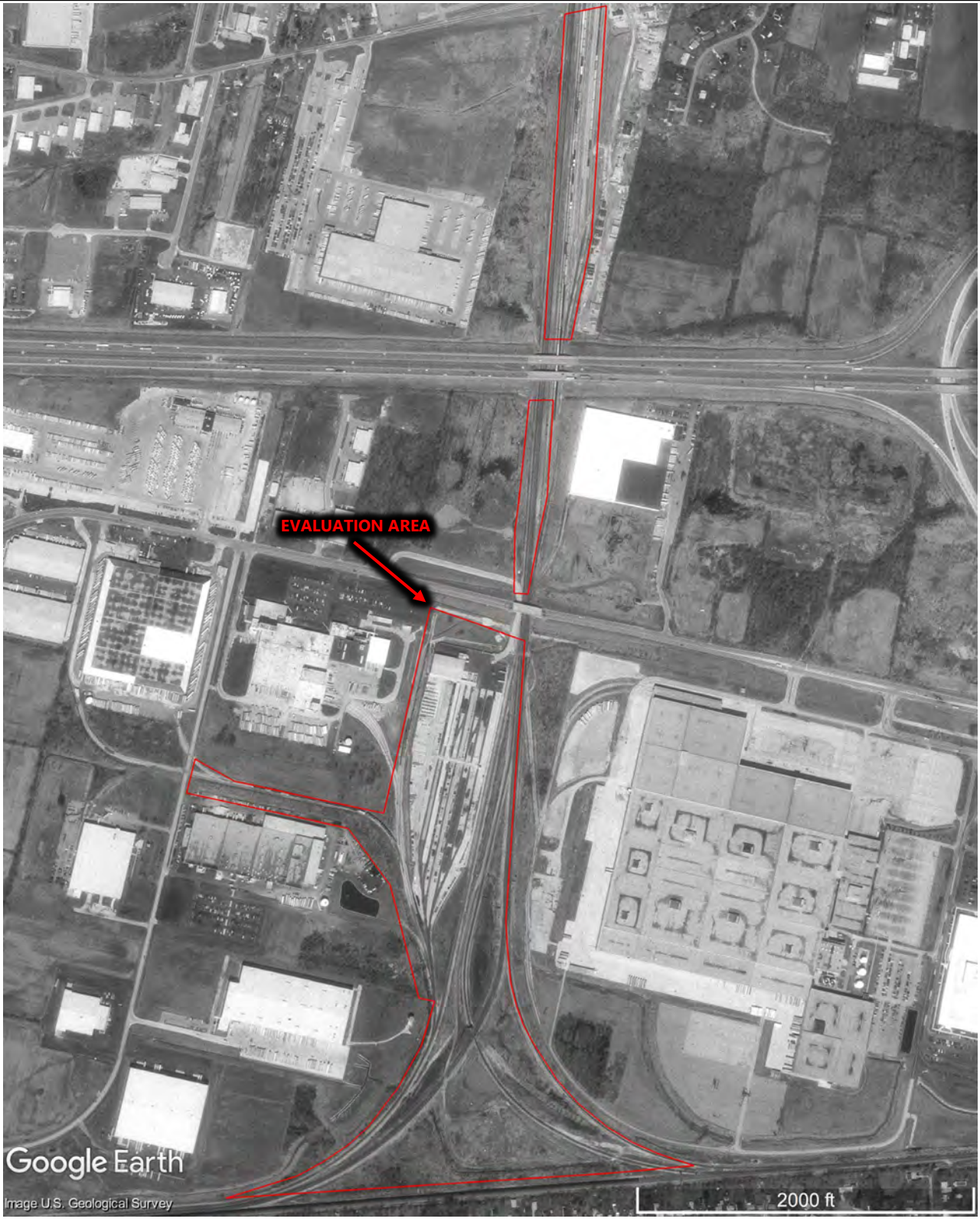



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1994 AERIAL PHOTOGRAPH (SOUTH SECTION)




NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2002 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

*BUCKEYE YARD*
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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2009 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2019 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# APPENDIX 3

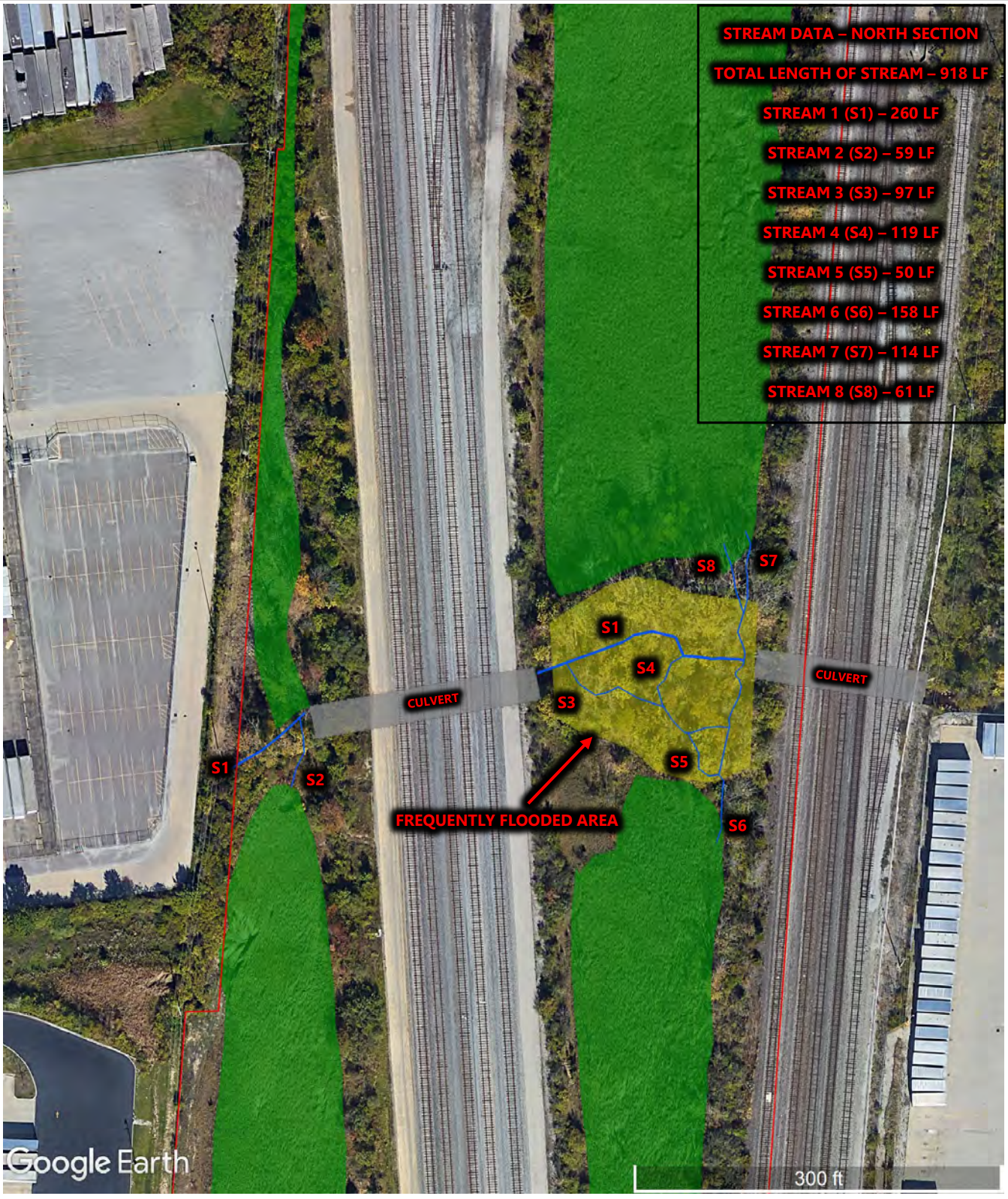
# *WETLAND DELINEATION MAP (NORTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *STREAM DELINEATION MAP (NORTH SECTION)*

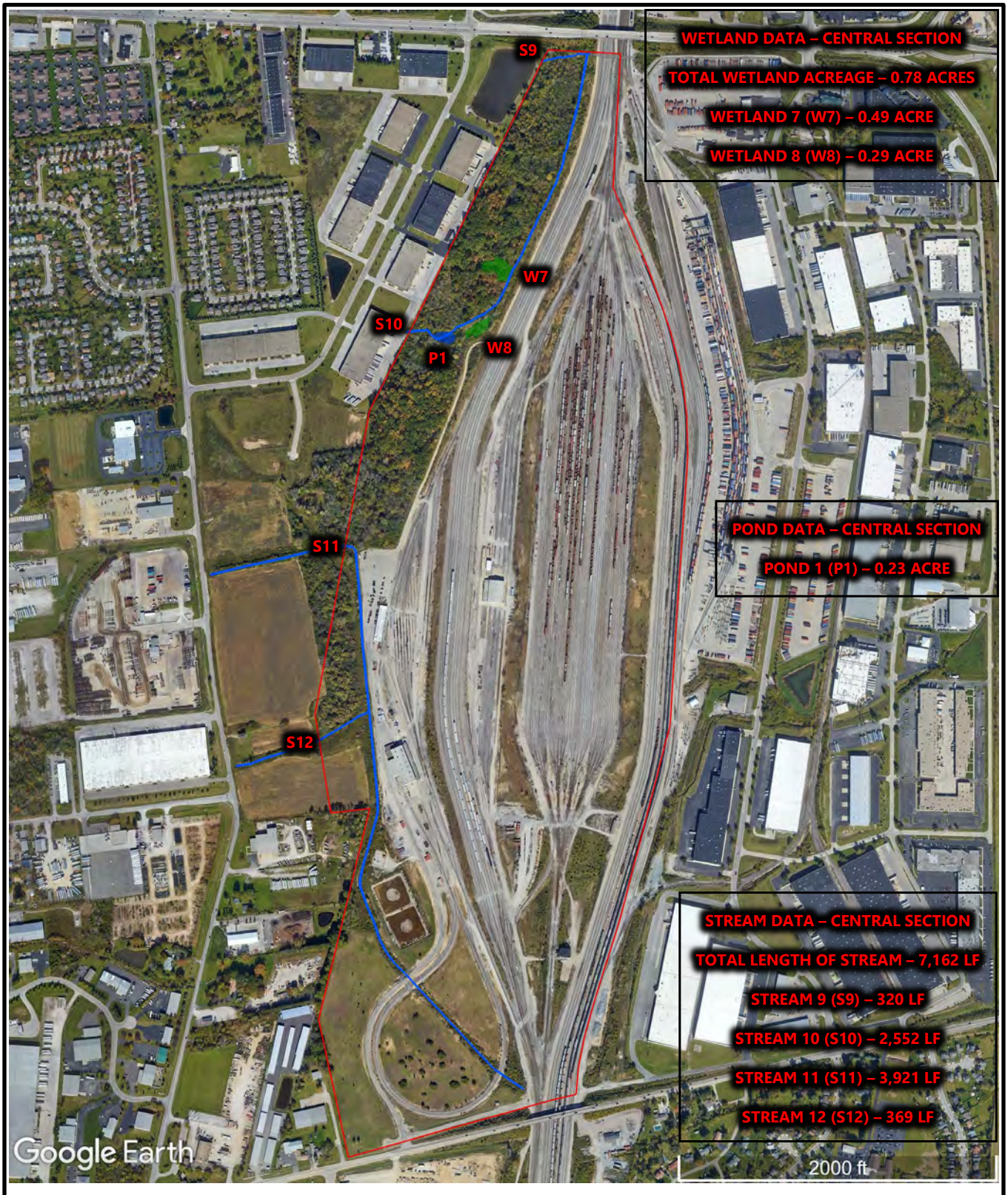



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *WETLAND AND STREAM DELINEATION MAP (CENTRAL SECTION)*

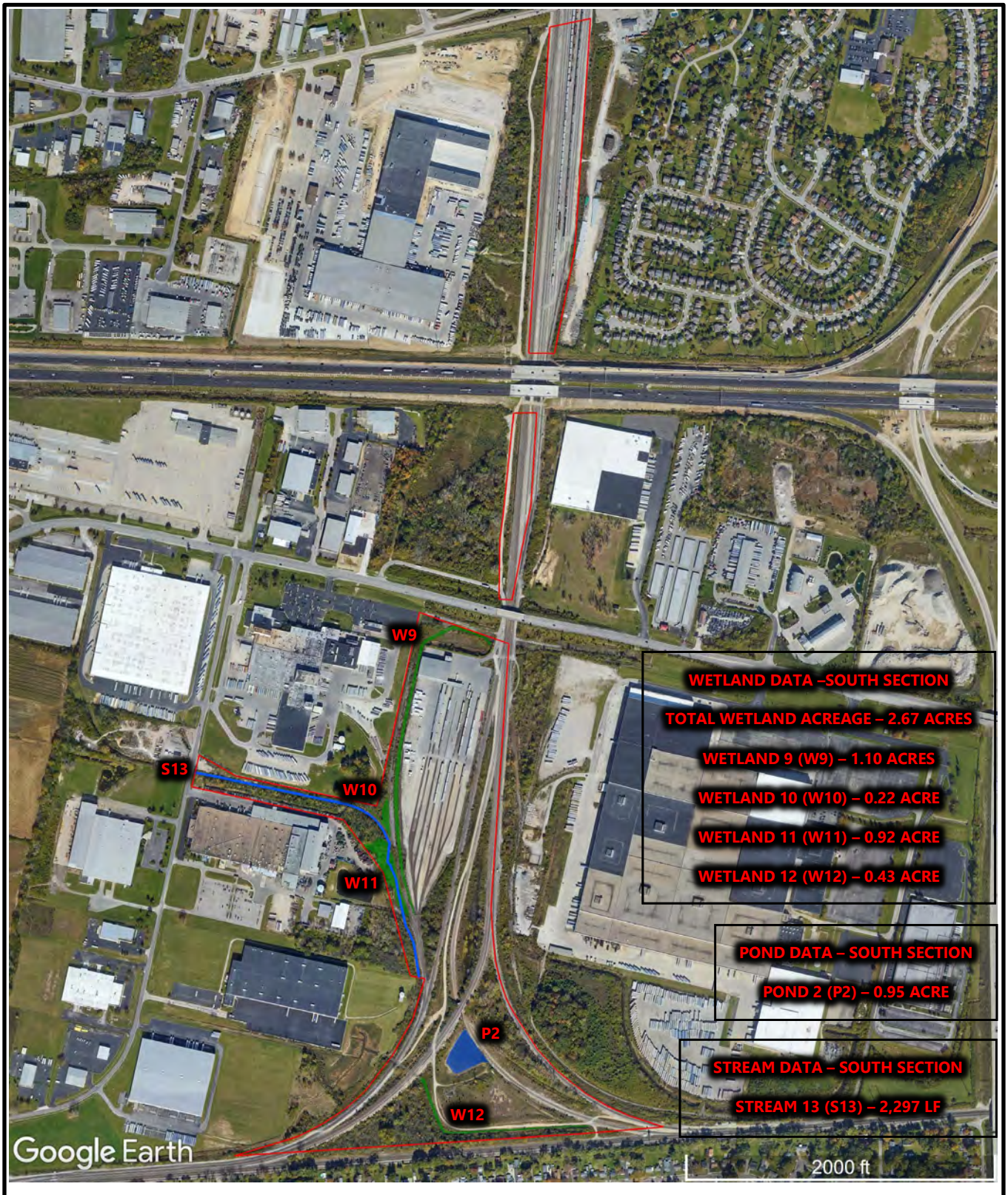



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *WETLAND AND STREAM DELINEATION MAP (SOUTH SECTION)*




NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# Wetland 1

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 10 | 13 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 14 | 27 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 27 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 1

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

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subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 27 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

2 max 20 pts. | 29 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 2

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 11 | 14 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 14 | 28 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 28 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 2

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

28
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 28 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

4 max 20 pts. | 32 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 3

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 25 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert, beaver dams

## Metric 4. Habitat Alteration and Development.

| 15 | 40 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 40 |
|---|
| subtotal this page |

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# Wetland 3

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

40
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 40 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

2 max 20 pts. | 42 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 4

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 11 | 14 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 27 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 27 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 4

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

27
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 27 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

-2 max 20 pts. | 25 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 5

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 3 | 3 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 4 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 16 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 29 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 29 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

# Wetland 5

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

29
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 29 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

-2 max 20 pts. | 27 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

27

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

# Wetland 6

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 15 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 28 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 28 |
|---|
| subtotal this page |

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# Wetland 6

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

28
subtotal first page

0 | 28
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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2 | 26
max 20 pts. | subtotal

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 7

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 7 | 9 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 17 | 26 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 17 | 43 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 43 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 7

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

43
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 43 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

6 max 20 pts. | 49 subtotal

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

- [ ] Aquatic bed
- [ ] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 8

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 1 | 1 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 7 | 8 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 15 | 23 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 15 | 38 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 38 |
|---|
| subtotal this page |

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# Wetland 8

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

38
subtotal first page

## Metric 5. Special Wetlands.

0 (max 10 pts.) | 38 (subtotal)

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

0 (max 20 pts.) | 38 (subtotal)

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 9

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 25 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 8 | 33 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 33 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 9

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

33
subtotal first page

0 (max 10 pts.) | 33 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 (max 20 pts.) | 34 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 10

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 1 | 1 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 15 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 7 | 22 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 22 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 10

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

22
subtotal first page

0 (max 10 pts.) | 22 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 24 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

24

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

# Wetland 11

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 4 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 26 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other beaver dams

## Metric 4. Habitat Alteration and Development.

| 17 | 43 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 43 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 11

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

43
subtotal first page

0 (max 10 pts.) | 43 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9 (max 20 pts.) | 52 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [1] Forest
- [ ] Mudflats
- [1] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

52

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

# Wetland 12

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 6 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 18 | 24 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other beaver dams

## Metric 4. Habitat Alteration and Development.

| 9 | 33 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 33 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 12

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

33
subtotal first page

0 (max 10 pts.) | 33 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 35 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

35

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

# APPENDIX 4

*PHOTO KEY (NORTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

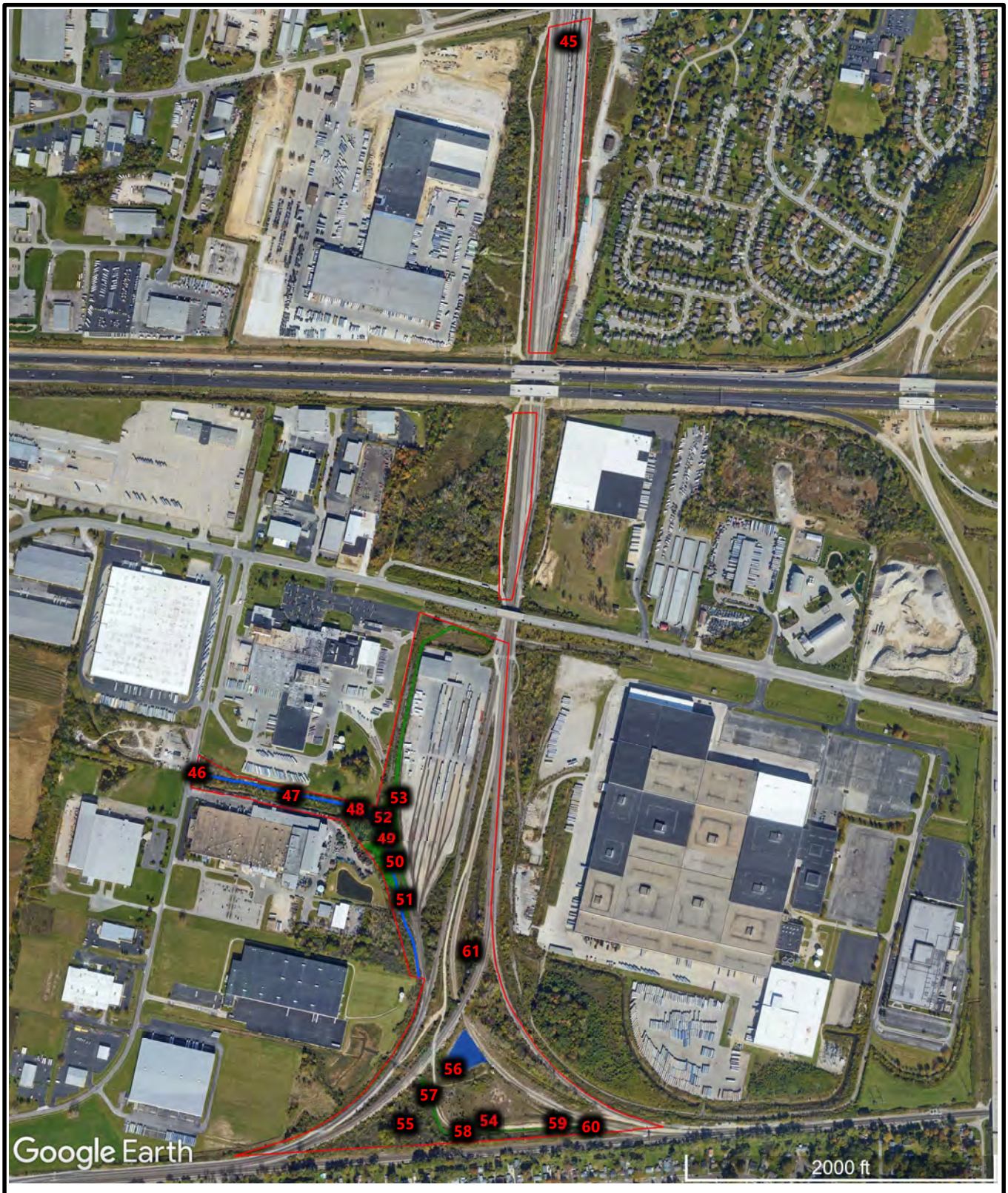
*PHOTO KEY (CENTRAL SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*PHOTO KEY (SOUTH SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*Field Reconnaissance Photos*

Photo 1 – Southerly view of former rail lines on the North Section of the evaluation area.

Photo 2 – Typical view of former rail lines and adjacent brushy areas on the North Section of the evaluation area.

Photo 3 – Southerly view across waste land areas on the southwest part of the North Section of the evaluation area.

Photo 4 – Northerly view of dense brushy areas on the northeast part of the North Section of the evaluation area.

Photo 5 – Southerly view of Wetland 1 on the North Section of the evaluation area.

Photo 6 – Southwesterly view of Wetland 2 on the North Section of the evaluation area.

Photo 7 – Northwesterly view across Wetland 3 on the North Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 8 – Northerly view along Wetland 3 on the North Section of the evaluation area.

Photo 9 – Northerly view of Wetland 4 on the North Section of the evaluation area.

Photo 10 – Southerly view of Wetland 4 on the North Section of the evaluation area.

Photo 11 – Easterly view across Wetland 5 on the North Section of the evaluation area.

Photo 12 – Westerly view across the southern part of Wetland 5 on the North Section of the evaluation area.

Photo 13 – Northerly view of Stream 7 and Stream 8 on the North Section of the evaluation area. These ephemeral streams appear to partially drain Wetland 5.

Photo 14 – Southerly view across Wetland 5 on the North Section of the evaluation area.

Photo 15 – Northerly view across Wetland 6 on the North Section of the evaluation area.

Photo 16 – Easterly view along Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 17 – Northeasterly view of two existing culvert pipes directing surface water from Stream 1 (Roberts Millikin Ditch) beneath elevated railroad lines.

Photo 18 – Westerly view at the continuation of Stream 1 (Roberts Millikin Ditch) upon exiting the culvert pipes depicted in Photo 17.

Photo 19 – Westerly view of Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 20 – Westerly view of Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 21 – Southerly view of former railroad lines on the Central Section of the evaluation area.

Photo 22 – Northeasterly view of former railroad lines and waste areas between tracks on the Central Section of the evaluation area.

Photo 23 – Northerly view of former railroad lines on the Central Section of the evaluation area.

Photo 24 – Southerly view of former railroad lines and brushy land on the southern part of the Central Section of the evaluation area.

Photo 25 – Southerly view along a cleared utility corridor on the west central part of the Central Section of the evaluation area.

Photo 26 – Typical view of dense vegetation comprising the wooded western portions of the Central Section of the evaluation area.

Photo 27 – Typical view of dense vegetation comprising the wooded western portions of the Central Section of the evaluation area.

Photo 28 – Westerly view along Stream 9 on the Central Section of the evaluation area.

Photo 29 – Westerly view at the origination of Stream 9. This culvert pipe discharges surface water from a west adjoining storm water management pond.

Photo 30 – Southwesterly view at the west adjoining storm water management pond directing surface water to Stream 9.

Photo 31 – Westerly view at the beginning of Stream 10 on the Central Section of the evaluation area.

Photo 32 – Northeasterly view across Pond 1 on Central Section of the evaluation area. This pond impounds Stream 10.

Photo 33 – Southwesterly view across Pond 1 on Central Section of the evaluation area. This pond impounds Stream 10.

Photo 34 – Southerly (upstream) view along Stream 10 on Central Section of the evaluation area.

Photo 35 – Northerly (downstream) view along Stream 10 on Central Section of the evaluation area.

Photo 36 – Northeasterly view of the confluence of Stream 9 with Stream 10 on the northwest part of the Central Section of the evaluation area.

Photo 37 – Southerly view of Wetland 7 on the Central Section of the evaluation area.

Photo 38 – Easterly view of Wetland 7 on the Central Section of the evaluation area.

Photo 39 – Typical view of wooded areas to the north, south, and west of Wetland 7 on the Central Section of the evaluation area.

Photo 40 – Southwesterly view of Wetland 8 on the Central Section of the evaluation area.

Photo 41 – Northeasterly view of Wetland 8 on the Central Section of the evaluation area.

Photo 42 – Easterly view of Stream 11 as it enters the Central Section of the evaluation area from the west.

Photo 43 – Northwesterly view of Stream 11 on the Central Section of the evaluation area.

Photo 44 – Southeasterly view of Stream 11 as it crosses the southwest part of the Central Section of the evaluation area.

Photo 45 – Southerly view along former rail lines comprising the north part of the South Section of the evaluation area.

Photo 46 – Easterly view along Stream 13 as it enters the South Section of the evaluation from the west, beneath Manor Park Drive.

Photo 47 – Westerly view along Stream 13 on the South Section of the evaluation area.

Photo 48 – Southeasterly view along Stream 13 on the South Section of the evaluation area.

Photo 49 – Southwesterly view of Wetland 11 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within Stream 13.

Photo 50 – Northwesterly view of Wetland 11 on the South Section of the evaluation area.

Photo 51 – Westerly view of Wetland 11 on the South Section of the evaluation area.

Photo 52 – Northerly view of Wetland 10 on the South Section of the evaluation area.

Photo 53 – Northerly view of Wetland 9 on the South Section of the evaluation area

Photo 54 – Northerly view across vacant waste land on the southern part of the South Section of the evaluation area.

Photo 55 – Typical view of densely vegetated areas on the southwest part of the South Section of the evaluation area.

Photo 56 – Easterly view of Pond 2 on the South Section of the evaluation area.

Photo 57 – Northwesterly view of Wetland 12 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 58 – Easterly view of Wetland 12 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 59 – Westerly view of eastern part of Wetland 12 on the South Section of the evaluation area.

Photo 60 – Easterly view at the termination point of Wetland 12 on the South Section of the evaluation area.

Photo 61 – Northerly view of vacant waste land on the South Section of the evaluation area.

# APPENDIX B

## Economic Analysis for Non-Disturbance Alternative

ADVISORY & TRANSACTION SERVICES | INDUSTRIAL & LOGISTICS


MAY 12, 2021

# MARKET OPTIONS

SIMPSON Manufacturing COMPANY

CBRE


**RYAN DEANGELIS**
Senior Vice President
+1 916 492 6975
ryan.deangelis@cbre.com

**MICHAEL MULLADY**
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**MATTHEW LEHMAN**
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**WESTON DEVORE**
Vice President
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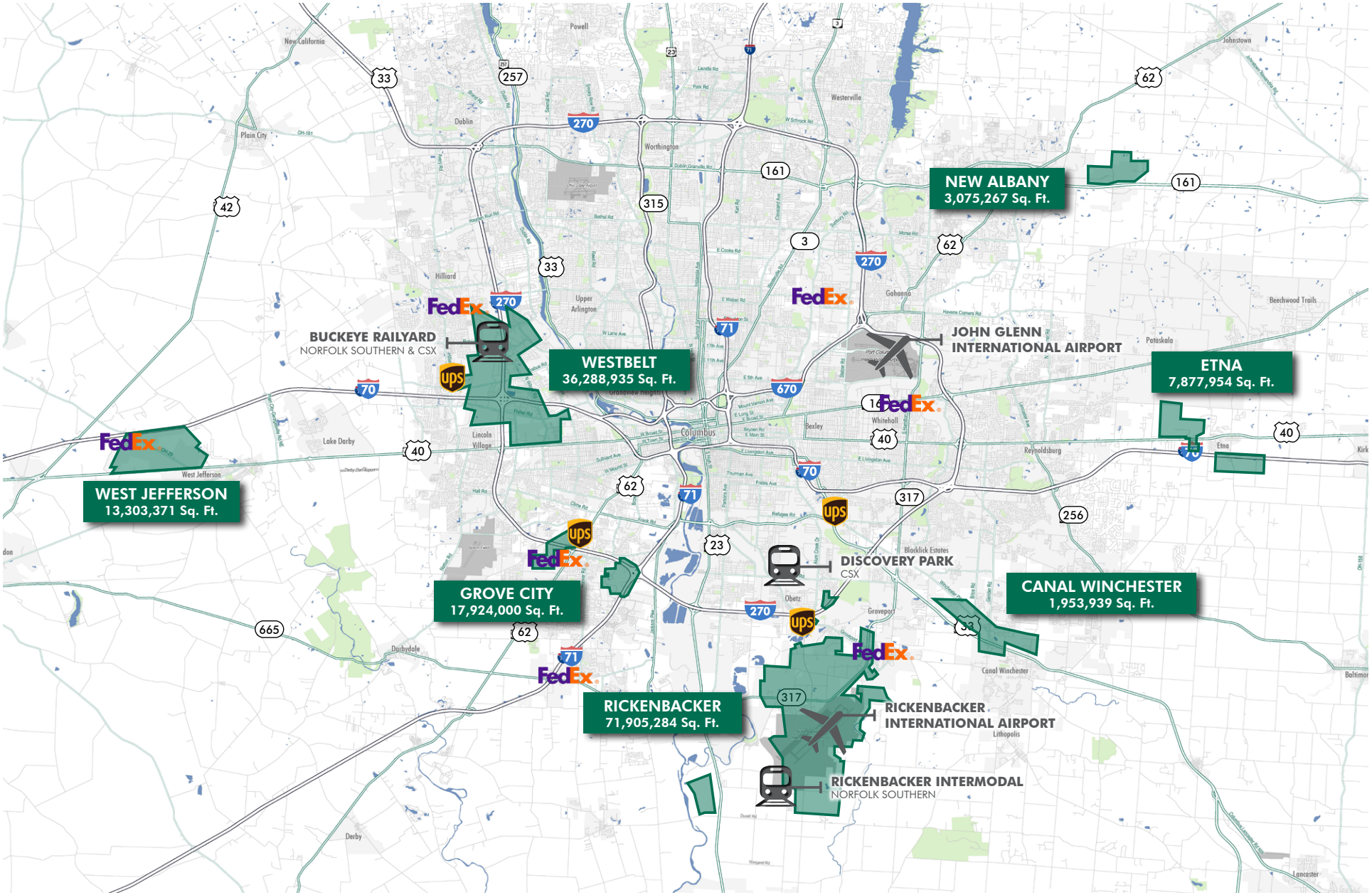
weston.devore@cbre.com


## DISCLAIMER

# INDUSTRIAL MARKET OVERVIEW

**276,015,075 SQ. FT.**
MARKET RENTABLE AREA



# COLUMBUS INDUSTRIAL LABOR CONCENTRATION

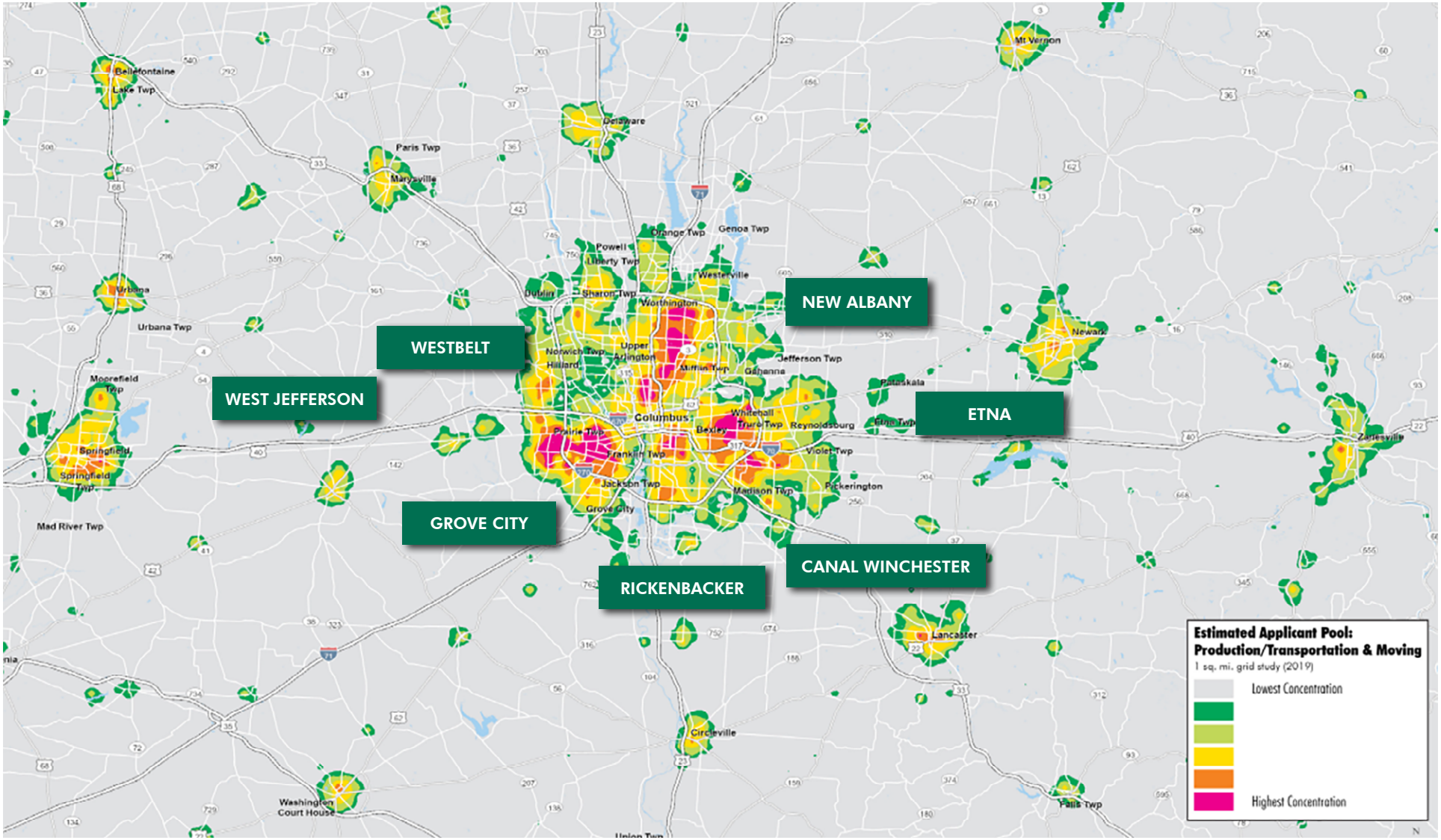
**4.90%**
COLUMBUS UNEMPLOYMENT RATE

**~18.59%**
EMPLOYMENT GROWTH SINCE 2010

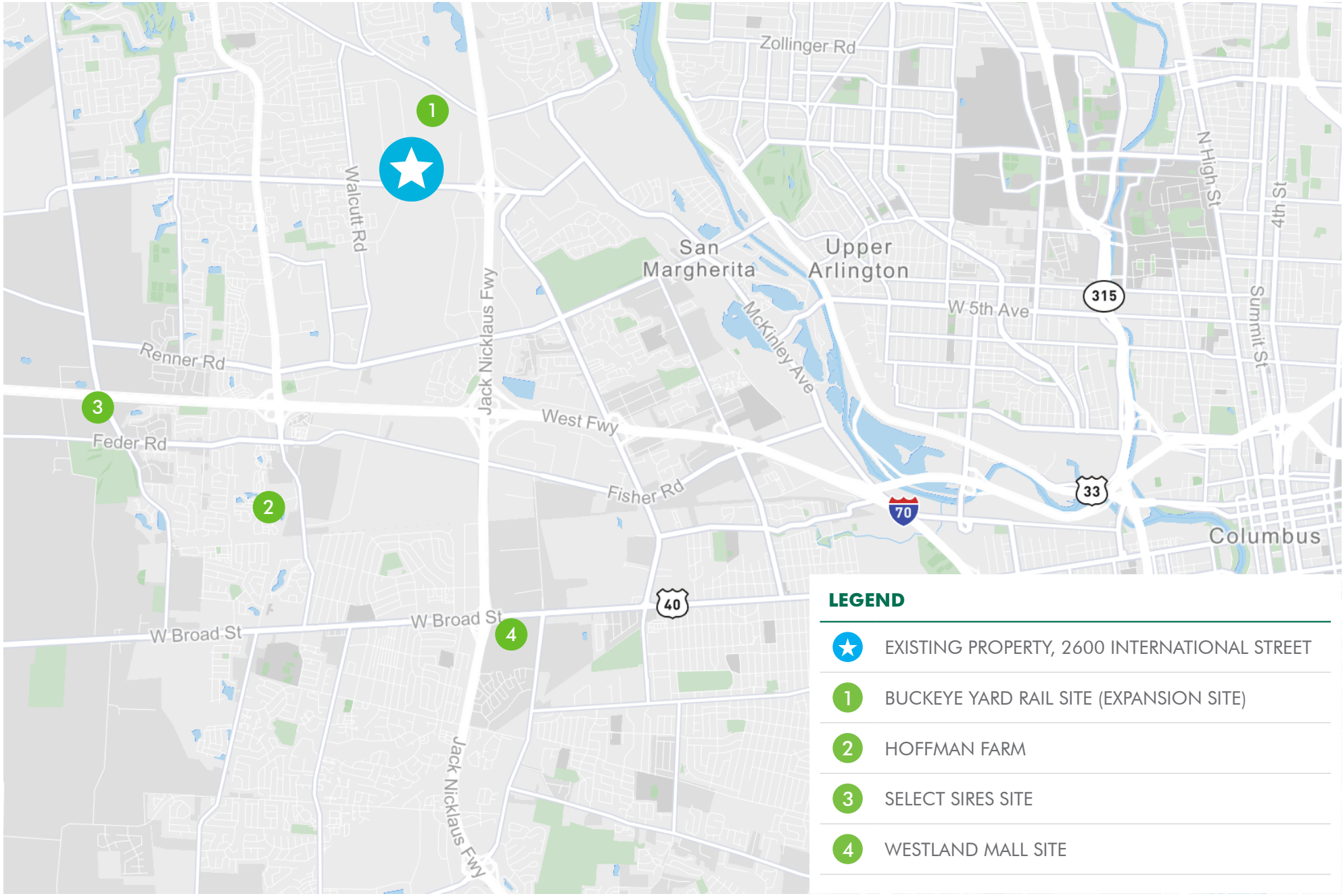
**51.00%**
LABOR PARTICIPATION RATE

**$18.11/HR**
AVERAGE MANUFACTURING WAGES

**$16.55/HR**
AVERAGE LOGISTICS WAGES



# LAND AVAILABILITIES



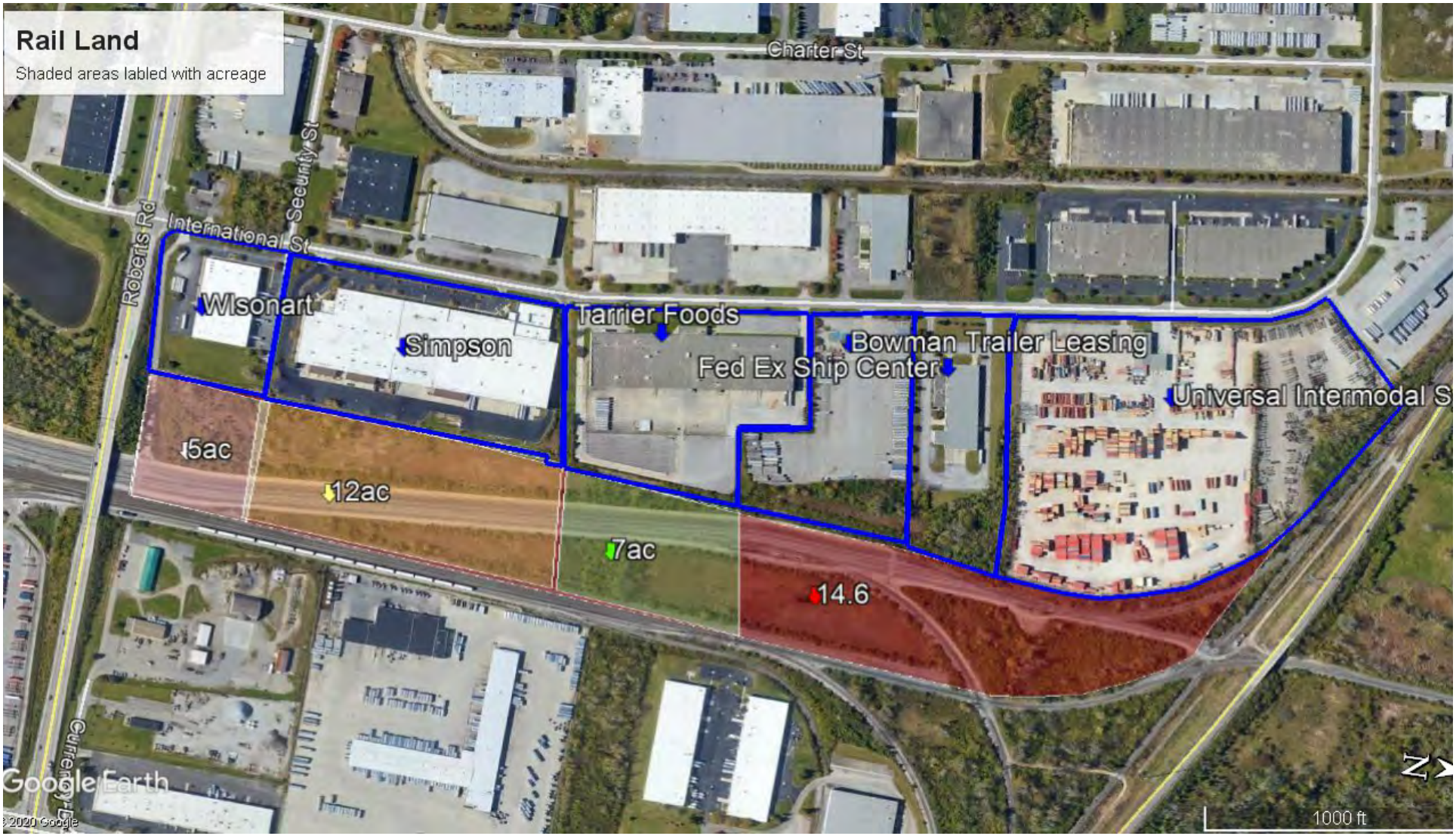

**LEGEND**

| | |
|---|---|
| ★ | EXISTING PROPERTY, 2600 INTERNATIONAL STREET |
| 1 | BUCKEYE YARD RAIL SITE (EXPANSION SITE) |
| 2 | HOFFMAN FARM |
| 3 | SELECT SIRES SITE |
| 4 | WESTLAND MALL SITE |

# COMPARISON OF PROPOSED ECONOMIC TERMS

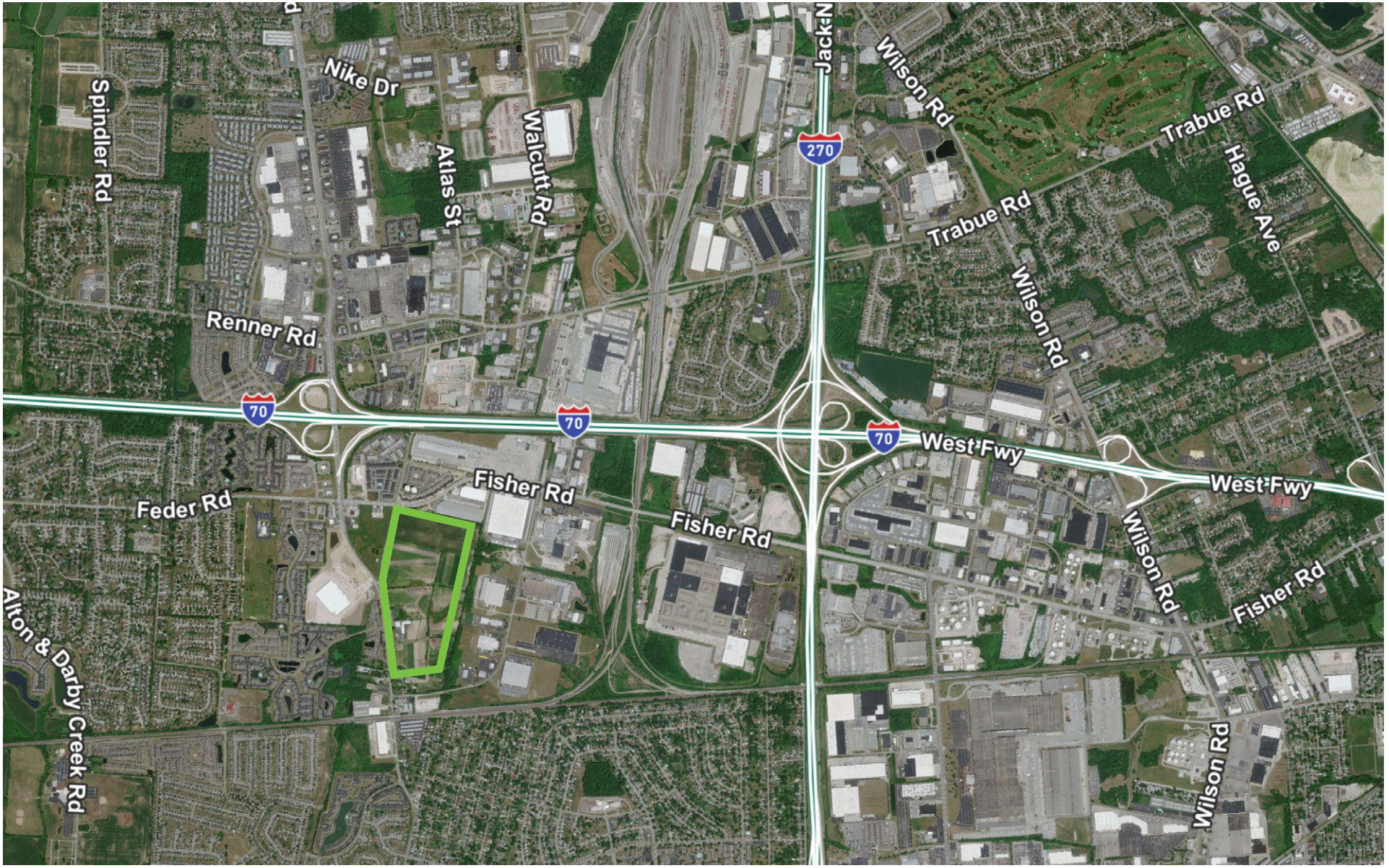
| | | 1<br>BUCKEYE YARD RAIL SITE<br>(EXPANSION SITE) | 2<br>HOFFMAN FARM<br>COLUMBUS, OH | 3<br>SELECT SIRES<br>DEVELOPMENT | 4<br>WESTLAND MALL |
|---|---|---|---|---|---|
| SITE INFORMATION | SUBMARKET | Westbelt (Current Facility) | WEST COLUMBUS | West Side | West Side |
| | DEVELOPER | Land Owned by Xebec | TPA Group | VanTrust | Trident Capital |
| | CURRENT SITE STATUS | Industrial use land Contiguous with the Existing Manufacturing facility Parcel | Greenfield development site. In the process of due diligence to purchase, annexation, zoning, incentives negotiations, and entitlement | This is a Greenfield Land Site currently listed for Sale and Development. We have engaged a development partner, Van Trust to investigate the development potential of this site on Simpson's behalf with the ultimate goal of receiving a formal proposal on the site for a new facility. " | This is the former Westland Mall location which is now slated for redevelopment. Trident is currently in contract to purchase this site from the current owners. |
| | PROPOSED BUILDING SIZE (SQ. FT.) | Simpson could construct a 200,000 Sq. Ft. addition | 622,500 Sq. Ft. | 570,000 Sq. Ft. | 500,000 Sq. Ft. |
| | EXPANSION CAPABILITY | TBD. A 200,000 Sq. Ft. Expansion appears to be feasible subject to proper due diligence of the site. | This Building will not have expansion capabilities due to the site constraints | Expandable by 313,500 Sq. Ft. | Expandable by + 300,000 Sq. Ft. |
| | LARGEST SIZE ACHIEVABLE (SQ. FT.) | TBD | 622,500 Sq. Ft.<br>(we recommend maximizing the initial footprint) | 883,500 Sq. Ft. | +/- 800,000 |
| | SITE SIZE WITHOUT EXPANSION (ACRES) | 40 Acres | +/- 27 Acres | 70 Acres | +/- 50 Acres |
| | SITE SIZE WITH EXPANSION (ACRES) | 40 Acres | +/- 27 Acres | 70 Acres | +/- 50 Acres |
| DEAL STRUCTURE | PROPOSED DEAL TYPE | The Land behind the Existing Factory is approximately 40 Acres and includes inactive rail lines. The strategy would be to Purchase the Land Site for expansion of the existing Building. This site will need to be fully vetted as to its suitability for future Industrial development during the Acquisition/Due Diligence phase of the purchase. Items to vet would be wetland impact and environmental contamination issues. Simpson as owner of the Ground would be able to self perform an expansion of its existing facility. The additional ground could be suitable for vehicle/trailer parking, or could be potentially disposed through sale to other interested neighbors who have not yet been contacted. | The ownership is proposing a merchant build with Simpson purchasing the shell property upon completion | A proposal on this site has not yet been received. The developer Van Trust is currently investigating the Site for Suitability to Develop. Due to its location at the edge of Columbus, infrastructure may be challenging. | A proposal on this site has not yet been received. However, based on previous proposals from this developer, this site could be developed as a merchant building with a closing of the property upon the substantial completion of the base building shell. |
| | LEASE OF THE PROPERTY | N/A - this would be a Simpson-owned land site for expansion of the existing manufacturing facility. | Not Proposed | Still Researching this site - No Proposal Yet | A lease of the Property is likely not needed. |
| | PROPOSED LEASE PAYMENT START DATE | | | | |
| | FIRST YEAR LEASE RATE ($/SQ. FT. NNN) | | | | |
| | FIRST YEAR LEASE PAYMENTS TOTAL NNN | | | | |
| PURCHASE OF THE PROPERTY | PROPOSED CLOSING DATE TO PURCHASE THE PROPERTY | The Property is Currently in Contract with Xebec for purchase from Norfolk Southern Railroad. The closing is expected to occur in 2021. The property could be acquired in 60 to 90 Days from Contract Execution | Timing to purchase is To Be Determined, TPA is currently acquiring the property. Closing in 2021 | Still Researching this site - No Proposal Yet | The date of the Seller's closing is yet to be determined. Upon closing of the Trident Purchase, |
| | PROPOSED PURCHASE PRICE | The 40 Acre Site would be Acquired for $275,000 to $300,000 Per Acre = $11M to $12M | $76.00/Sq. Ft. or $47,310,000 | | |
| | PROPOSED PURCHASE PRICE WITH MAX EXPANSION CAPABILITY | | The 40 Acre Site would be Acquired for $275,000 to $300,000 Per Acre = $11M to $12M | | |
| | PROPOSED PURCHASE PRICE $/SQ. FT. | | $76.00/Sq. Ft. | | |
| TI INCLUDED IN THE PROPOSED PRICING | TI ALLOWANCE INCLUDED ($/SQ. FT.) | Not Applicable | Scope of Shell Delivery to be Negotiated | Still Researching this site - No Proposal Yet | Still Researching this site - No Proposal Yet |
| | TI ALLOWANCE INCLUDED (TOTAL) | | | | |
| SIMPSON'S CONSTRUCTION | PROPOSED SIMPSON CONSTRUCTION START DATE | Upon Simpson's Closing on the Land. | Upon Closing, the building shell will be constructed by TPA to Simpson's specifications | Unknown | Unknown |
| SIMPSON'S EXISTING PROPERTY | NOTES REGARDING THE EXISTING PROPERTY: 2600 INTERNATIONAL STREET | This Scenario would allow the continued use of the Existing Facility on International Street | Not proposed | | This Developer has expressed an interest in purchasing the Existing Simpson building as a component of this transaction |
| | NOTES: | We would anticipate that a 200,000 Sq. Ft. Addition could be accomplished at $70.00 to $80.00/Sq. Ft. $14M to $16M | Although no TI was Proposed, we would expect to have room to negotiate a greater scope within the offered pricing. This property is currently under contract to purchase by the national developer - TPA Group. | The Site presents challenges to development. | This is a newly available site on the market and the Developer is currently in contract to purchase the site |

# 1 BUCKEYE YARD RAIL SITE

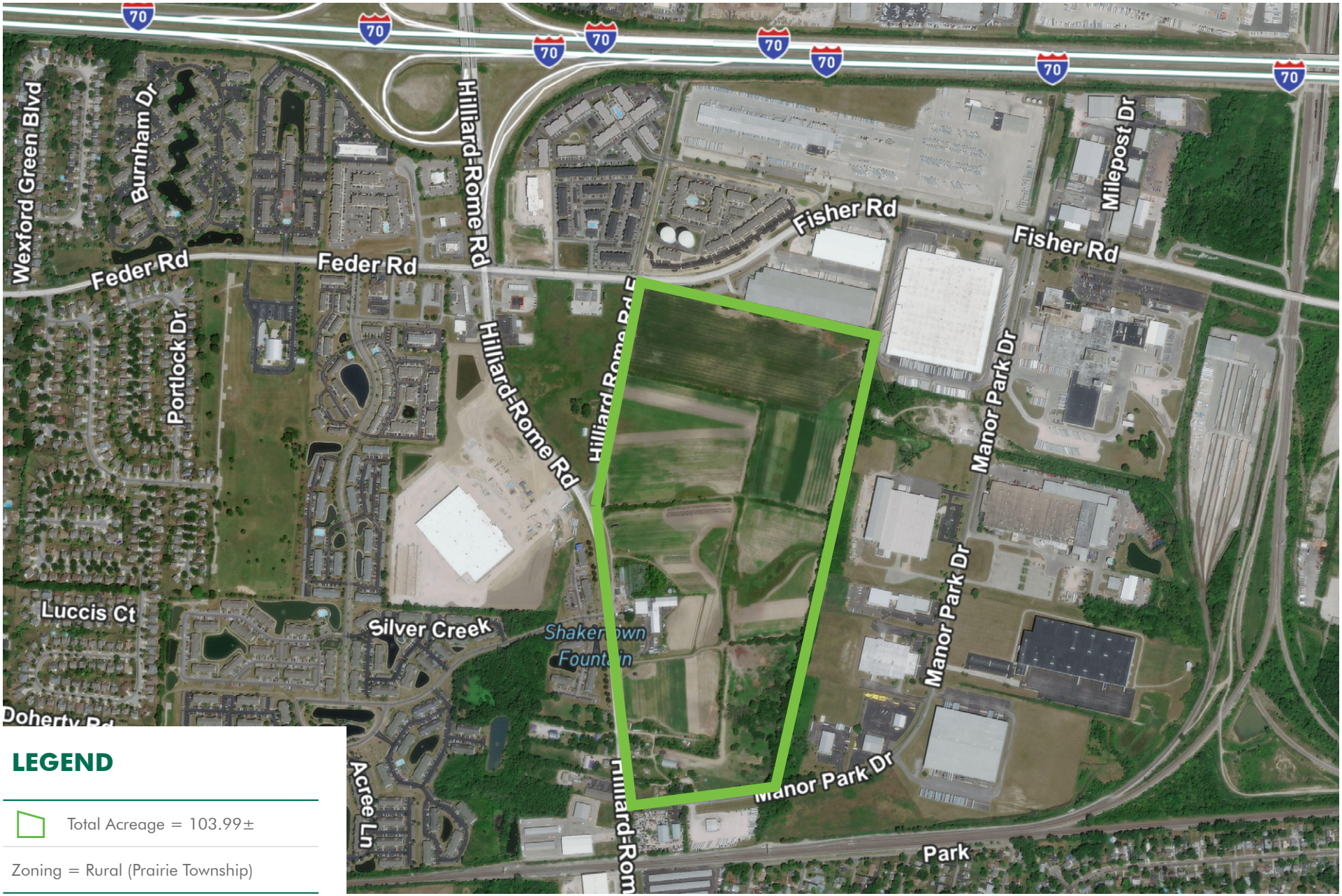


# 1 BUCKEYE YARD RAIL SITE

## 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD



# 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD




## LEGEND

Total Acreage = 103.99±

Zoning = Rural (Prairie Township)

## 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD

# 3 SELECT SIRES SITE


## LEGEND

- Total Acreage = 102.076±
- Acreage = 75.80±
- Unincorporated Land – Franklin County

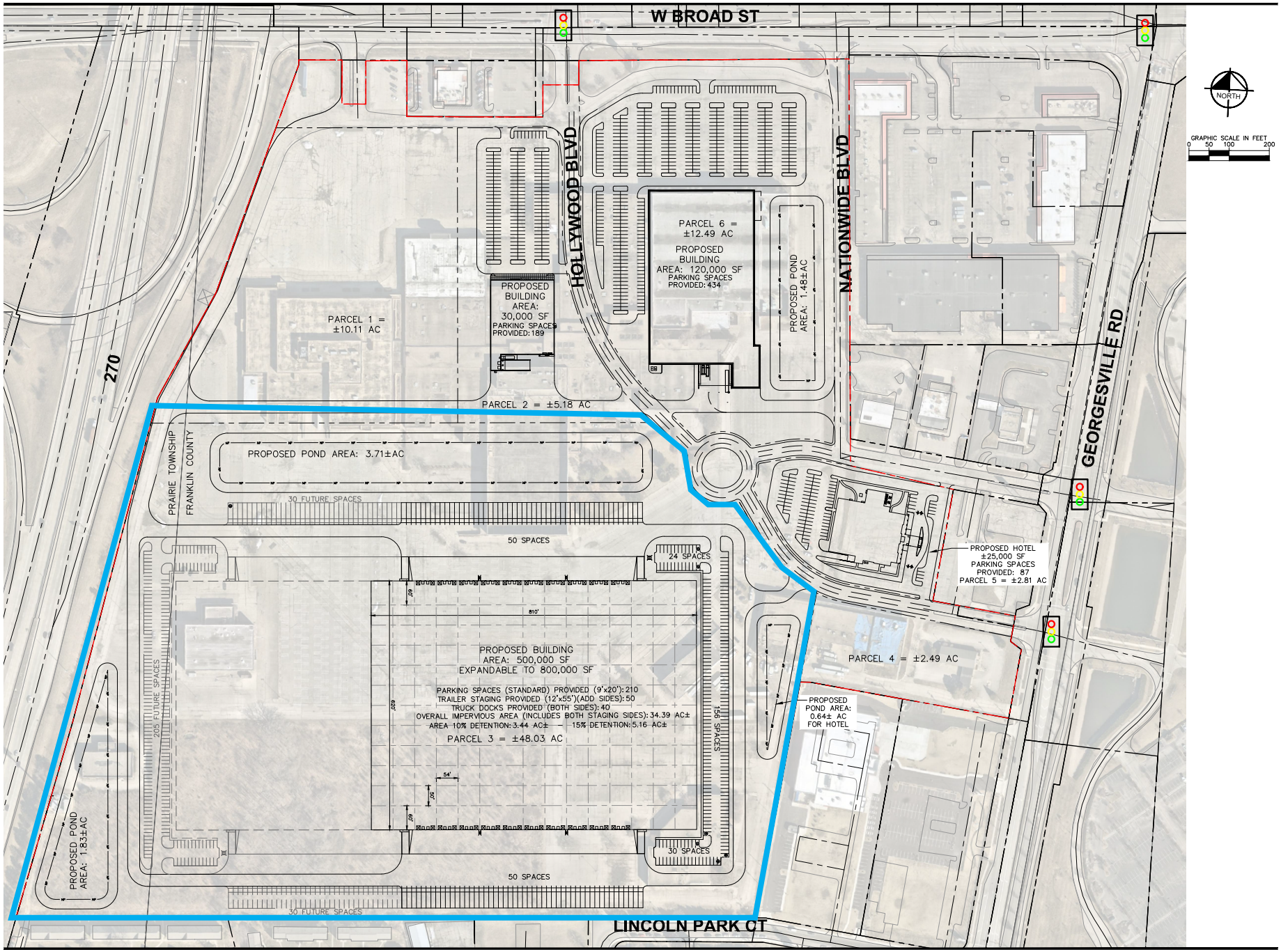
# 3 SELECT SIRES SITE


## LEGEND

- Total Acreage = 102.076±
- Acreage = 75.80±
- Unincorporated Land – Franklin County

# 4 WESTLAND MALL SITE

# 4 WESTLAND MALL SITE





## PREPARED BY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### WESTON DEVORE
Vice President
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weston.devore@cbre.com

# APPENDIX C

## Minimal Disturbance Alternative

PENNSYLVANIA LINES LLC
IN. 200212180325195
7.503 ACRES

S04°55'49"W 2314.24'

EX STREAMS

PROPOSED 100-YR POND LIMITS

PROPOSED WET RETENTION POND

0.68 ACRES OF WETLAND TO BE DISTURBED

1.67 ACRES OF WETLAND TO BE DISTURBED

SIMPSON MANUFACTURING CO INC
IN. 202203070036008
41.731 ACRES

60' SIDE YARD SETBACK

60' FRONT YARD SETBACK

N86°39'16"W 303.28'

N89°09'57"W 277.69'

ROBERTS ROAD
(R/W VARIES)

S04°54'43"W 74.80'

N04°54'43"E 74.80'

N86°55'26"E 30.00'

S86°55'26"W 30.00'

S04°28'14"W 634.28'

N04°28'14"E 634.28'

S04°28'14"W 621.31'

N04°28'14"E 621.31'

S04°28'14"W 621.31'

N04°28'14"E 621.31'

N04°28'10"E 454.15'

WILSONART I LLC
PID: 560-189897
5.78 ACRES

TARRIER HOLDINGS INC.
IN. 201109290123570
12.420 ACRES

S87°55'53"E 331.55'

SIMPSON MANUFACTURING
OR 14496 D-12
6.000 ACRES

S87°55'53"E 331.55'

SIMPSON MANUFACTUREING CO
IN. 200505060086763
7.854 ACRES

N87°04'14"E 542.48'

N02°55'30"E 330.71'

N02°55'30"E 207.79'

INTERNATIONAL STREET
(PUBLIC, 60' R/W)

## LEGEND

WETLAND AREA TO BE DISTURBED

## NOTES

1. 2.35 TOTAL ACRES OF WETLAND TO BE DISTURBED
2. 41.60 LINEAR FEET OF STREAM TO BE DISTURBED

0 40 80 160

OHIO811.org Before You Dig


PLANS PREPARED BY:

THE KLEINGERS GROUP

CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd
Suite B
Westerville, OH 43082
614.882.4311


| NO. | REVISION DESCRIPTION | INITIAL | DATE |
|---|---|---|---|
| | | | |

SIMPSON STRONG-TIE DEVELOPMENT
MINIMAL IMPACT WETLAND EXHIBIT
2600 INTERNATIONAL STREET
CITY OF COLUMBUS
FRANKLIN COUNTY, OHIO

| DATE | JOB NO. |
|---|---|
| 10/28/2022 | 210880.001 |
| SCALE | SHEET |
| 1"=80' | 2/2 |

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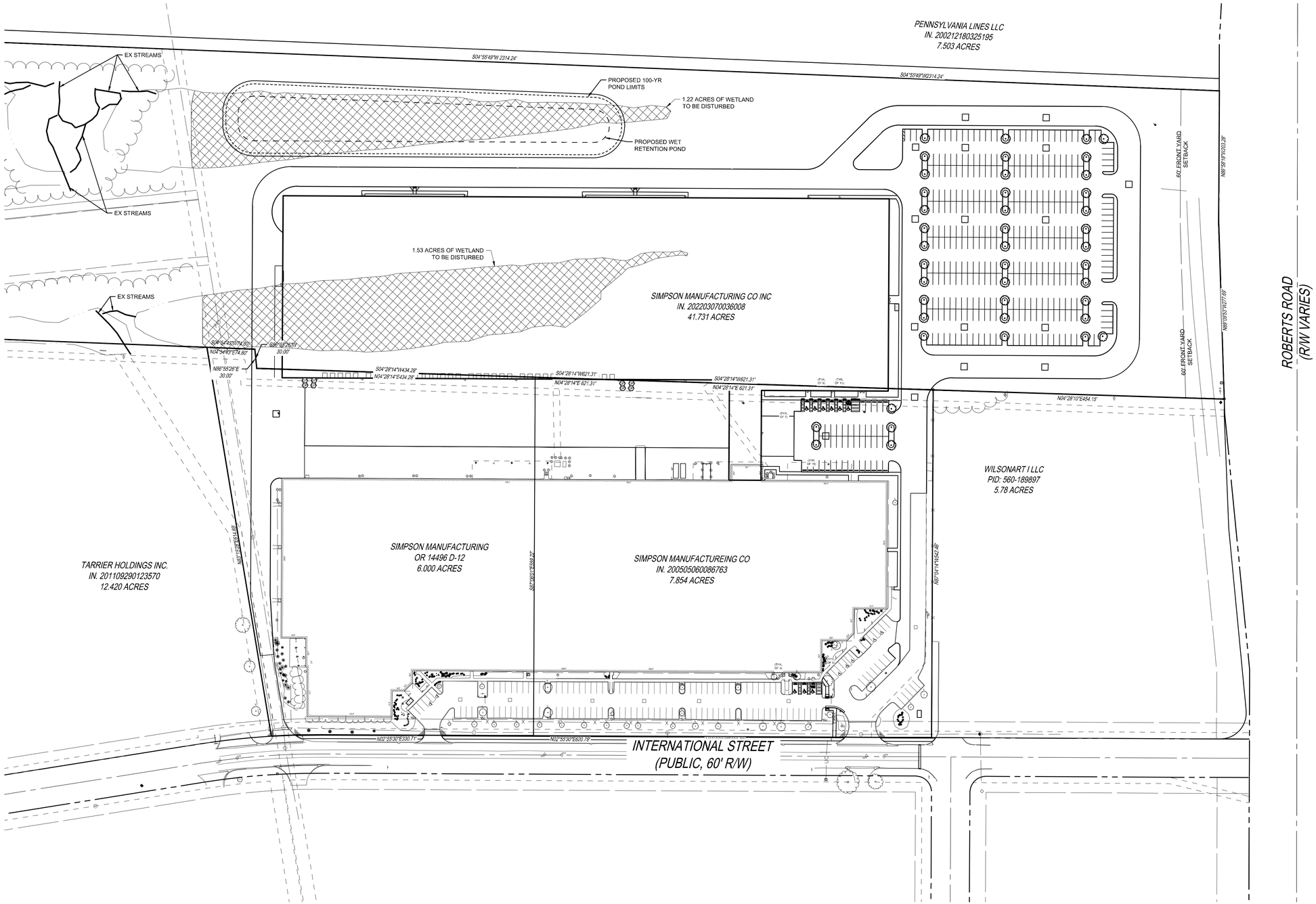
# APPENDIX D

## Preferred Alternative




## LEGEND

WETLAND AREA TO BE DISTURBED

## NOTES

1. 2.75 TOTAL ACRES OF WETLAND TO BE DISTURBED

0 40 80 160

OHIO811.org Before You Dig

PLANS PREPARED BY:

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd
Suite B
Westerville, OH 43082
614.882.4311

| REV. | REVISION DESCRIPTION | INITIAL | DATE |
|---|---|---|---|

SIMPSON STRONG-TIE DEVELOPMENT
PREFERRED ALTERNATIVE WETLAND EXHIBIT
2600 INTERNATIONAL STREET
CITY OF COLUMBUS
FRANKLIN COUNTY, OHIO

| DATE | JOB NO. |
|---|---|
| 10/28/2022 | 210880.001 |
| SCALE | SHEET |
| 1"=80' | 1/2 |

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# APPENDIX E

# USACE 404 Individual Permit Application

November 1, 2022

U.S. Army Corps of Engineers, Huntington District
502 Eighth Street
Huntington, West Virginia 25701

Subject: Application for Individual 404 Permit for the Simpson Strong-Tie Expansion in Columbus, Franklin County, Ohio

To Whom It May Concern:

Enclosed as Attachment A, please find an Application for Department of the Army Permit Form 4345 for a 404 Individual Permit for the Simpson Strong-Tie Expansion Project in Columbus, Franklin County, Ohio (henceforth referred to as "the Site"). This application is submitted on behalf of Simpson Strong-Tie (Applicant).

Simpson Strong Tie (SST) is a manufacturer of metal hangers used in various types of construction including but not limited to joist hangers and deck hangers. The company currently has approximately 284,000 SF facility serving administration, manufacturing, and warehousing needs of their Hilliard, Ohio plant. Due to the increase in demand for these products, additional warehouse space is needed in order to satisfy demand.

To accomplish this, SST is proposing to add warehouse capacity and an employee training center totaling 289,600 SF. In order to accomplish this in the most effective way, the company purchased the parcel situated directly east of the current facility (Parcel 560-302754-00) to accommodate the proposed expansion. The Site is an old railyard, with several old rail lines and low-quality wetlands onsite. Roberts Milliken Ditch runs through the center of the Site from west to east.

Wetland Delineation

A wetland and stream delineation was completed in April 2021 by Central Ohio Wetland Consulting, LLC. A subsequent delineation was completed by MAD Scientist Associates on October 19, 2021, to confirm findings and map wetlands and streams onsite. A total of seven (7) wetlands and eight (8) streams were delineated onsite. For the purposes of this request, A total of 2.75 acres of Wetland 4 and Wetland 6 will be impacted under the proposed development plan. Both of these wetlands are low quality, Category 1 emergent wetlands dominated by hybrid cattail (*Typha x glauca*). The delineation report is included in Attachment B.

Preferred Alternative

An Alternatives Analysis was completed as part of this application and the preferred alternative would impact 2.75 acres of Category 1 emergent wetlands. Currently, the Applicant has reserved 4.2 acres of wetland credits with the Stream + Wetlands Foundation's in-lieu fee program to mitigate this impact at a 1.5:1 ratio. However, due to the requirement from the City of Columbus for a Type II Variance based on the impact to a stream corridor protection zone (SCPZ), the Applicant is submitting a request for variance to mitigate a portion of this onsite, as required by the City of Columbus regulations. Should the variance get approved, the Applicant will submit an amendment to this permit with a mitigation plan to create 2.75 acres of Category 2 emergent wetland onsite (1:1 ratio), with the remaining 1.5 acres of credit to be held within the in-lieu fee of Stream + Wetlands Foundation. A copy of the mitigation credits can be found in Attachment C.

Correspondence has been received from the Ohio Department of Natural Resources and U.S. Fish & Wildlife Service regarding Threatened & Endangered Species (Attachment D). No impacts are anticipated to any listed species or habitats.

Feel free to contact me with any questions. I can be reached at 614-818-9156 or via email at lindsay@madscientistassociates.net.

Best Regards,

Lindsay Hanna, CWD
Project Scientist
MAD Scientist Associates

cc: Spencer Brown, Lincoln Construction
Burak Gursal, Simpson Strong-Tie

ATTACHMENT A

404 PCN APPLICATION FORM

253 North State Street, Suite 101 Westerville, Ohio 43081 (614) 818-9156 Fax (614) 818-9157 www.madscientistassociates.net

U.S. Army Corps of Engineers (USACE)

# APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

***Form Approved - OMB No. 0710-0003 Expires: 02-28-2022***

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

**(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)**

| 1. APPLICATION NO. | 2. FIELD OFFICE CODE | 3. DATE RECEIVED | 4. DATE APPLICATION COMPLETE |
|---|---|---|---|
| | | | |

***(ITEMS BELOW TO BE FILLED BY APPLICANT)***

| 5. APPLICANT'S NAME | 8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) |
|---|---|
| First - Burak Middle - Last - Gursel | First - Lindsay Middle - Last - Hanna |
| Company - Simpson Strong-Tie | Company - MAD Scientist Associates |
| E-mail Address - bgursel@strongtie.com | E-mail Address - Lindsay@madscientistassociates.net |
| 6. APPLICANT'S ADDRESS: | 9. AGENT'S ADDRESS: |
| Address- 5956 W. Las Positas Blvd | Address- 254 N. State St. Suite 101 |
| City - Pleasanton State - CA Zip - 94588 Country - USA | City - Westerville State - OH Zip - 43081 Country - USA |
| 7. APPLICANT'S PHONE NOs. w/AREA CODE | 10. AGENTS PHONE NOs. w/AREA CODE |
| a. Residence b. Business 925-560-9000 c. Fax | a. Residence b. Business 614-818-9156 c. Fax |

**STATEMENT OF AUTHORIZATION**

11. I hereby authorize, Lindsay Hanna to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

B Gursel — SIGNATURE OF APPLICANT

November 8, 2022 — DATE

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions)
Simpson Strong-Tie Buckeye Yard Expansion

| 13. NAME OF WATERBODY, IF KNOWN (if applicable) | 14. PROJECT STREET ADDRESS (if applicable) |
|---|---|
| | Address 2600 International St |
| 15. LOCATION OF PROJECT | City - Columbus State- OH Zip- 43228 |
| Latitude: ◦N 40.006278° Longitude: ◦W -83.128316° | |

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

From 270-N/270-W, take exit 10 for Roberts Road. Continue for approximately 0.8 miles and turn right onto International Street. Take the first driveway on the right to continue to the Buckeye Yard Site (See Figures 1 and 2).

18. Nature of Activity (Description of project, include all features)

Based on capacity needs, a minimum of 230,000 square feet will be required for building construction. In addition, 115,975 sf of parking will need to be constructed to accommodate the increase in personnel employed at the facility. As per City regulations, the new building must be spaced 10 feet away from existing infrastructure, and stormwater retention with a capacity of 323,704 cf is needed for the Site. Based on these requirements for proposed development, a total of 19.79 acres is needed for completing this project. For this, 2.75 acres of wetland (1.53 acres of Wetland 4 and 1.22 acres of Wetland 6) will be impacted to accommodate the construction needs. See attached design plan.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attached.

**USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

20. Reason(s) for Discharge

1.53 acres of Wetland 4 will be filled in order to construct the new building. 1.22 acres of Wetland 6 will be modified to serve at a retention pond that is up to code with the City of Columbus for stormwater capture-this design is based on the Ohio EPA Rainwater and Land Development Manual. See attached design plan.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

| Type<br>Amount in Cubic Yards | Type<br>Amount in Cubic Yards | Type<br>Amount in Cubic Yards |
|---|---|---|
| Fill: 27,813.57 cubic yards | | |

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 2.75 acre

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

See attached for Alternatives Analysis and Mitigation Credit purchase.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- 2500 International St

City - Columbus State - OH Zip - 43228

b. Address- 2700 International St

City - Columbus State - OH Zip - 43228

c. Address- 2625 Westbelt Dr

City - Columbus State - OH Zip - 43228

d. Address- 2559 Westbelt Dr

City - Columbus State - OH Zip - 43228

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

| AGENCY | TYPE APPROVAL* | IDENTIFICATION NUMBER | DATE APPLIED | DATE APPROVED | DATE DENIED |
|---|---|---|---|---|---|
| City of Columbus | Stormwater | | Pending Variance | | |
| | | | | | |
| | | | | | |
| | | | | | |

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

| SIGNATURE OF APPLICANT | DATE | SIGNATURE OF AGENT | DATE |
|---|---|---|---|
| [signature] | 2022-11-08 | Lindsay Hanna | 2022-11-09 |

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

**BOX 19**

Simpson Strong Tie (SST) is a manufacturer of metal hangers used in various types of construction including but not limited to joist hangers and deck hangers. The company currently has approximately 284,000 SF of building under roof serving administration, manufacturing and warehousing needs of their Hilliard Ohio plant. Due to the increase in demand for these products, additional warehouse space is needed in order to satisfy demand.

Based on capacity needs, a minimum of 230,000 square feet (sq. ft.) will be required for building construction. In addition, 115,975 sq. ft. of parking will need to be constructed to accommodate the increase in personnel employed at the facility. As per City regulations, the new building must be spaced 10 feet away from existing infrastructure, and stormwater retention with a capacity of 323,704 cubic feet (cf) is needed for the Site. Based on these requirements for proposed development, a total of 19.79 acres is needed for completing this project. Due to the configuration of wetlands onsite, there is not a section of contiguous acreage that could accommodate the proposed development without impacting onsite wetlands.

Based on building needs, Wetlands 4 and 6 are expected to be impacted. Both wetlands were assessed using the ORAM (Ohio Rapid Assessment Method) and assigned scores of 25 and 26, respectively, which identifies them as Category 1 wetlands. These types of wetlands are defined as “limited quality waters” which have low functionality and limited potential for restoration (Ohio EPA, 2001) (See Delineation Report).

The expected construction timeline for this is mid-2023 to 2025.

**BOX 23**

## 1.0 ALTERNATIVES ANALYSIS

### 1.1 Non-Disturbance Alternative

SST reviewed the possibility of purchasing a property that was not contiguous with the current manufacturing site, including an economic analysis of four (4) options. The economic analysis includes the proposed expansion into the Buckeye Yard property. This would have resulted in no impacts to the current Site.

However, due to budgetary constraints and accessibility issues, this alternative was not considered economically feasible. Of the four alternatives reviewed, the expansion into the Buckeye Yard Rail Site was the only one that would allow the current SST facility to continue operating, thus reducing costs by requiring an expansion rather than a completely new building. The remaining alternatives contained challenges and constraints to buildings based on Site configuration and Site location.

In regard to potential environmental impacts from the other alternatives, the other three alternatives required a construction footprint that met the current facility size in addition to the expansion size, therefore increasing the permeable surface within the county by closer to 622,000 sq. ft. instead of 300,000 sq. ft. Wetland and stream delineations were not conducted onsite for the alternative property options; however based on a review of aerial imagery and other resources including the National Wetlands Inventory and web soil survey for alternative properties, it appears that wetlands and streams are present on the alternative sites as well. Therefore, it is probable that impacts to aquatic resources would have occurred in order to develop the alternative properties as well.

See Attachment A for Economic Analysis on the Non-Disturbance Alternative.

### 1.2 Minimal Disturbance Alternative

In the minimal disturbance alternative, the proposed development of the Buckeye Yard site is oriented to minimize disturbance to on-site aquatic resources. The required stormwater retention basin is situated within the stream corridor of Roberts Milliken Ditch, parallel to the stream. The construction of the stormwater detention pond would require 41.60 linear feet of impacts to Roberts Milliken Ditch (?). To accommodate the ability for large trucks to be able to turn around

in the northern portion of the proposed facility expansion, a total of 2.35 acres between Wetlands 4 (full wetland area) and 6 (partial wetland area) will be impacted. While this alternative results in less potential impacts to aquatic resources, it requires impacts to both streams and wetlands.

See Attachment B for the Minimal Disturbance Alternative Concept Plan.

### 1.3 Preferred Alternative

In order to accommodate the proposed expansion of the manufacturing facility, SST will need to impact Wetlands 4 and 6. A portion of Wetland 4 will be filled to accommodate facility construction, and Wetland 6 will be converted into a stormwater retention basin. In this design, a total of 2.75 acres of wetland will be impacted. The design does not impact Robert Milliken Ditch or any of its tributaries onsite and includes stormwater bioswales associated with the southern parking lots to accommodate additional stormwater retention.

See Attachment C for Preferred Alternative Concept Plan.

### 1.4 Alternatives Analysis Results

Based on the alternatives analysis, SST is proposing moving forward with the preferred alternative. This alternative would impact more wetland acreage in comparison to the minimal impact alternative, however, it would eliminate any direct stream impacts. Both Wetlands 4 and 6 are classified as Category 1 wetlands, and therefore their contribution to wildlife habitat and ecosystem function is relatively low. In comparison to the non-disturbance alternative, the economic benefit is much greater as the expansion would be adjacent to the current building and allow a buildout instead of a brand new facility on undisturbed land. The preferred alternative is the most cost-effective and economically viable while also impacting the least water resources onsite. A mitigation plan has been created to address the 2.75 acres of proposed wetland impacts. The proposed mitigation plan is detailed in section 2.0.

## 2.0 PROPOSED MITIGATION

The USACE requires a total of 4.2 acres of wetland mitigation credits to account for the 2.75 acres of impact to these Category 1 jurisdictional wetlands (a 1.5:1 ratio). Currently Simpson Strong-Tie has purchased these credits through the in-lieu program from Stream + Wetlands Foundation.

Due to City of Columbus stormwater requirements, Simpson Strong-Tie is currently requesting a variance with the City to mitigate 2.75 acres onsite, as required by the City of Columbus Stormwater Drainage manual. Once this variance is approved, Simpson Strong-Tie intends to submit an amendment to this permit with a full mitigation plan describing the onsite mitigation plan and design. In addition, Simpson Strong-Tie will work with the Stream + Wetland Foundation for a reimbursement for 2.7 acres of credit, while maintaining 1.5 acres through the Stream + Wetlands Foundation in-lieu fee (ILF) program to satisfy the USACE requirement.

See Attachment D for current mitigation credit receipt from Stream + Wetland Foundation.

# ATTACHMENT A

## Economic Analysis on the Non-Disturbance Alternative

ADVISORY & TRANSACTION SERVICES | INDUSTRIAL & LOGISTICS


MAY 12, 2021

# MARKET OPTIONS

SIMPSON Manufacturing COMPANY

CBRE


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Senior Vice President
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ryan.deangelis@cbre.com

**MICHAEL MULLADY**
Executive Vice President
+1 614 430 5030
michael.mullady@cbre.com

**MATTHEW LEHMAN**
Vice President
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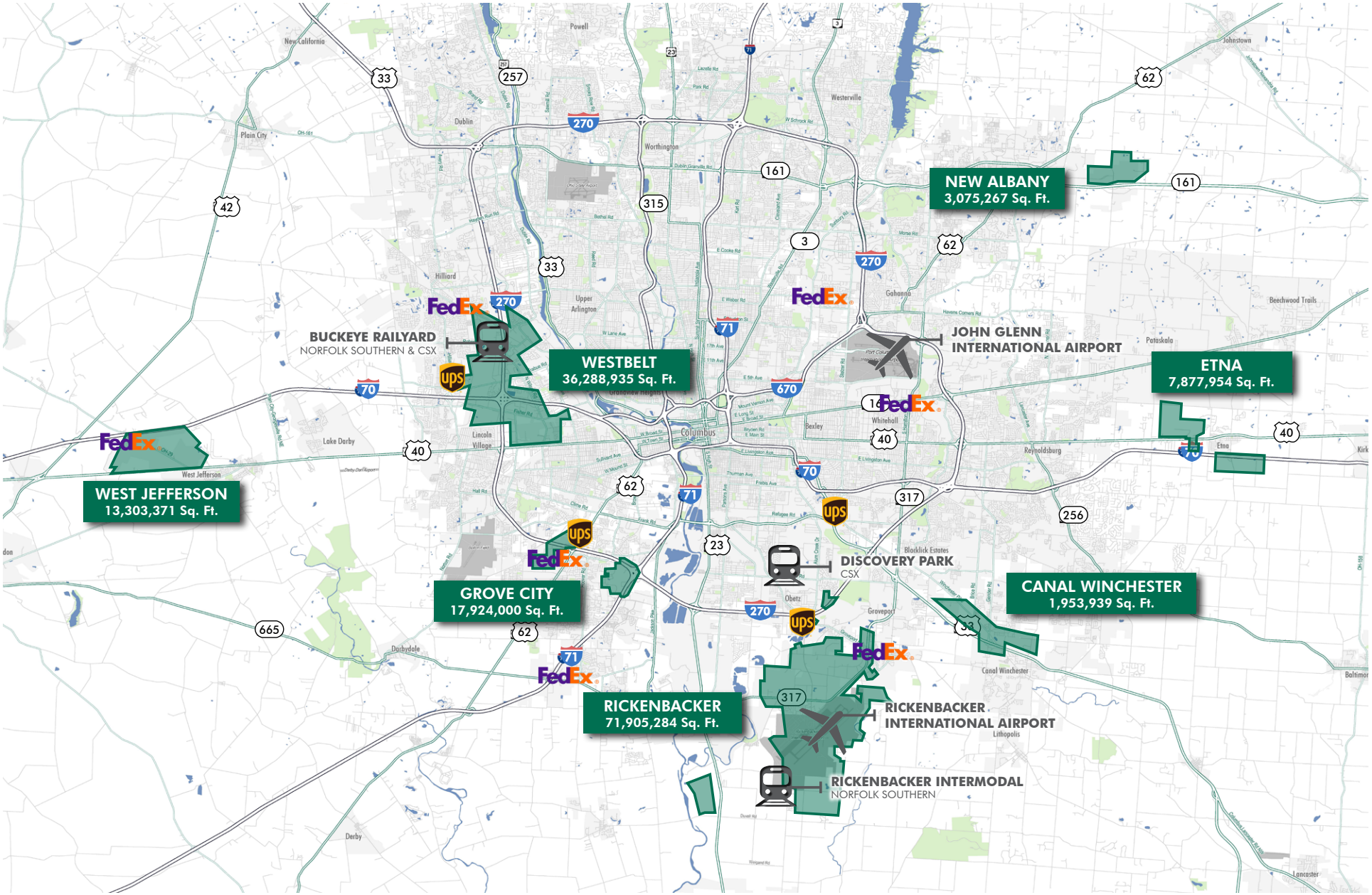
matthew.lehman@cbre.com

**WESTON DEVORE**
Vice President
+1 614 430 5031
weston.devore@cbre.com


## DISCLAIMER

# INDUSTRIAL MARKET OVERVIEW

**276,015,075 SQ. FT.**
MARKET RENTABLE AREA



# COLUMBUS INDUSTRIAL LABOR CONCENTRATION

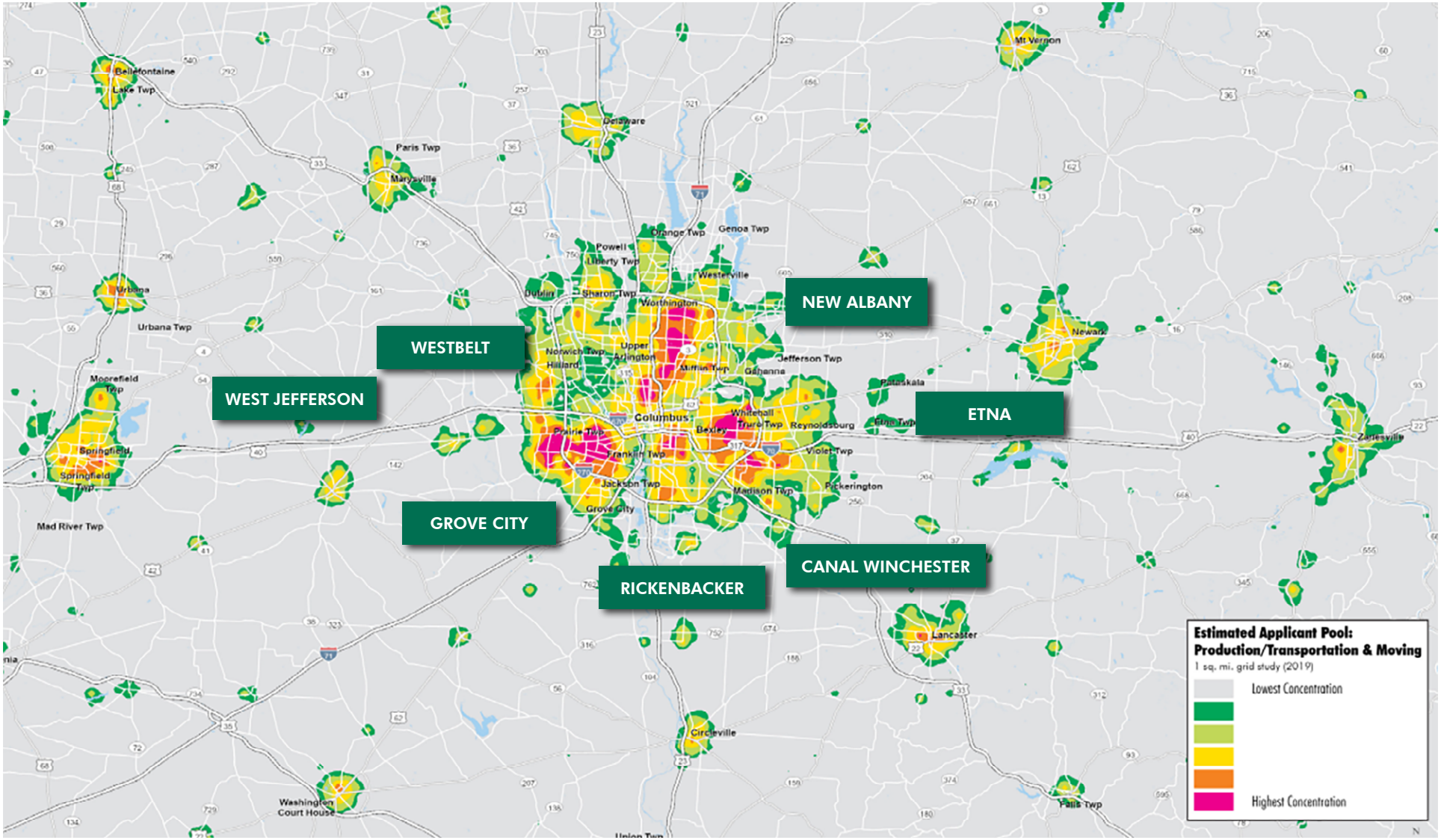
**4.90%**
COLUMBUS UNEMPLOYMENT RATE

**~18.59%**
EMPLOYMENT GROWTH SINCE 2010

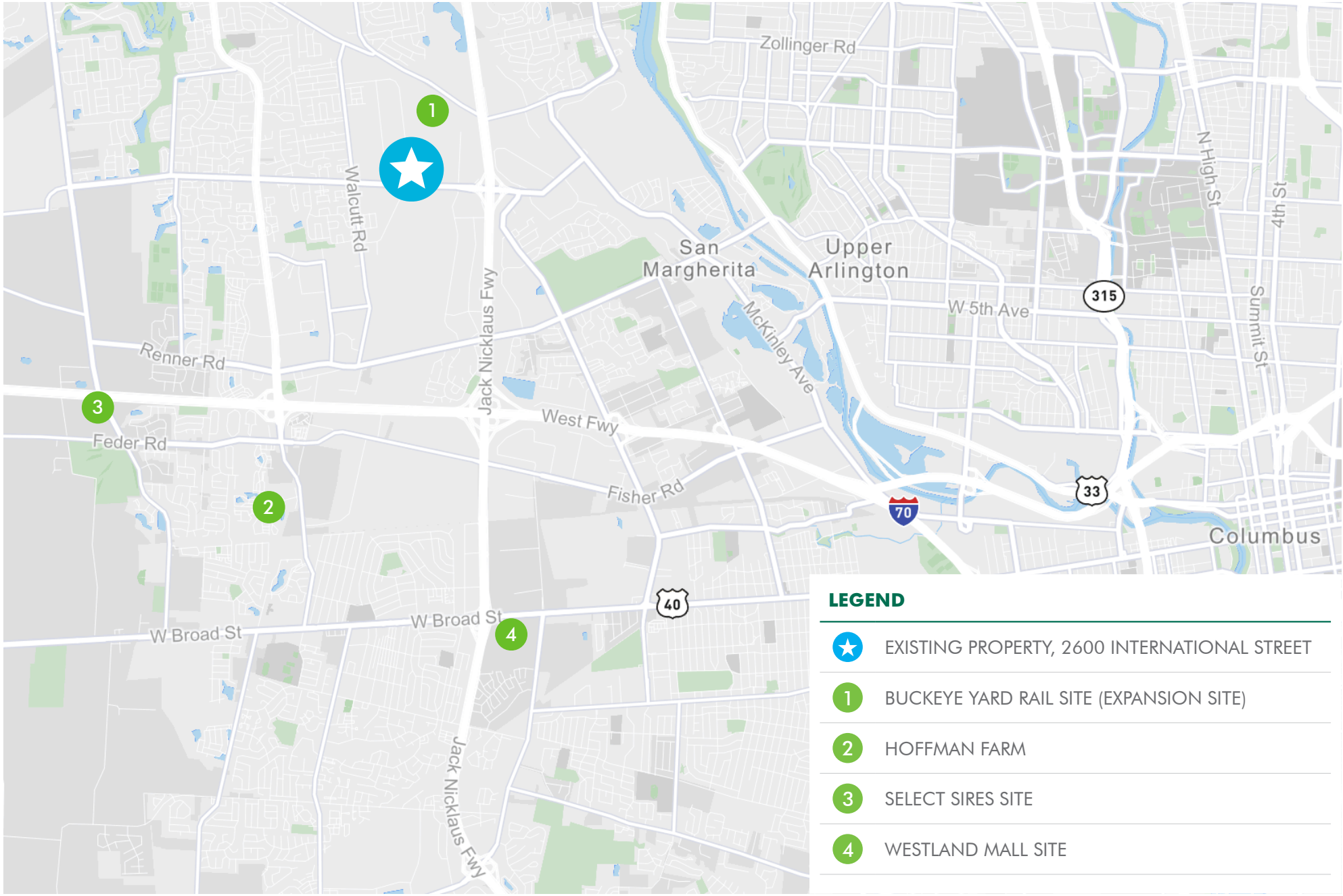
**51.00%**
LABOR PARTICIPATION RATE

**$18.11/HR**
AVERAGE MANUFACTURING WAGES

**$16.55/HR**
AVERAGE LOGISTICS WAGES



# LAND AVAILABILITIES



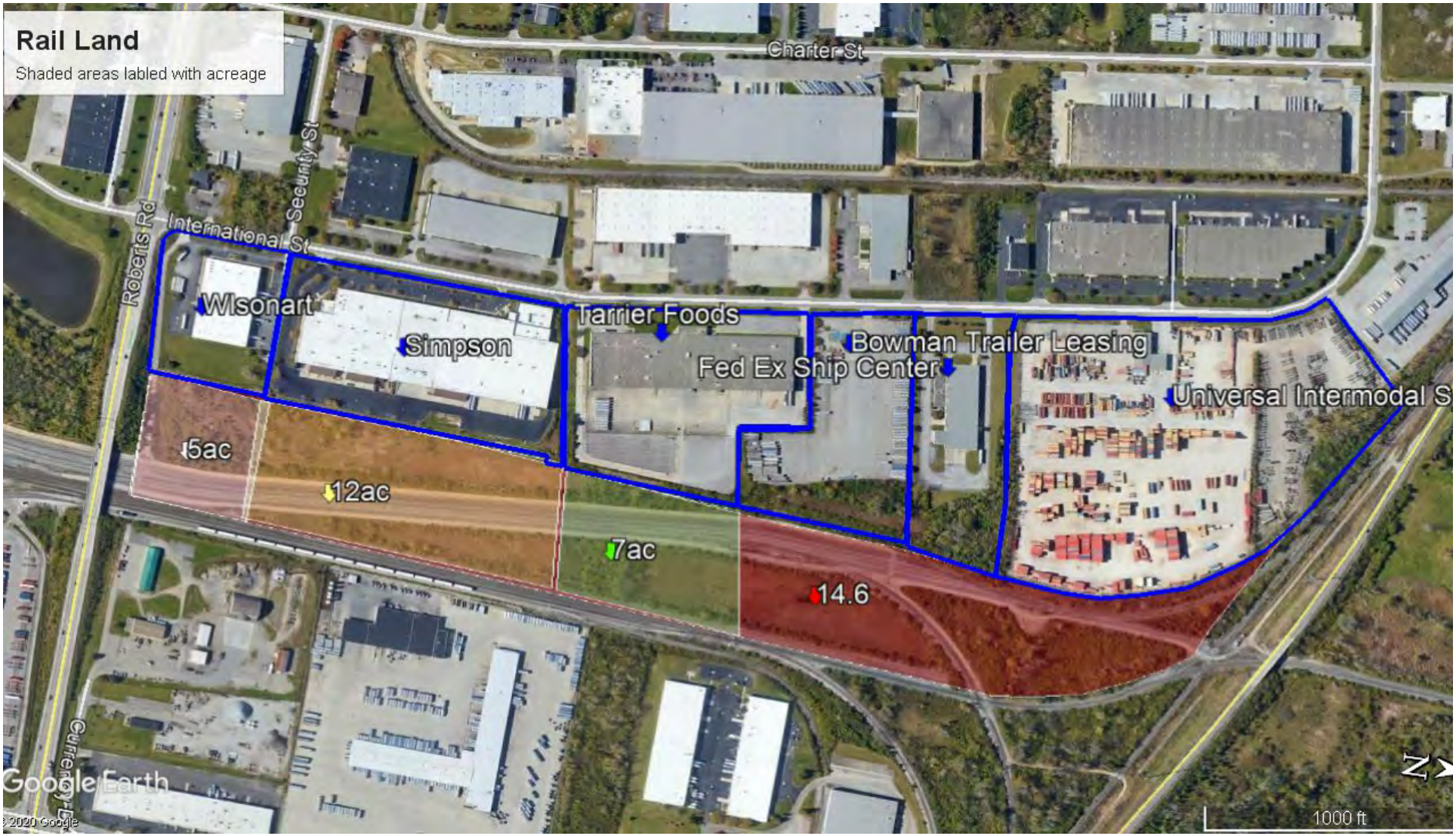

**LEGEND**

| | |
|---|---|
| ★ | EXISTING PROPERTY, 2600 INTERNATIONAL STREET |
| 1 | BUCKEYE YARD RAIL SITE (EXPANSION SITE) |
| 2 | HOFFMAN FARM |
| 3 | SELECT SIRES SITE |
| 4 | WESTLAND MALL SITE |

# COMPARISON OF PROPOSED ECONOMIC TERMS

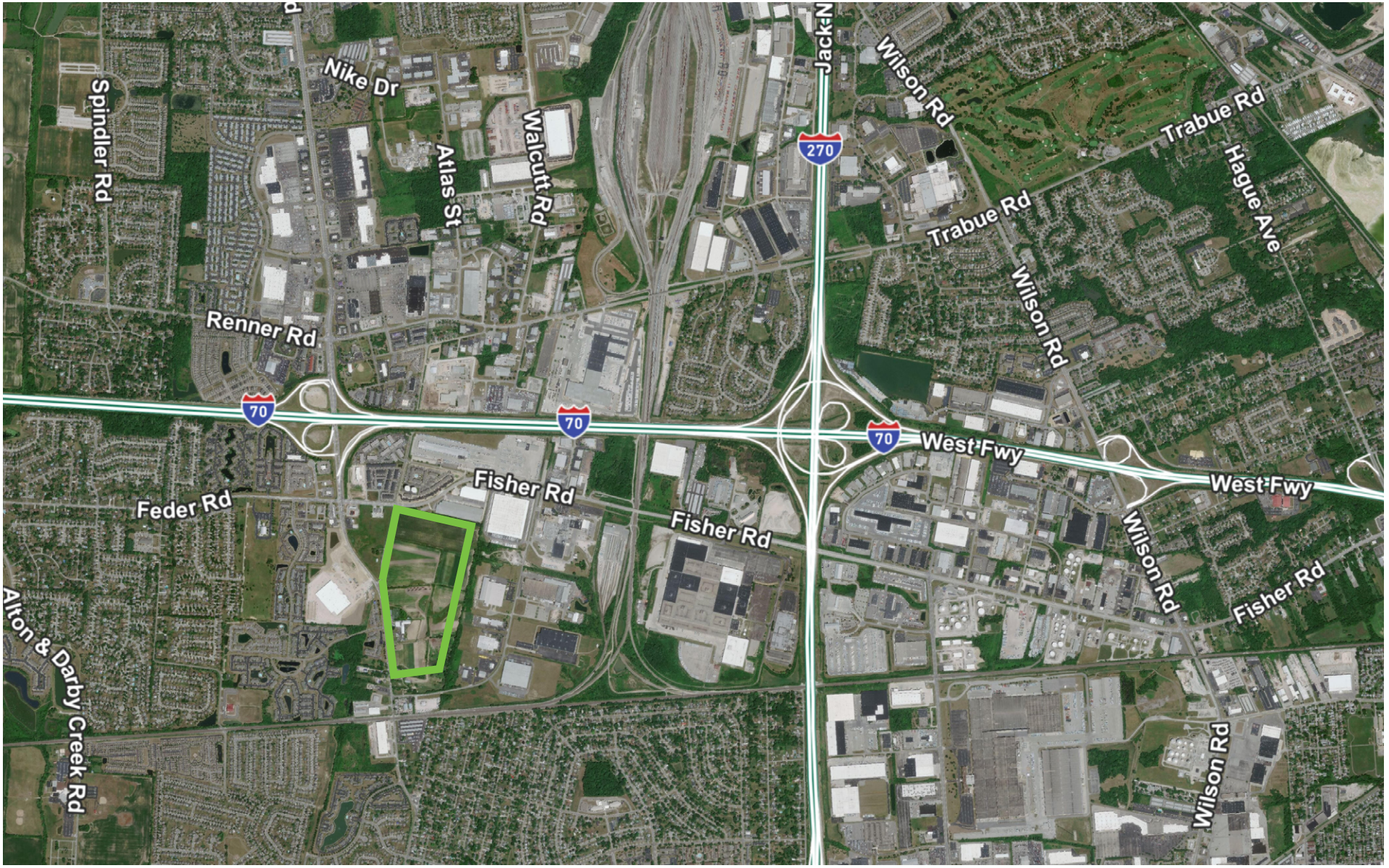
| | | 1<br>BUCKEYE YARD RAIL SITE<br>(EXPANSION SITE) | 2<br>HOFFMAN FARM<br>COLUMBUS, OH | 3<br>SELECT SIRES<br>DEVELOPMENT | 4<br>WESTLAND MALL |
|---|---|---|---|---|---|
| SITE INFORMATION | SUBMARKET | Westbelt (Current Facility) | WEST COLUMBUS | West Side | West Side |
| | DEVELOPER | Land Owned by Xebec | TPA Group | VanTrust | Trident Capital |
| | CURRENT SITE STATUS | Industrial use land Contiguous with the Existing Manufacturing facility Parcel | Greenfield development site. In the process of due diligence to purchase, annexation, zoning, incentives negotiations, and entitlement | This is a Greenfield Land Site currently listed for Sale and Development. We have engaged a development partner, Van Trust to investigate the development potential of this site on Simpson's behalf with the ultimate goal of receiving a formal proposal on the site for a new facility. " | This is the former Westland Mall location which is now slated for redevelopment. Trident is currently in contract to purchase this site from the current owners. |
| | PROPOSED BUILDING SIZE (SQ. FT.) | Simpson could construct a 200,000 Sq. Ft. addition | 622,500 Sq. Ft. | 570,000 Sq. Ft. | 500,000 Sq. Ft. |
| | EXPANSION CAPABILITY | TBD. A 200,000 Sq. Ft. Expansion appears to be feasible subject to proper due diligence of the site. | This Building will not have expansion capabilities due to the site constraints | Expandable by 313,500 Sq. Ft. | Expandable by + 300,000 Sq. Ft. |
| | LARGEST SIZE ACHIEVABLE (SQ. FT.) | TBD | 622,500 Sq. Ft.<br>(we recommend maximizing the initial footprint) | 883,500 Sq. Ft. | +/- 800,000 |
| | SITE SIZE WITHOUT EXPANSION (ACRES) | 40 Acres | +/- 27 Acres | 70 Acres | +/- 50 Acres |
| | SITE SIZE WITH EXPANSION (ACRES) | 40 Acres | +/- 27 Acres | 70 Acres | +/- 50 Acres |
| DEAL STRUCTURE | PROPOSED DEAL TYPE | The Land behind the Existing Factory is approximately 40 Acres and includes inactive rail lines. The strategy would be to Purchase the Land Site for expansion of the existing Building. This site will need to be fully vetted as to its suitability for future Industrial development during the Acquisition/Due Diligence phase of the purchase. Items to vet would be wetland impact and environmental contamination issues. Simpson as owner of the Ground would be able to self perform an expansion of its existing facility. The additional ground could be suitable for vehicle/trailer parking, or could be potentially disposed through sale to other interested neighbors who have not yet been contacted. | The ownership is proposing a merchant build with Simpson purchasing the shell property upon completion | A proposal on this site has not yet been received. The developer Van Trust is currently investigating the Site for Suitability to Develop. Due to its location at the edge of Columbus, infrastructure may be challenging. | A proposal on this site has not yet been received. However, based on previous proposals from this developer, this site could be developed as a merchant building with a closing of the property upon the substantial completion of the base building shell. |
| | LEASE OF THE PROPERTY | N/A - this would be a Simpson-owned land site for expansion of the existing manufacturing facility. | Not Proposed | Still Researching this site - No Proposal Yet | A lease of the Property is likely not needed. |
| | PROPOSED LEASE PAYMENT START DATE | | | | |
| | FIRST YEAR LEASE RATE ($/SQ. FT. NNN) | | | | |
| | FIRST YEAR LEASE PAYMENTS TOTAL NNN | | | | |
| PURCHASE OF THE PROPERTY | PROPOSED CLOSING DATE TO PURCHASE THE PROPERTY | The Property is Currently in Contract with Xebec for purchase from Norfolk Southern Railroad. The closing is expected to occur in 2021. The property could be acquired in 60 to 90 Days from Contract Execution | Timing to purchase is To Be Determined, TPA is currently acquiring the property. Closing in 2021 | Still Researching this site - No Proposal Yet | The date of the Seller's closing is yet to be determined. Upon closing of the Trident Purchase, |
| | PROPOSED PURCHASE PRICE | The 40 Acre Site would be Acquired for $275,000 to $300,000 Per Acre = $11M to $12M | $76.00/Sq. Ft. or $47,310,000 | | |
| | PROPOSED PURCHASE PRICE WITH MAX EXPANSION CAPABILITY | | The 40 Acre Site would be Acquired for $275,000 to $300,000 Per Acre = $11M to $12M | | |
| | PROPOSED PURCHASE PRICE $/SQ. FT. | | $76.00/Sq. Ft. | | |
| TI INCLUDED IN THE PROPOSED PRICING | TI ALLOWANCE INCLUDED ($/SQ. FT.) | Not Applicable | Scope of Shell Delivery to be Negotiated | Still Researching this site - No Proposal Yet | Still Researching this site - No Proposal Yet |
| | TI ALLOWANCE INCLUDED (TOTAL) | | | | |
| SIMPSON'S CONSTRUCTION | PROPOSED SIMPSON CONSTRUCTION START DATE | Upon Simpson's Closing on the Land. | Upon Closing, the building shell will be constructed by TPA to Simpson's specifications | Unknown | Unknown |
| SIMPSON'S EXISTING PROPERTY | NOTES REGARDING THE EXISTING PROPERTY: 2600 INTERNATIONAL STREET | This Scenario would allow the continued use of the Existing Facility on International Street | Not proposed | | This Developer has expressed an interest in purchasing the Existing Simpson building as a component of this transaction |
| | NOTES: | We would anticipate that a 200,000 Sq. Ft. Addition could be accomplished at $70.00 to $80.00/Sq. Ft. $14M to $16M | Although no TI was Proposed, we would expect to have room to negotiate a greater scope within the offered pricing. This property is currently under contract to purchase by the national developer - TPA Group. | The Site presents challenges to development. | This is a newly available site on the market and the Developer is currently in contract to purchase the site |

# 1 BUCKEYE YARD RAIL SITE

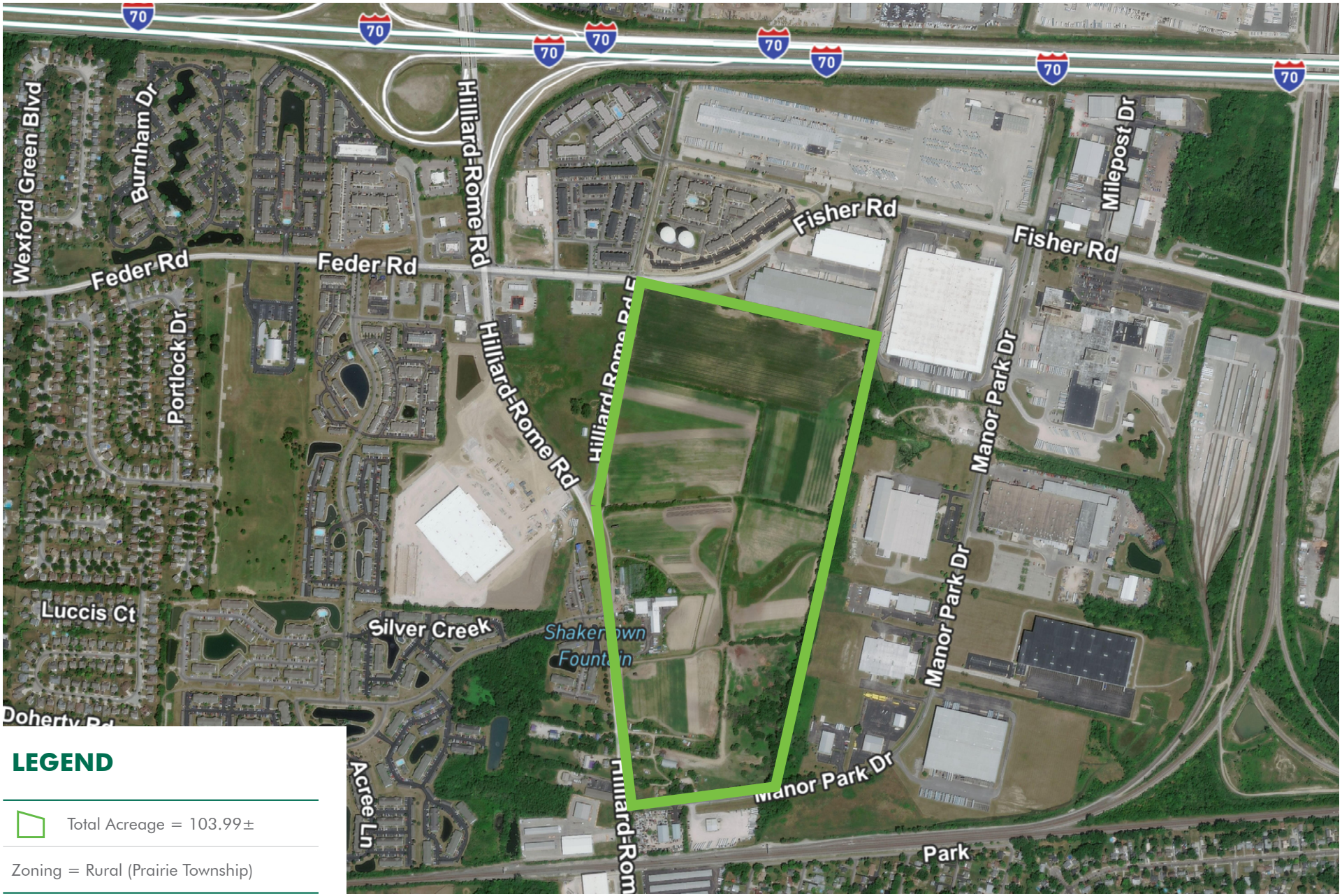


# 1 BUCKEYE YARD RAIL SITE

## 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD



# 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD




## LEGEND

Total Acreage = 103.99±

Zoning = Rural (Prairie Township)

## 2 HOFFMAN FARM, 800 HILLIARD ROME ROAD

# 3 SELECT SIRES SITE


## LEGEND

- Total Acreage = 102.076±
- Acreage = 75.80±
- Unincorporated Land – Franklin County

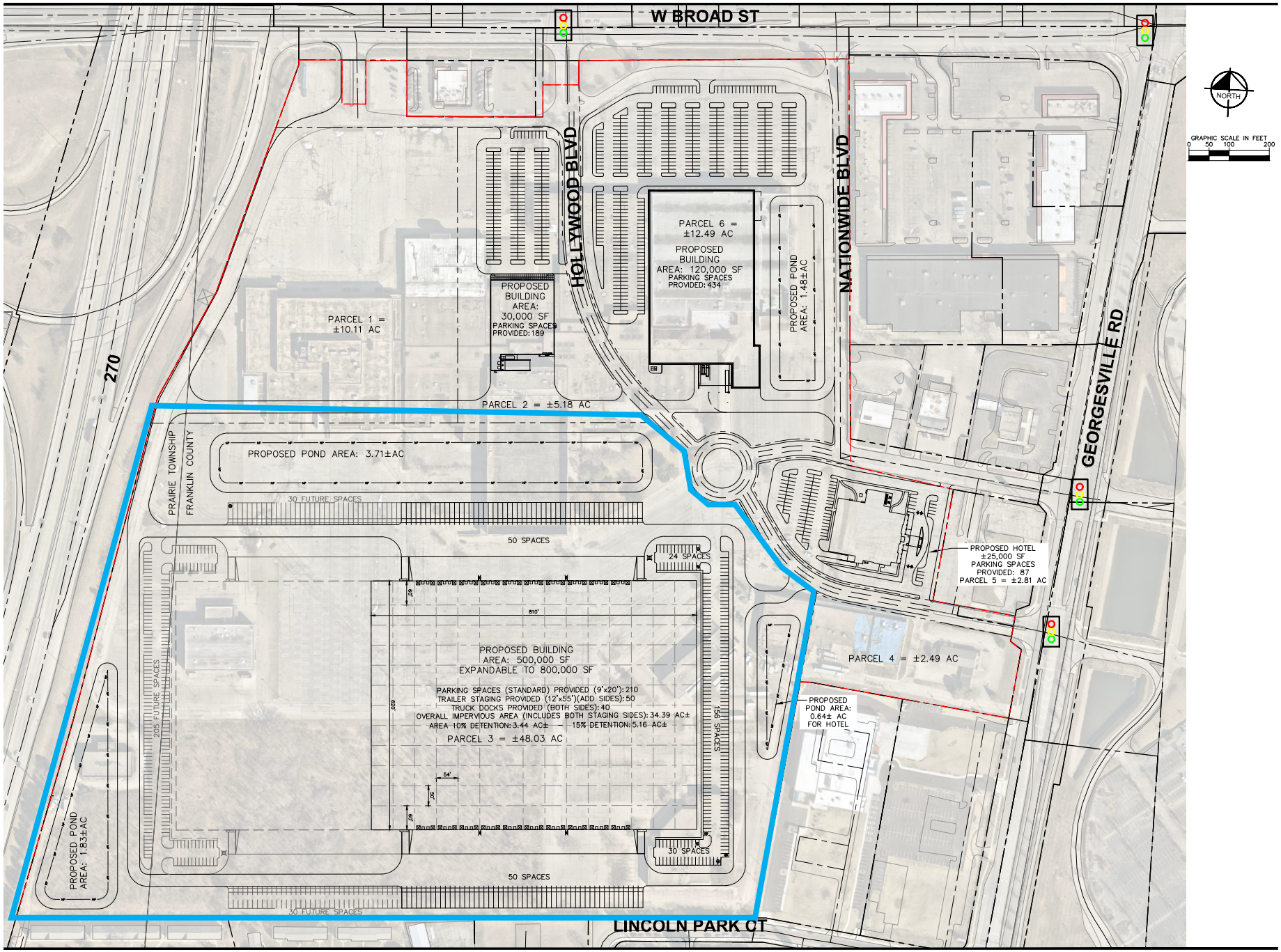
# 3 SELECT SIRES SITE


## LEGEND

- Total Acreage = 102.076±
- Acreage = 75.80±
- Unincorporated Land – Franklin County

# 4 WESTLAND MALL SITE

# 4 WESTLAND MALL SITE





## PREPARED BY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weston.devore@cbre.com

# ATTACHMENT B

## Minimal Disturbance Alternative Concept Plan

PENNSYLVANIA LINES LLC
IN. 200212180325195
7.503 ACRES

S04°55'49"W 2314.24'

EX STREAMS

PROPOSED 100-YR POND LIMITS

PROPOSED WET RETENTION POND

0.68 ACRES OF WETLAND TO BE DISTURBED

1.67 ACRES OF WETLAND TO BE DISTURBED

SIMPSON MANUFACTURING CO INC
IN. 202203070036008
41.731 ACRES

60' SIDE YARD SETBACK

60' FRONT YARD SETBACK

N86°39'16"W 303.28'

N89°09'57"W 277.69'

ROBERTS ROAD
(R/W VARIES)

S04°54'43"W 74.80'

N04°54'43"E 74.80'

N86°55'26"E 30.00'

S86°55'26"W 30.00'

S04°28'14"W 634.28'

N04°28'14"E 634.28'

S04°28'14"W 621.31'

N04°28'14"E 621.31'

S04°28'14"W 621.31'

N04°28'14"E 621.31'

N04°28'10"E 454.15'

WILSONART I LLC
PID: 560-189897
5.78 ACRES

TARRIER HOLDINGS INC.
IN. 201109290123570
12.420 ACRES

S87°55'53"E 331.55'

SIMPSON MANUFACTURING
OR 14496 D-12
6.000 ACRES

S87°55'53"E 331.55'

SIMPSON MANUFACTUREING CO
IN. 200505060086763
7.854 ACRES

N87°04'14"E 542.48'

N02°55'30"E 330.71'

N02°55'30"E 207.79'

INTERNATIONAL STREET
(PUBLIC, 60' R/W)

## LEGEND

WETLAND AREA TO BE DISTURBED

## NOTES

1. 2.35 TOTAL ACRES OF WETLAND TO BE DISTURBED
2. 41.60 LINEAR FEET OF STREAM TO BE DISTURBED

0 40 80 160

OHIO811.org Before You Dig


PLANS PREPARED BY:

THE KLEINGERS GROUP

CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd
Suite B
Westerville, OH 43082
614.882.4311


| NO. | REVISION DESCRIPTION | INITIAL | DATE |
|---|---|---|---|
| | | | |

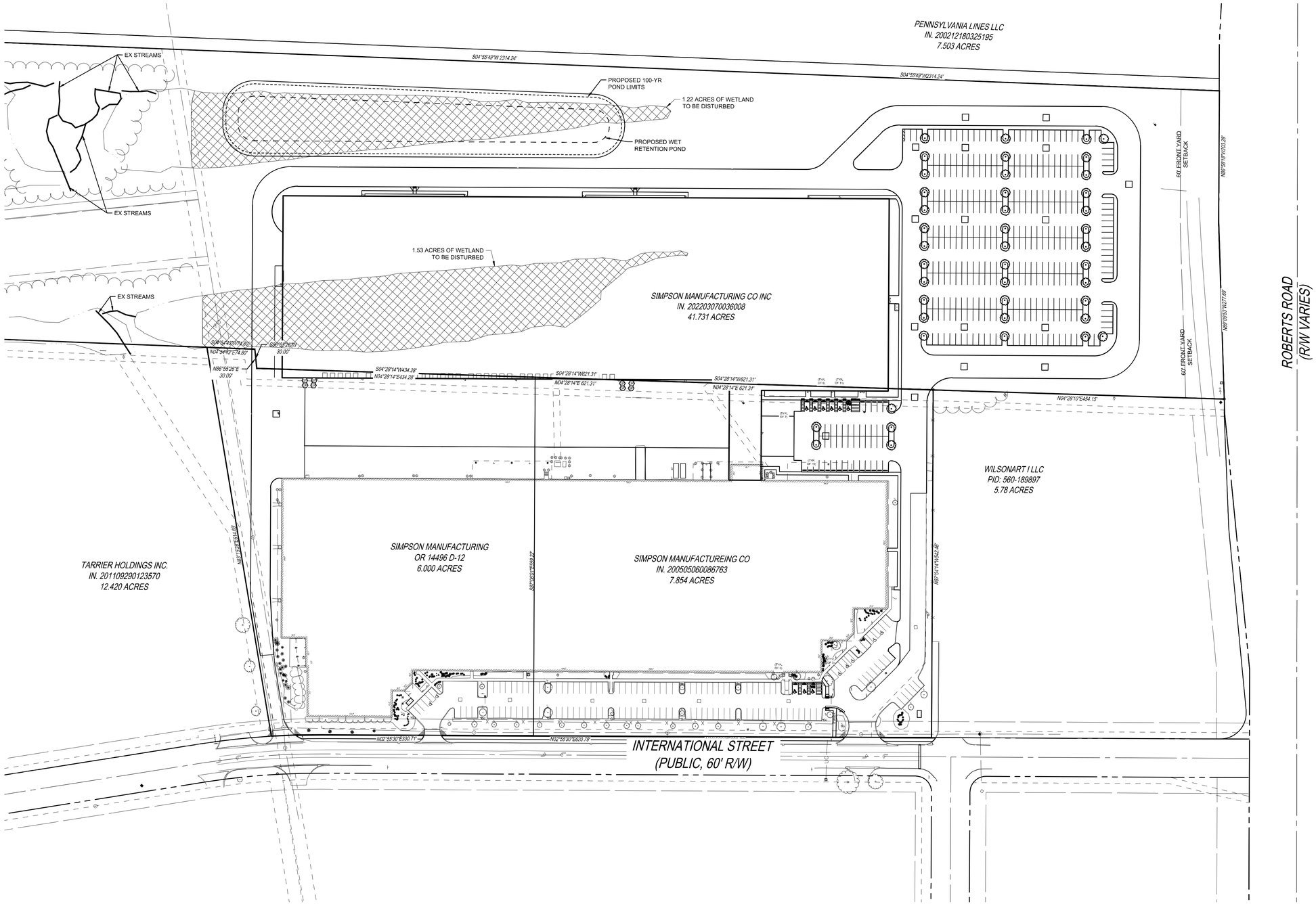
SIMPSON STRONG-TIE DEVELOPMENT
MINIMAL IMPACT WETLAND EXHIBIT
2600 INTERNATIONAL STREET
CITY OF COLUMBUS
FRANKLIN COUNTY, OHIO

| DATE | JOB NO. |
|---|---|
| 10/28/2022 | 210880.001 |
| SCALE | SHEET |
| 1"=80' | 2/2 |

H:\Columbus\210880\501_DWG_MitWl exhibit\210880501_MitWl exhibit 2022-10-28 MI wetl lim pact\Mitlim pact exhibit.dwg, 10/28/2022 12:28:49 PM, mcovner

# ATTACHMENT C

## Preferred Alternative Concept Plan




## LEGEND

WETLAND AREA TO BE DISTURBED

## NOTES

1. 2.75 TOTAL ACRES OF WETLAND TO BE DISTURBED

0 40 80 160

OHIO811.org Before You Dig

PLANS PREPARED BY:

THE KLEINGERS GROUP
CIVIL ENGINEERING
SURVEYING
LANDSCAPE ARCHITECTURE
www.kleingers.com
350 Worthington Rd
Suite B
Westerville, OH 43082
614.882.4311

| REV. | REVISION DESCRIPTION | INITIAL | DATE |
|---|---|---|---|

# SIMPSON STRONG-TIE DEVELOPMENT
# PREFERRED ALTERNATIVE WETLAND EXHIBIT
# 2600 INTERNATIONAL STREET
# CITY OF COLUMBUS
# FRANKLIN COUNTY, OHIO

| DATE | JOB NO. |
|---|---|
| 10/28/2022 | 210880.001 |
| SCALE | SHEET |
| 1"=80' | 1/2 |

H:\Columbus\P\210880\001_DWG_JHK\Wetland Exhibit\2022-10-28 Preferred Alternative Wetland Exhibit.dwg, 10/28/2022 12:29:00 PM, mcavinar

# ATTACHMENT D

Current Mitigation Credit Receipt from Stream + Wetland Foundation

Stream and Wetlands FOUNDATION

123 South Broad Street, Suite 238
P.O. Box 369
Lancaster, Ohio 43130
T: (740) 654-4016
F: (740) 689-0890

November 4, 2022

Mr. Burak Gursel
Simson Strong-Tie Co., Inc.
5956 W. Positas Blvd.
Pleasanton, CA 94588

**RE: Wetlands Mitigation for the Buckeye Yard Expansion site located at 2600 International Street, Columbus Ohio 43228**
**ACCT NO. SCIO-179**

Dear Mr. Gursel:

The Stream + Wetlands Foundation received on November 4, 2022, an amended purchase agreement for the Buckeye Yard Expansion site. As per the terms of the updated purchase agreement, the previously paid deposit payment of $32,175 (Check #749648) reserves 4.2 acres of non-forested wetland mitigation credits, from our Huntington In-Lieu Fee Program.

The remaining balance of $198,825 is due within 30 days of the permit issuance date. If you do not receive your permit within the 6-month reservation period, an additional deposit payment will be required as per the terms of our agreement.

Thank you very much for allowing Stream + Wetlands Foundation to assist you with the wetlands mitigation needs of this project. Should you need further assistance, please feel free to call anytime.

*Sincerely,*

Vincent E. Messerly, P.E.
President

Cc: Lindsay Hanna, MAD Scientist & Associates, via email

ATTACHMENT B

WETLAND DELINEATION REPORT

253 North State Street, Suite 101 Westerville, Ohio 43081 (614) 818-9156 Fax (614) 818-9157 www.madscientistassociates.net

# Memorandum: Buckeye Yard Wetland Assessment

**Date:** May 3, 2022

**RE:** Assessment of water resources onsite at Buckeye Yard (north of Roberts Road) in Franklin County, Ohio

## Introduction

This is a supplemental memo to be included with the delineation report completed by Central Ohio Wetland Consulting, LLC on April 20, 2021.

Simpson Strong-Tie Co., Inc. (SST) hired MAD Scientist Associates, LLC (MAD) to provide wetland assessment services as part of the company's due diligence prior to purchasing a property within Buckeye Yard north on Roberts Road in Franklin County, OH (Figures 1 and 2). Field work was completed on October 18, 2021, by Certified Wetland Delineator (CWD) Lindsay Hanna and Environmental Technician Cody Wright. Observations were recorded regarding the delineated water resources onsite as well as any additional wetlands observed. In addition, connectivity of water resources to make a potential jurisdictional determination was reviewed. Delineation datasheets were completed using methods presented in the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Midwest Regional Supplement (Version 2.0; USACE, 2012).

## Site Findings

MAD confirmed the presence of seven (7) wetlands and eight (8) streams onsite. MAD verified the wetland boundaries that were delineated by Central Ohio Wetland Consulting, LLC in a previous delineation report and completed datasheets at each wetland. In addition, MAD delineated an additional wetland and conducted an ORAM for this wetland. Based on field observations, these wetlands and streams are potentially jurisdictional, however a formal jurisdictional determination will have to be submitted to USACE before this can be verified.

Supplemental photos can be found in Appendix A of this addendum.

### Wetlands 1-6

MAD confirmed the presence of Wetlands 1 through 6 that were previously delineated by Central Ohio Wetland Consulting, LLC in April 2021. The updated wetland boundaries are presented in Figure 3 of this addendum. Wetland datasheets are provided in Appendix B of this addendum.

### Wetland 7

Wetland 7 is located in the northern portion in Buckeye Yard located along the edge of the railroad track. The wetland is estimated to be 0.057 acres. Dominant species include green ash (*Fraxinus pennsylvanica-FACW*), cottonwood (*Populus deltoides-FAC*), gray dogwood (*Cornus racemose-FAC*), common buckthorn (*Rhamnus cathartica-FAC*), narrow-leaf cattail (*Typha angustifolia-OBL*), barnyard glass (*Echinochloa crus-galli-FACW*), and yellow nutsedge

(*Cyperus esculentus-FACW*). Wetland hydrology indicators at the Site for Wetland 7 included saturation, geomorphic position, and passing the FAC-neutral test for plants. Hydric soil indicators included depleted matrix (F3) evidenced by a low chroma of 2, with prominent redoximorphic features present (4 to 12 percent) as concentration in the matrix.

Wetland 7 is small with a very narrow buffer of high intensity land uses. The hydrology has been impacted by the nearby railroad track and stormwater input; it appears to be recovering. Similarly, the habitat has been impacted by shrub removal and is of fair quality; it appears to be recovering. In general, there is little wildlife habitat and a sparse amount of invasive cattail. Based on these factors, Wetland 7 scored a 23 on the ORAM, categorizing it as a Category 1 wetland.

## Impacts

Wetlands 4 and 6 will be impacted. In total, 2.51 acres of wetland will be impacted (1.35 acres of Wetland 4 and 1.16 acres of Wetland 6).

**Literature Cited:**

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report. Y-87-1. U.S. Army Engineers Waterways Experiment Station. Vicksburg, MS.

Ohio EPA. 2001. Ohio Rapid Assessment Method for Wetlands. Version 5.0 Final. Ohio Environmental Protection Agency. Columbus, Ohio.

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# Figures

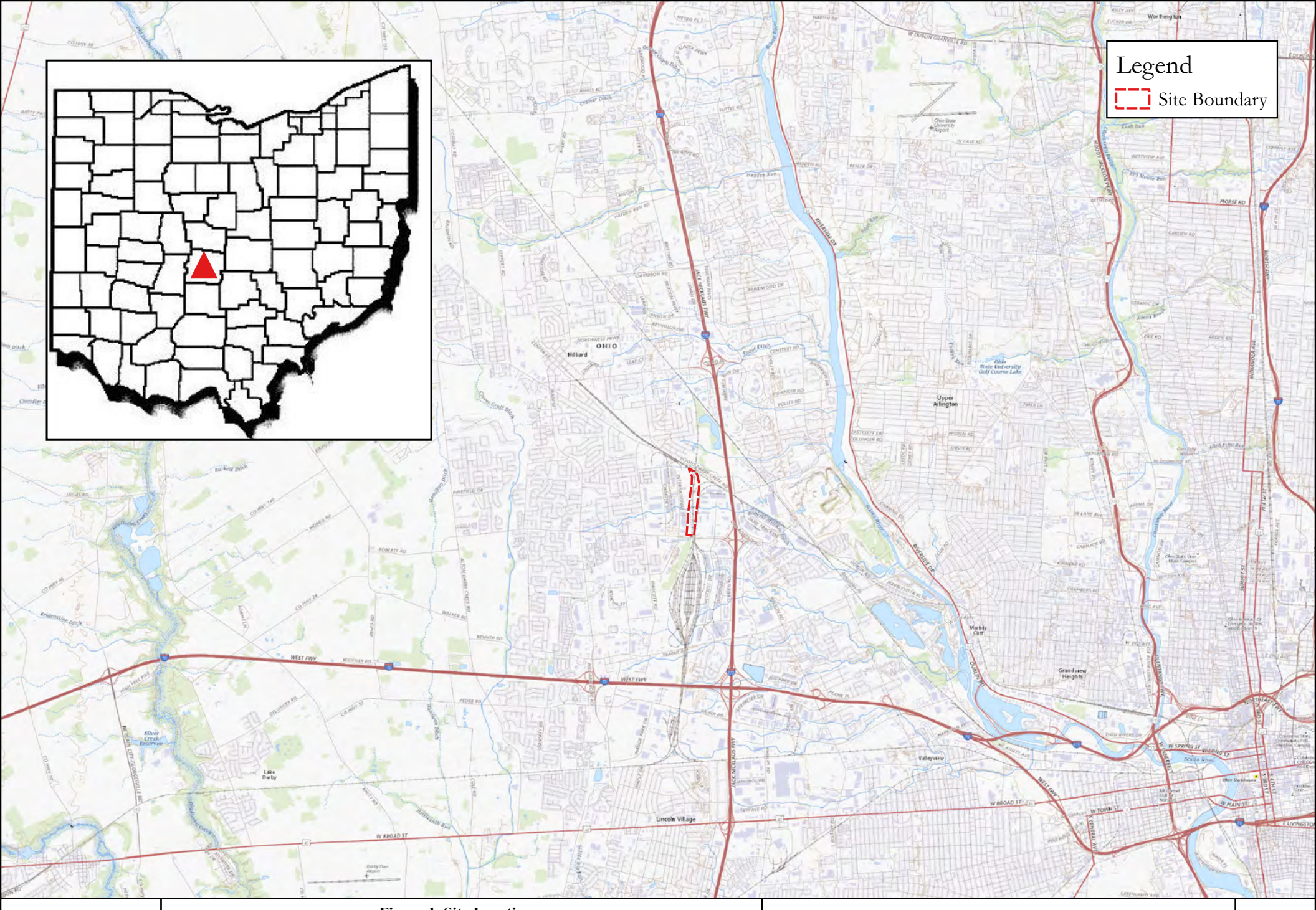



**Figure 1. Site Location**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: ArcGIS Topography

MAD SCIENTIST ASSOCIATES LLC

Date: November 4, 2021

0 1 2 3 4 5 6 mi

Created By: Lindsay Hanna


MAD SCIENTIST ASSOCIATES LLC

**Figure 2. Site Aerial**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna

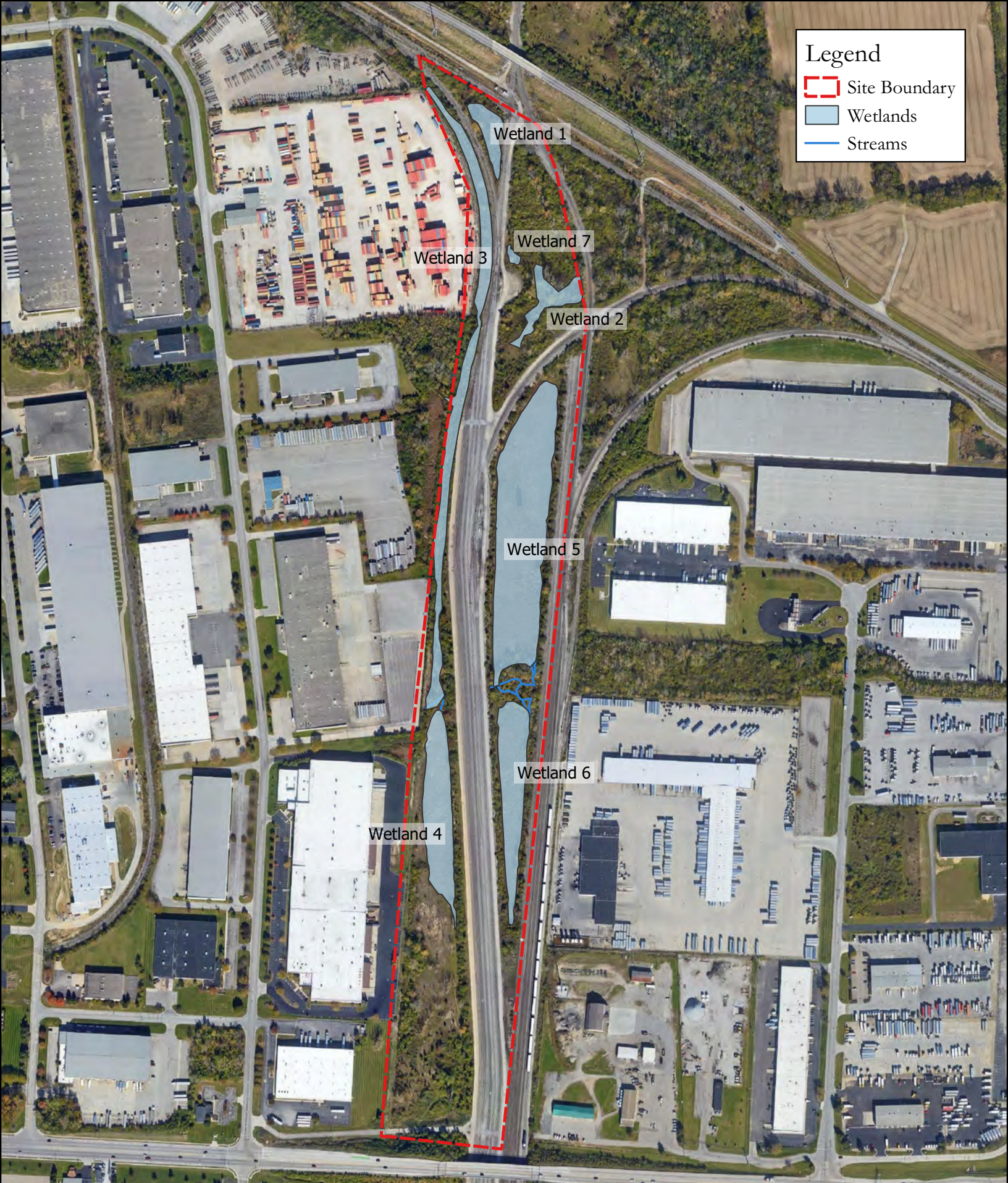



**Figure 3. Wetlands and Streams Onsite**
Buckeye Yard, Simpson Strong-Tie
Columbus, Ohio

Sources: Google Satellite (2019)

MAD SCIENTIST ASSOCIATES LLC

Date: November 4, 2021

200 0 200 400 600 800 1,000 ft

Created By: Lindsay Hanna

# Attachment A

# Photolog

Photograph 1 – Soil in Wetland 1.

Photograph 2 –Wetland 1 facing northeast toward wetland interior.

Photograph 3 – Upland area between Wetland 1 and Wetland 3, facing south.

Photograph 4 – Soil in Wetland 2.

Photograph 5 – Wetland 2 interior, facing north.

Photograph 6 – Wetland 2 interior, facing east.

Photograph 7 – Soil at Upland 2.

Photograph 8 – Soil in Wetland 3.

Photograph 9 – Wetland 3 interior, facing north.

Photograph 10 – Wetland 4 connectivity with stream, facing south.

Photograph 11 – Upland facing Wetland 4, facing north.

Photograph 12 –Soil in Wetland 5.

Photograph 13 – Wetland 5, facing north.

Photograph 14 – Soil in Wetland 6.

Photograph 15 – Wetland 6 facing north, toward stream area.

Photograph 16 – Wetland 6 interior, facing south.

Photograph 17 – Soil in Wetland 7.

Photograph 18 – Wetland 7 interior, facing east.

# Attachment B

# Datasheets

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard City/County: Columbus/Franklin Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie State: OH Sampling Point: W1-up

Investigator(s): Lindsay Hanna Section, Township, Range:

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): Concave

Slope (%): 2 Lat: 40.013685° Long: -83.127905° Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, 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 X | **Is the Sampled Area within a Wetland?** **Yes** **No X** |
| Hydric Soil Present? | Yes | No X | |
| Wetland Hydrology Present? | Yes | No X | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 8 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 8 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Schizachyrium scoparium* | 10 | Yes | FACU |
| 2. *Euthamia graminifolia* | 5 | No | FACW |
| 3. *Juniperus virginiana* | 12 | Yes | FACU |
| 4. *Spiraea japonica* | 10 | Yes | UPL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 37 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (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
- 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.

**Hydrophytic Vegetation Present?** **Yes** **No X**

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

## SOIL

Sampling Point: W1-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rocks

Depth (inches): 1

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Along train track, uphill between Wetland 1 and Wetland 3/

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W1-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.013687° | Long: -83.127801° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 20 | Yes | FAC |
| 2. *Salix nigra* | 18 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 38 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Salix nigra* | 5 | Yes | OBL |
| 2. *Cornus sericea* | 10 | Yes | FACW |
| 3. *Rhamnus cathartica* | 8 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 23 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W1-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 4/2 | 98 | 10YR 5/6 | 2 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 3-13 | 2.5Y 4/2 | 98 | 10YR 5/4 | 2 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 13-15 | 10YR 4/2 | 96 | 10YR 4/6 | 1 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 6/4 | 3 | C | M | | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No ___ | Depth (inches): 5 | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 5 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 5 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W2-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.012603° | Long: -83.127084° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 15 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Rhamnus cathartica* | 35 | Yes | FAC |
| 2. *Lonicera maackii* | 15 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 50 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Lonicera maackii* | 9 | Yes | UPL |
| 2. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 11 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 2 | x 2 = | 4 |
| FAC species | 50 | x 3 = | 150 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 24 | x 5 = | 120 |
| Column Totals: | 76 (A) | | 274 (B) |

Prevalence Index = B/A = 3.61

**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.

**Hydrophytic Vegetation Present?** **Yes** ____ **No** X

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

## SOIL

Sampling Point: W2-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: roots

Depth (inches): 8

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 3 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 3 |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W2-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.012542° | Long: -83.127187° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus deltoides* | 20 | Yes | FAC |
| 2. *Acer saccharinum* | 15 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 35 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. *Rhamnus cathartica* | 8 | Yes | FAC |
| 2. *Lonicera japonica* | 5 | Yes | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 13 | =Total Cover | |
| **Herb Stratum** (Plot size: 5) | | | |
| 1. *Agrimonia parviflora* | 18 | Yes | FACW |
| 2. *Euthamia graminifolia* | 25 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 12 | No | FACW |
| 4. *Symphyotrichum lateriflorum* | 10 | No | FACW |
| 5. *Carex frankii* | 18 | Yes | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 83 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W2-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 3/2 | 98 | 10YR 3/6 | 2 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 3-11 | 10YR 4/2 | 95 | 10YR 5/4 | 5 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 11-16 | 10YR 3/2 | 95 | 10YR 5/4 | 1 | C | M | Loamy/Clayey | Distinct redox concentrations |
| | | | 10YR 5/6 | 4 | C | M | | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? Yes X No ___ Depth (inches): 1

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W3-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.013665° | Long: -83.128058° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 0 | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No 0 | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 25 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 25 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Cornus sericea* | 10 | Yes | FACW |
| 2. *Lonicera maackii* | 5 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Phalaris arundinacea* | 18 | Yes | FACW |
| 2. *Typha x glauca* | 5 | Yes | OBL |
| 3. *Symphyotrichum lateriflorum* | 2 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 25 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** Yes X No ____

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

## SOIL

Sampling Point: W3-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 10YR 4/1 | 100 | | | | | Loamy/Clayey | |
| 3-11 | 10YR 4/2 | 97 | 7.5YR 5/6 | 3 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 11-16 | 2.5Y 5/1 | 97 | 10YR 5/6 | 3 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): 10

Saturation Present? Yes X No ___ Depth (inches): 11

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W4-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.005752° | Long: -83.128613° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Rhamnus cathartica* | 2 | Yes | FAC |
| 2. *Juniperus virginiana* | 3 | Yes | FACU |
| 3. *Pyrus calleryana* | 1 | No | UPL |
| 4. *Populus deltoides* | 2 | Yes | FAC |
| 5. | | | |
| | 8 =Total Cover | | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Schizachyrium scoparium* | 10 | No | FACU |
| 2. *Juniperus virginiana* | 10 | No | FACU |
| 3. *Euthamia graminifolia* | 18 | Yes | FACW |
| 4. *Epilobium coloratum* | 20 | Yes | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 58 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W4-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 4/2 | 100 | | | | | Loamy/Clayey | |
| 8-13 | 10YR 4/3 | 100 | | | | | Loamy/Clayey | friable |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

Gravel in layer at 3 inches

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W4-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.005886° | Long: -83.128574° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15)** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Typha X glauca* | 35 | Yes | OBL |
| 2. *Juncus effusus* | 32 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 67 =Total Cover | | |
| **Woody Vine Stratum (Plot size: ____)** | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W4-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 2.5Y 5/2 | 100 | | | | | Loamy/Clayey | |
| 3-4 | 2.5Y 5/2 | 98 | 2.5Y 5/4 | 2 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 4-8 | 10YR 5/2 | 94 | 10YR 5/6 | 6 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

Gravel in layer at 3 inches

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 1 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10/18/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W5&6-up

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.007998° | Long: -83.127790° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Catalpa speciosa* | 20 | Yes | FACU |
| 2. *Acer saccharinum* | 20 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 10 | No | FACW |
| 4. *Celtis occidentalis* | 18 | Yes | FAC |
| 5. | | | |
| | 68 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Lonicera maackii* | 50 | Yes | UPL |
| 2. *Ligustrum vulgare* | 15 | Yes | FACU |
| 3. *Rhamnus cathartica* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| | 75 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Rhamnus cathartica* | 10 | Yes | FAC |
| 2. *Lonicera maackii* | 8 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 18 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (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

____ 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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W5&6-up

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10YR 3/2 | 98 | 10YR 4/6 | 2 | C | PL | Loamy/Clayey | Prominent redox concentrations |
| 8-16 | 2.5Y 4/2 | 100 | | | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rocks

Depth (inches): 1

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 7 |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10/18/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W5-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.008253° | Long: -83.127799° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No 0 | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Site appears mowed, potential soil modification. Wetland A interior mix of FAC, FACU and FACW species.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Catalpa speciosa* | 35 | Yes | FACU |
| 2. *Acer saccharinum* | 20 | Yes | FACW |
| 3. *Fraxinus pennsylvanica* | 15 | No | FACW |
| 4. *Ulmus americana* | 15 | No | FACW |
| 5. | | | |
| | 85 | =Total Cover | |
| **Sapling/Shrub Stratum (Plot size: )** | | | |
| 1. *Cornus racemosa* | 10 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 12 | Yes | FACW |
| 3. *Lonicera maackii* | 8 | Yes | UPL |
| 4. | | | |
| 5. | | | |
| | 30 | =Total Cover | |
| **Herb Stratum (Plot size: 5)** | | | |
| 1. *Lysimachia nummularia* | 10 | Yes | FACW |
| 2. *Symphyotrichum lanceolatum* | 8 | Yes | FAC |
| 3. *Viburnum trilobum* | 5 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 23 | =Total Cover | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5% (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W5-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 2.5Y 4/2 | 93 | 10YR 5/8 | 5 | C | PL/M | Loamy/Clayey | Prominent redox concentrations |
| | | | 2.5Y 4/1 | 2 | RM | M | | |
| 9-16 | 2.5Y 5/2 | 91 | 10YR 5/6 | 5 | C | PL/M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 3/6 | 4 | C | PL/M | | Prominent redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes X | No ___ | Depth (inches): 4 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 4 |

**Wetland Hydrology Present?** **Yes** X **No** ___

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 11/3/21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W6-wet

Investigator(s): Lindsay Hanna | Section, Township, Range:

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.007824° | Long: -83.127451° | Datum: NAD '83

Soil Map Unit Name: Urban land-Celina complex, 2 to 12 percent slopes | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** ____ **No** X |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Salix nigra* | 15 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 15 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Typha X glauca* | 10 | No | OBL |
| 2. *Symphyotrichum lateriflorum* | 15 | Yes | FACW |
| 3. *Phalaris arundinacea* | 35 | Yes | FACW |
| 4. *Acer saccharinum* | 5 | No | FACW |
| 5. *Impatiens capensis* | 10 | No | FACW |
| 6. *Lysimachia nummularia* | 10 | No | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 85 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W6-wet

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-5 | 10YR 3/1 | 100 | | | | | Loamy/Clayey | |
| 5-11 | 10YR 4/1 | 93 | 7.5YR 4/6 | 7 | C | M | Loamy/Clayey | Prominent redox concentrations |
| 11-17 | 10YR 5/1 | 80 | 10YR 5/4 | 15 | C | M | Loamy/Clayey | Distinct redox concentrations |
| | | | 10YR 4/4 | 5 | C | M | | Distinct redox concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 2 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 1 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10-18-21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W7-UP

Investigator(s): Lindsay Hanna, Cody Wright | Section, Township, Range: N/A

Landform (hillside, terrace, etc.): base of hillslope | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.012823° | Long: -83.127693° | Datum: NAD' 83

Soil Map Unit Name: Urban Land-Celina complex | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | **Is the Sampled Area within a Wetland?** Yes ____ No X |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks:
Along rocky edge of railroad access road

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum (Plot size: 15 )** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | =Total Cover | | |
| **Herb Stratum (Plot size: 5 )** | | | |
| 1. *Daucus carota* | 60 | Yes | UPL |
| 2. *Cornus racemosa* | 10 | No | FAC |
| 3. *Setaria pumila* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 80 =Total Cover | | |
| **Woody Vine Stratum (Plot size: )** | | | |
| 1. | | | |
| 2. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (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

____ 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.

**Hydrophytic Vegetation Present?** Yes ____ No X

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

## SOIL

Sampling Point: W7-UP

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 0

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Buckeye Yard | City/County: Columbus/Franklin | Sampling Date: 10-18-21

Applicant/Owner: Simpson Strong-Tie | State: OH | Sampling Point: W7-WET

Investigator(s): Lindsay Hanna, Cody Wright | Section, Township, Range: N/A

Landform (hillside, terrace, etc.): base of hillslope | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.012821° | Long: -83.127668° | Datum: NAD' 83

Soil Map Unit Name: Urban Land-Celina complex | 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 Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , 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 X | No ____ | **Is the Sampled Area within a Wetland?** **Yes** X **No** ____ |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks:
Area is at the base of the slope of old rail road access road.

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: 30 ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 3 | Yes | FACW |
| 2. *Populus deltoides* | 10 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 13 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Cornus racemosa* | 12 | Yes | FAC |
| 2. *Rhamnus cathartica* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 17 | =Total Cover | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Typha angustifolia* | 20 | Yes | OBL |
| 2. *Epilobium coloratum* | 10 | No | OBL |
| 3. *Echinochloa crus-galli* | 23 | Yes | FACW |
| 4. *Populus deltoides* | 8 | No | FAC |
| 5. *Symphyotrichum pilosum* | 12 | No | FACU |
| 6. *Cyperus esculentus* | 15 | Yes | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| | 88 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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 ≤3.0[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.

**Hydrophytic Vegetation Present?** **Yes** X **No** ____

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

## SOIL

Sampling Point: W7-WET

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

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 10YR 5/2 | 96 | 10YR 6/4 | 4 | C | M | Loamy/Clayey | Distinct redox concentrations |
| 9-12 | 2.5y 5/2 | 91 | 10YR 5/6 | 6 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 5/1 | 3 | D | M | | |
| 12-18 | 2.5y 5/2 | 83 | 10YR 5/6 | 12 | C | M | Loamy/Clayey | Prominent redox concentrations |
| | | | 10YR 4/2 | 5 | D | M | | |
| | | | | | | | | |
| | | | | | | | | |

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

[2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils[3]:**

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | | |
| Water Table Present? | Yes X | No ___ | Depth (inches): 17 | | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 0 | **Wetland Hydrology Present?** | **Yes** X **No** ___ |

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

Remarks:

# Attachment C

# Wetland 7 ORAM

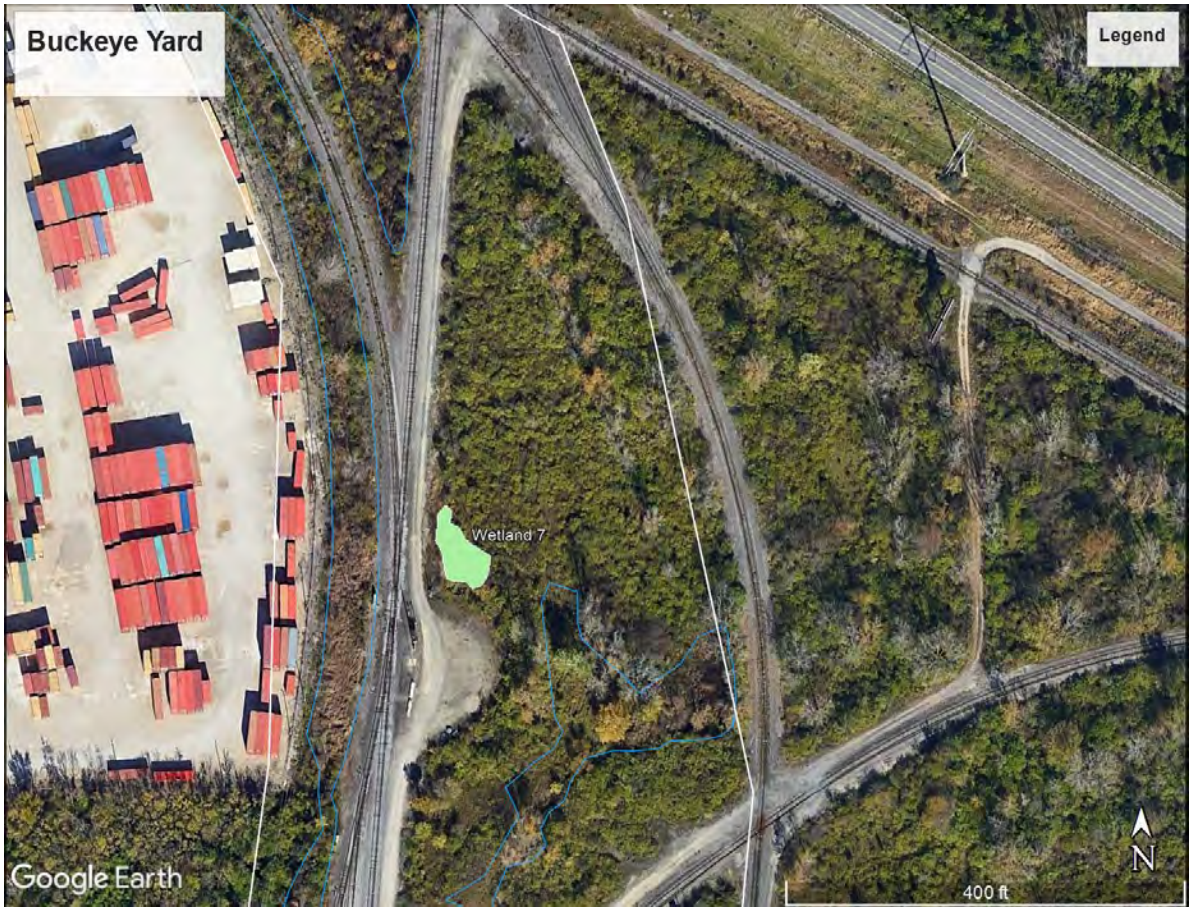
# Background Information

| |
|---|
| **Name:**<br>Lindsay Hanna |
| **Date:**<br>4/15/2022 |
| **Affiliation:**<br>MAD Scientist Associates |
| **Address:**<br>253 North State Street, Suite 101 Westerville, Ohio 43081 |
| **Phone Number:**<br>(614) 818-9156 |
| **e-mail address:**<br>Lindsay@madscientistassociates.net |
| **Name of Wetland:**<br>Wetland 7 |
| **Vegetation Communit(ies):**<br>Emergent |
| **HGM Class(es):** |
| **Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.**<br>  |

| | |
|---|---|
| Lat/Long or UTM Coordinate | WGS 84: 40.012762° -83.127578° |
| USGS Quad Name | Dublin |
| County | Franklin |
| Township | |
| Section and Subsection | |
| Hydrologic Unit Code | 050600011204 |
| Site Visit | 11/3/2022 |
| National Wetland Inventory Map | |
| Ohio Wetland Inventory Map | ------- |
| Soil Survey | Urban land-Celina complex |
| Delineation report/map | Yes |

| Name of Wetland: | Wetland 7 |
|---|---|
| Wetland Size (acres, hectares): | 0.057 acres |

**Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.**




**Comments, Narrative Discussion, Justification of Category Changes:**

Wetland 7 is located in the northern portion in Buckeye Yard located along the edge of the railroad track. The wetland is estimated to be 0.057 acres. Dominant species include green ash (Fraxinus pennsylvanica), cottonwood (Populus deltoides), gray dogwood (Cornus racemosa), common buckthorn (Rhamnus cathartica), narrow-leaf cattail (Typha angustifolia), barnyard glass (Echinochloa crus-galli), and yellow nutsedge (Cyperus esculentus). Wetland hydrology indicators at the Site for Wetland 7 included saturation, geomorphic position, and passing the FAC-neutral test for plants. Hydric soil indicators included depleted depleted matrix (F3) evidenced by a low chroma of 2, with prominent redoximorphic features present (4 to 12 percent) as concentration in the matrix.

| **Final score :** 23 | **Category:** | 1 |
|---|---|---|

# Scoring Boundary Worksheet

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

| # | Steps in properly establishing scoring boundaries | done? | not applicable |
|---|---|---|---|
| **Step 1** | Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. | ✔ | |
| **Step 2** | Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. | ✔ | |
| **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. | ✔ | |
| **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. | ✔ | |
| **Step 5** | In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. | | ✔ |
| **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. | | ✔ |

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

Wetland 7

# Narrative Rating

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

| # | Question | Circle one | |
|---|---|---|---|
| **1** | **Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000). | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 2 | (NO)<br><br>Go to Question 2 |
| **2** | **Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species? | YES<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 3 | (NO)<br><br>Go to Question 3 |
| **3** | **Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 4 | (NO)<br><br>Go to Question 4 |
| **4** | **Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 5 | (NO)<br><br>Go to Question 5 |
| **5** | **Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation? | YES<br><br>Wetland is a Category 1 wetland<br><br>Go to Question 6 | (NO)<br><br>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 *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 7 | (NO)<br><br>Go to Question 7 |
| **7** | **Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 8a | (NO)<br><br>Go to Question 8a |
| **8a** | **"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs? | YES<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 8b | (NO)<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status.<br><br>Go to Question 9a | (NO)<br><br>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<br><br>Go to Question 9b | (NO)<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10 | NO<br><br>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<br><br>Go to Question 9d | NO<br><br>Go to Question 10 |
| **9d** | Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? | YES<br><br>Wetland is a Category 3 wetland<br><br>Go to Question 10 | NO<br><br>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<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Go to Question 10 | NO<br><br>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<br><br>Wetland is a Category 3 wetland.<br><br>Go to Question 11 | (NO)<br><br>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 (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.). | YES<br><br>Wetland should be evaluated for possible Category 3 status<br><br>Complete Quantitative Rating | (NO)<br><br>Complete Quantitative Rating |

**Table 1. Characteristic plant species.**

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

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

| **Site:** Wetland A | **Rater(s):** LH | **Date:** 4/15/2022 |
|---|---|---|

| 0 | 0 |
|---|---|
| max 6 pts. | subtotal |

## Metric 1. Wetland Area (size).

Wetland 7

Select one size class and assign score.

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

| 1 | 3 |
|---|---|
| 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 <25m (32ft to <82ft) around wetland perimeter (1)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

| 7 | 10 |
|---|---|
| max 30 pts. | subtotal |

## Metric 3. Hydrology.

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] 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)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

| 11 | 21 |
|---|---|
| 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)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 21 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

| **Site:** Wetland A | **Rater(s):** LH | **Date:** 4/15/2022 |
|---|---|---|

21
subtotal first page

0 (max 10 pts.) | 21 (subtotal)

## Metric 5. Special Wetlands.

Wetland 7

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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 23 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

Wetland 7

# ORAM Summary Worksheet

| | | circle answer or insert score | Result |
|---|---|---|---|
| Narrative Rating | Question 1 Critical Habitat | YES (NO) | If yes, Category 3. |
| | Question 2. Threatened or Endangered Species | YES (NO) | If yes, Category 3. |
| | Question 3. High Quality Natural Wetland | YES (NO) | If yes, Category 3. |
| | Question 4. Significant bird habitat | YES (NO) | If yes, Category 3. |
| | Question 5. Category 1 Wetlands | YES (NO) | If yes, Category 1. |
| | Question 6. Bogs | YES (NO) | If yes, Category 3. |
| | Question 7. Fens | YES (NO) | If yes, Category 3. |
| | Question 8a. Old Growth Forest | YES (NO) | If yes, Category 3. |
| | Question 8b. Mature Forested Wetland | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9b. Lake Erie Wetlands - Restricted | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 9d. Lake Erie Wetlands – Unrestricted with native plants | YES (NO) | If yes, Category 3 |
| | Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| | Question 10. Oak Openings | YES (NO) | If yes, Category 3 |
| | Question 11. Relict Wet Prairies | YES (NO) | If yes, evaluate for Category 3; may also be 1 or 2. |
| Quantitative Rating | Metric 1. Size | 0 | |
| | Metric 2. Buffers and surrounding land use | 1 | |
| | Metric 3. Hydrology | 7 | |
| | Metric 4. Habitat | 11 | |
| | Metric 5. Special Wetland Communities | 0 | |
| | Metric 6. Plant communities, interspersion, microtopography | 2 | |
| | TOTAL SCORE | 23 | Category based on score breakpoints 1 |

**Complete Wetland Categorization Worksheet**.

Wetland 7 **Wetland Categorization Worksheet**

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

**Final Category**

| Choose one | (Category 1) | Category 2 | Category 3 |
|---|---|---|---|

## End of Ohio Rapid Assessment Method for Wetlands.

**CENTRAL OHIO WETLAND CONSULTING, LLC**

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# JURISDICTIONAL WATERS DELINEATION REPORT

## BUCKEYE YARD
## TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS
## COLUMBUS, FRANKLIN COUNTY, OHIO

Prepared by:

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REPORT ISSUED APRIL 20, 2021
COWC PROJECT #120120007

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Location Maps of Evaluation Area
Franklin County Auditor GIS Maps
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USDA Web Soil Survey Maps
National Wetlands Inventory (NWI) Maps

**APPENDIX 2 – AERIAL PHOTOGRAPHS**

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**APPENDIX 3 – DELINEATION MAP**

Wetland and Stream Delineation Maps
ORAM Scoresheets (24 pages)

**APPENDIX 4 – EVALUATION AREA PHOTOGRAPHS**

Photo Keys
Field Reconnaissance Photos (Photo 1 through Photo 61)

## 1.0 INTRODUCTION AND PURPOSE

Central Ohio Wetland Consulting, LLC (COWC) has been contracted by Kimley-Horn and Associates, Inc. (Client) to perform a Jurisdictional Waters Delineation Report for the Buckeye Yard property located in the City of Columbus, Franklin County, Ohio. The "evaluation area" for this Jurisdictional Waters Delineation Report consists of former Norfolk-Southern railroad acreage, including former rail lines and ballast material, ancillary structures, open areas, waste land, and wooded land. For descriptive purposes, the evaluation area has been divided into three separate areas, all of which are part of Franklin County parcels 570-146296, 241-000038, and 560-154558:

- North Section: 41± acres located north of Roberts Road and south of Scioto Darby Creek Road,
- Central Section: 287± acres located north of Trabue Road and south of Roberts Road, and,
- South Section: 77± acres located north of the existing Norfolk Southern CJ Line and south of Trabue Road.

The purpose of COWC's services is to document the size/length, location, and quality of all potentially jurisdictional waters of the United States and/or isolated waters of the State of Ohio within the evaluation area. COWC performed this delineation for specific application to the evaluation area described herein, in accordance with the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. The conclusions made within this Jurisdictional Waters Delineation Report are to be considered "preliminary" until verified by the USACE Huntington, WV District Office. This delineation report can be submitted to the USACE as part of a preliminary jurisdictional determination (PJD), approved jurisdictional determination (AJD), or pre-construction notification (PCN). The Ohio Environmental Protection Agency (Ohio EPA) will require a copy of the delineation report and an AJD letter issued by the USACE for all isolated wetland impacts, and ephemeral stream impacts greater than 300 linear feet.

The delineation includes three principal components: 1) research and review of published information, 2) field reconnaissance and delineation of jurisdictional waters (i.e. wetlands, ponds, and streams), and 3) data compilation/report preparation.

### 1.1 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

This Jurisdictional Waters Delineation Report has been prepared based upon field observations and COWC's professional interpretation of the USACE Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region at the time of our field reconnaissance. The conclusions presented in this report are professional opinions based on data collected between the commencement date and the

report date. The information in this report is true to the best of our knowledge. COWC obtained some of the information presented in this report from other agencies and sources. COWC assumes no responsibility for the accuracy or completeness of information provided by others. No warranty, expressed or implied, is made.

### 1.2 SPECIAL TERMS AND CONDITIONS

This report has been prepared by COWC as a professional service for the exclusive use of Kimley-Horn and Associates, Inc. and other parties that may be jointly affiliated by Kimley-Horn and Associates, Inc. and COWC. Any other entity that wishes to use or rely upon this report, or that wishes to duplicate, reproduce, copy, extract, or quote from this report must request permission from COWC to do so. Any unauthorized use of, or reliance upon, this report shall release COWC from any liability resulting from such use or reliance. Any unauthorized duplication, reproduction, copying, excerption, or quotation of this report shall expose the violator to all legal remedies available to COWC.

## 2.0 EVALUATION AREA AND SURROUNDING AREA CHARACTERISTICS

The evaluation area consists of former Norfolk-Southern railroad acreage, including former rail lines and ballast material, ancillary structures, open areas, waste land, and wooded land. The North Section of the evaluation area consists of 41± acres located north of Roberts Road and south of Scioto Darby Creek Road. The Central Section of the evaluation area consists of 287± acres located north of Trabue Road and south of Roberts Road. The South Section of the evaluation area consists of 77± acres located north of the existing Norfolk Southern CJ Line and south of Trabue Road. Areas surrounding the evaluation area are developed for railroad, industrial, and commercial purposes.

Approximate latitude / longitude coordinates for the central part of each section of the evaluation area are:

- North Section - 40.008475 / -83.127839,
- Central Section - 39.992969 / -83.129678, and
- South Section - 39.974661 / -83.130694.

Appendix 1 includes location maps, Franklin County Auditor Geographic Information System (GIS) Maps, United States Geological Survey (USGS) topographic maps (Hilliard, Ohio and Galloway, Ohio), United States Department of Agriculture (USDA) soil survey maps, and United States Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) maps. Appendix 2 includes aerial photographs showing the evaluation area. Photographs depicting representative vegetation, property features, and views from several locations around the evaluation are provided in Appendix 4.

## 3.0 RESEARCH AND REVIEW OF PUBLISHED INFORMATION

COWC's research and review of published information includes: USGS topographic maps, the USDA soil survey map, USFWS NWI map, and aerial photographs from various local governmental agencies. COWC uses this information to determine historical uses of the evaluation area, the geo-morphological setting at the evaluation area, soil types present, whether the evaluation area has been significantly disturbed within the past few years, and for visual evidence of ponds, streams, or saturation or inundation on land surfaces, and the potential for wetlands. Copies of the reviewed information is appended.

### 3.1 USGS TOPOGRAPHIC MAPS

COWC reviewed 1954/1955, 1966, 1973, 1980/1981, and 2019 Hilliard, Ohio and Galloway, Ohio, USGS 7.5-minute series topographic maps for the evaluation area. COWC uses USGS topographic maps as an indicator of watershed characteristics in and around the evaluation area, and to identify small depressional areas, streams, and wetland mapping symbols. The appendix of this report includes portions of these USGS maps showing the evaluation area.

The maps reviewed indicate several drainages crossing the North, Central, and South Sections of the evaluation area.

<u>North Section</u>

Rail lines are shown within the North Section on the 1973 through 2019 maps. Prior to 1973, the North Section is depicted as vacant land. Roberts Millikin Ditch is shown crossing the central part of the North Section in a general west to east direction. An unnamed tributary to Roberts Millikin Ditch is shown on the southern part of the North Section. This unnamed tributary is shown in a general southwest/northeast orientation on the 1954 through 1980 maps. The 2019 map indicates this unnamed tributary has been reoriented in a general north/south direction, west of existing rail lines. No other potential streams, wetlands, or ponds are depicted on the North Section. Lower surface elevations are generally indicated between railroad lines on the central and northern parts of the North Section.

<u>Central Section</u>

The Central Section is predominately developed with rail lines on the 1973 through 2019 maps. Prior to 1973, the Central Section is depicted as vacant land. The topographic maps show green tint, indicating wooded areas, on the northwest part of the Central Section. One (1) wetland mapping symbol is also depicted within the green tint area on the northwest part of the Central Section. Four (4) unnamed tributary streams are shown crossing the Central Section in a general west to east direction on the 1954/1955 and 1966 maps. These tributary streams are not shown or have be redirected through or around rail lines on the 1973 through 2019 maps.

South Section

Rail lines are shown within the South Section on the 1973 through 2019 maps. Prior to 1973, the North Section is generally depicted as vacant land. Approximately five (5) unnamed tributaries are shown crossing the South Section of the evaluation area on the 1955 and 1966 maps. Only three (3) tributaries are shown crossing the South Section on the 2019 map. One (1) pond is also depicted on the southern part of the South Section on the 2019 map. No other potential streams, wetlands, or ponds are depicted on the South Section.

## 3.2 SOIL REVIEW

COWC reviewed information from the USDA Natural Resources Conservation Service (NRCS), the USDA Web Soil Survey website[1], and the list of Hydric Soils of the United States (published by NRCS in cooperation with the National Technical Committee for Hydric Soils). These sources indicate soils underlying the evaluation area consist of the following:

**TABLE 1**
**EVALUATION AREA SOIL DESIGNATIONS**

| Map Unit ID | Map Unit Name | % Slope | Hydric Classification | % Hydric Component | Component Landform |
|---|---|---|---|---|---|
| CeB | Celina silt loam | 2-6 | Non-hydric with hydric components | Kokomo 5% | Depressions |
| CrA | Crosby silt loam | 0-2 | Non-hydric with hydric components | Kokomo 8% | Depressions |
| CrB | Crosby silt loam | 2-6 | Non-hydric with hydric components | Kokomo 8% | Depressions |
| Ko | Kokomo silty clay loam | 0-2 | Hydric | Kokomo 90% | Depressions |
| Us | Udorthents, loamy, steep | 18-25 | Non-hydric | - | - |
| Uv | Urban land-Celina complex, occasionally flooded | 2-12 | Non-hydric with hydric components | Kokomo 5% | Depressions |

Celina silt loam (CeB) is generally described as a gently sloping, moderately well-drained soil on uplands. These soils are typically found on convex ridgetops, on side slopes above steeper areas, and along well-defined waterways.

Crosby silt loam (CrA and CrB) is generally described as a nearly level to gently sloping, somewhat poorly drained soil on narrow and broad upland areas. This mapping unit also contains areas of Kokomo soils located in depressions and Celina soils on low knolls.

Kokomo silty clay loam (Ko) is described as a nearly level, very poorly drained soil located in depressions and at the heads of drainageways on uplands. Runoff from adjacent higher elevations can cause ponding in Kokomo soils. Kokomo silty clay loam is considered a hydric soil.

[1] http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm

Udorthents, loamy, steep (Us) is generally described as soils in borrow areas that have been subject to surface mining, particularly for use as fill material used under highways and buildings.

Urban land-Celina complex (Uv) is generally described as areas of urban land covered by streets, parking lots, buildings, railroad yards, and other structures. Soils in these areas have been altered to the extent specific soil identification is not feasible. Undeveloped portions of this soil unit are dominated by Celina soil.

The evaluation area is predominately comprised of Urban land-Celina complex soils. Wooded areas adjacent to the west of the existing railroad lines on the Central Section are mapped with Crosby, Celina, and Kokomo soil units.

According to mapping available from the USDA NRCS, and the list of Hydric Soils of the United States published by the NRCS in cooperation with the National Technical Committee for Hydric Soils, the evaluation area contains hydric soil. Thin bands of mapped hydric Kokomo soils are located on the western portions of the Central Section of the evaluation area. The USGS topographic maps indicate these areas are likely drained by tributary streams.

## 3.3 NATIONAL WETLANDS INVENTORY (NWI) MAP

COWC reviewed the USFWS NWI website[2] for wetland mapping symbols depicted within the evaluation area. The USFWS produced NWI maps in an attempt to document wetlands throughout the United States. The USFWS generated NWI maps using high-altitude infrared aerial photography to identify areas of saturation or inundation on land surfaces. Areas that are saturated or inundated typically have lower infrared heat signatures than dry areas. The USFWS mapped these cooler infrared heat signature areas as wetlands without field verification. NWI maps may not reflect actual field conditions due to meteorological or seasonal conditions that may have existed at the time of data collection. COWC typically uses NWI maps to plan field reconnaissance, and as an indicator of areas that may support wetlands.

The NWI map shows three (3) wetland mapping symbols within the evaluation area:

- One (1) PEM1C symbol located on the northern part of the North Section,
- One (1) PFO1A symbol located within the wooded northwest part of the Central Section, and
- One (1) PEM1A symbol located on the southern part of the South Section.

The PEM1C designation indicates an area that is palustrine (non-tidal wetlands dominated by trees, shrubs, persistent emergent vegetation), emergent

[2] https://www.fws.gov/wetlands/Data/Mapper.html

(herbaceous, erect and rooted hydrophytes), persistent (dominated by species that normally remain standing through to the next growing season), and seasonally flooded (surface water is present for extended periods, especially early in the growing season, but absent by the end of the growing season in most years). This area was delineated as Wetland 5.

The PFO1A designation indicates an area that is palustrine, forested (containing woody vegetation 20 feet in height and taller), broad-leaved deciduous (trees and shrubs with relatively wide, flat leaves that are shed during the cold and seasonally dry conditions), and temporary flooded (areas were surface water is present for brief (days/weeks) periods during the growing season). This area was delineated as Wetland 7.

The PEM1A designation indicates an area that is palustrine, emergent, persistent, and temporary flooded. This area was delineated as Pond 2.

The NWI map shows streams/drainages in similar locations as depicted on the USGS maps. Drainage features within the evaluation area are depicted with R5UBH an R4SBC designations. The R5UBH designation indicates a permanently flooded (water covers the substrate throughout the year in all years), riverine habitat contained within a channel (open conduit either naturally or artificially created which may periodically or continuously contain moving water) that has an unconsolidated bottom (at least 25% cover of particles less than 6-7 centimeters and vegetative cover less than 30%). The unknow perennial modifier indicates the drainage cannot be distinguished from lower perennial and upper perennial. The R4SBC designation indicates a seasonally flooded, riverine habitat contained within a channel that has intermittent flow (water may flow only part of the year).

## 3.4 AERIAL PHOTOGRAPHS

COWC reviewed aerial photographs of the evaluation area dated 1956, 1960, 1964, 1979, and 1989 available from the Ohio Department of Transportation Office of CADD & Mapping website[3]; and 1994, 2002, 2009, and 2019 from Google Earth Pro[4]. Copies of the aerial photographs showing the evaluation area are provided in Appendix 2.

The 1956 through 1964 aerial photographs generally depict the evaluation area as vacant land with numerous streams crossing from west to east.

The 1979 through 2019 aerial photographs generally depict the evaluation area as developed for use as a rail yard. Undeveloped wooded land is located on the western part of the Central Section. Streams previously apparent crossing the

[3] http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/Pages/default.aspx
[4] Earth Versions – Google Earth

evaluation from west to east have been manipulated, channelized, and relocated as part of development for rail use.

The 2019 aerial photograph indicates the evaluation area is similar in appearance to what was observed during our field reconnaissance on April 9, April 12, and April 13, 2021.

### 3.4.1 PUBLISHED INFORMATION REVIEW CONCLUSIONS

Information obtained from USGS topographic maps, NWI maps, and aerial photographs indicate the potential for numerous streams, wetlands, and ponds within the evaluation area.

The potential for wetlands and streams within an area cannot be determined solely from review of published information; therefore, an on-site investigation is required to verify current property conditions.

## 4.0 FIELD RECONNAISSANCE/DELINEATION OF JURISDICTIONAL WATERS

Matthew R. Kaminski, owner of Central Ohio Wetland Consulting, LLC, performed the field reconnaissance for the jurisdictional waters delineation during the morning and afternoon hours on Friday April 9, 2021, Monday April 12, 2021, and Tuesday April 13, 2021. Research and review of published information indicates physical property conditions were generally unchanged for several years prior to this delineation, such that the evaluation area was considered undisturbed for data collection. Therefore, the routine method was used in this assessment. Photographic documentation from the field reconnaissance and general landscape photographs are provided in Appendix 4.

COWC performs its field reconnaissance for jurisdictional waters delineations using criteria and guidance in the Corps of Engineers' Wetland Delineation Manual (USACE, 1987) and the 2010 Midwest Regional Supplement to the 1987 Wetland Delineation Manual. In this method, vegetation, hydrology, and soil criteria are used to identify jurisdictional/isolated wetlands. The delineation method and vegetation sampling methodology uses the procedures for Routine Determinations found in the 1987 and 2010 manuals.

To establish the presence of jurisdictional/isolated wetlands, three characteristics are required to be present. These wetland characteristics consist of hydric soils, a dominance of hydrophytic (i.e. wetland) vegetation, and wetland hydrology. All three criteria must be present for an area to be identified as wetland. These three criteria are defined and explained in detail in the Corps of Engineers' Wetland Delineation Manual (USACE, 1987) and the 2010 Midwest Regional Supplement to the 1987 Wetland Delineation Manual. The Wetlands Research Program of the USACE Waterways Experiment Station developed the manual in 1987. COWC followed the methods described in these manuals in performing the delineation.

Wetland and waterbody delineation of field-verified water features are made using COWC's professional judgment and interpretation of the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). For the purposes of this report, "non-jurisdictional" or "excluded" is defined as aquatic features that are not regulated by the USACE under the provisions of Section 404 of the Clean Water Act (CWA). Isolated wetlands that do not have a surface water connection to waters of the U.S. and ephemeral streams are non-jurisdictional from the perspective of the USACE; however, are regulated by the Ohio EPA under the provisions of Section 401 of the CWA.

## 4.1 METHODOLOGY

After collecting pertinent information through the review of published information, COWC uses the routine method to determine if wetland areas exist within the evaluation area. The approach used for the routine determination is the plant community assessment procedure. This approach requires initial identification of representative plant community types in the subject area followed by characterization of vegetation, soils, and hydrology for each community type.

The evaluation area is assessed in accordance with guidelines from the USACE pertaining to potential jurisdictional waters of the United States and/or isolated waters of the State of Ohio. All potential wetlands, streams, and drainage ditches are followed to determine the flow regime and whether such features have a surface water connection to waters of the U.S.

The field investigation is conducted by walking and visually surveying the evaluation area, and in the vicinity, to collect wetland and stream data, as necessary. Upon identification of hydrophytic (wetland) and non-wetland communities, the wetland boundary is surveyed with a Spectra SP20 handheld Global Navigation Satellite System (GNSS) receiver with sub-meter accuracy. Field notes are taken at points where the dominant vegetation species change from wetland to upland or hydrologic or soil indicators become transitional. Areas saturated or inundated by surface water at the time of our field reconnaissance are presumed to contain hydric soil characteristics. COWC records observations concerning hydrology and vegetation on the appropriate Wetland Determination Data Form.

### 4.1.1 HYDRIC SOIL CRITERIA

COWC performs shovel test pits to characterize soil conditions and to evaluate the presence or absence of hydric soil features. A drain spade is used to collect soil samples from a maximum depth of approximately 20 inches below ground surface. COWC determines the presence or absence of hydric soils by comparing soil samples to a Munsell soil color chart, as soil colors often reveal whether a soil is hydric or non-hydric. The standardized Munsell soil colors consist of three components: hue, value, and chroma. Soil in hydric soil areas typically show yellow-red hues, varying gray color values,

and chromas of one or two. Chromas of two or less are considered low, and are often diagnostic of hydric soils. Hydric mineral soils saturated for long periods of the growing season, but unsaturated for some time, often develop mottles and/or a low chroma matrix. Soils are considered hydric if at least one primary indicator, or at least one problematic hydric soil indicator is present, as defined by the USACE.

Mineral based soils (as opposed to carbon- or organic-based soils) generally contain significant amounts of iron and manganese. As the iron component of the soil matrix comes into contact with the atmosphere, the iron tends to oxidize giving soils a high "chroma" or rust-like color. This characteristic is typically observed in upland (i.e., non-wetlands) areas where oxygen is abundant. On the contrary, mineral soils that are saturated for extended periods (e.g., hydric soils) tend to have oxygen ions stripped, chemically reducing iron and giving these soils bluish-grayish coloring or low chroma. This reduced condition in mineral soils is known as "gleying" and is typically observed in wetlands, where soil oxygen contents are generally lower relative to upland soils. Low oxygen levels in reduced soils also tend to slow decomposition, leading to increased organic content.

The evaluation area is predominately comprised of Urban land-Celina complex soils. Wooded areas adjacent to the west of the existing railroad lines on the Central Section are mapped with Crosby, Celina, and Kokomo soil units. Areas saturated or inundated by surface water at the time of our field reconnaissance were presumed to contain hydric soil characteristics. COWC observed hydric soil characteristics within the areas delineated as Wetland 1 through Wetland 12.

### 4.1.2 WETLAND HYDROLOGY CRITERIA

Wetland hydrology is determined present in areas that are periodically inundated or have soils saturated to the surface sometime during the growing season. This is a dynamic characteristic and is usually not present during drier periods of the year. Primary wetland hydrology indicators include, but are not limited to, surface water, high water table, inundation, soil saturation in the upper 12 inches of the soil, water marks, sediment deposits, drift deposits, and water-stained leaves. Secondary wetland hydrology indicators include surface soil cracks, drainage patterns, dry-season water table, crayfish burrows, saturation visible on aerial imagery, stunted or stressed plants, geomorphic position, and FAC-Neutral Test of vegetation. One primary indicator or two or more secondary indicators are required to establish a positive indication of wetland hydrology.

COWC observed primary and secondary hydrology indicators for wetlands within the areas delineated as Wetland 1 through Wetland 12.

### 4.1.3 HYDROPHYTIC VEGETATION CRITERIA

Hydrophytic vegetation is determined present if more than 50 percent of plant species within a plant community have an indicator status of obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC). The indicator status of plant species found in wetlands is listed in the 2018 National Wetland Plant List - Midwest Region published by the USACE[5].

COWC used this data and determined hydrophytic vegetation dominance was present within the areas delineated as Wetland 1 through Wetland 12.

## 4.2 JURISDICTIONAL WATERS DELINEATION FINDINGS

COWC's field reconnaissance identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres, thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet, and two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area. The centerline of the streams and the boundary of the ponds and wetlands were surveyed with a Spectra SP20 handheld GNSS receiver with sub-meter accuracy. Appendix 3 provides maps showing the location of the delineated wetlands, ponds, and streams. Multi-directional photographs of each stream and wetland, and general landscape photographs are provided in Appendix 4.

Several streams delineated within the evaluation area are depicted on USGS maps as unnamed tributaries to the Scioto River, prior to development of the evaluation area as a railroad yard. Streams within the evaluation area have been placed in culverts, channelized, and relocated as part of development of the evaluation area for railroad use in the mid to late 1960s.

Wetlands within the evaluation area are generally located in low-lying areas between existing railroad lines, and appear to be attributed to poor surface water drainage. Manipulation of on-site drainage features by beavers (*Castor canadensis)* has resulted in the establishment of several of the delineated wetlands.

### 4.2.1 STREAMS

COWC identified thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet within the evaluation area. These streams were delineated as Stream 1 (260± LF), Stream 2 (59± LF), Stream 3 (97± LF), Stream 4 (119± LF), Stream 5 (50± LF), Stream 6 (158± LF), Stream 7 (114± LF), Stream 8 (61± LF), Stream 9 (320± LF), Stream 10 (2,552± LF), Stream 11 (3,921± LF), Stream 12 (369± LF), and Stream 13 (2,297± LF). These streams are further described below.

[5] NWPL Home v3.4-f9c (army.mil)

**TABLE 2**
**STREAM INFORMATION**

| Stream ID | Length (On-Site) | Classification | Start Location | End Location |
|---|---|---|---|---|
| Stream 1 (Roberts Millikin Ditch) | 260± LF | Perennial | 40.007903 -83.128758 | 40.008136 -83.127289 |
| Stream 2 | 59± LF | Ephemeral | 40.00785 -83.128597 | 40.008003 -83.128575 |
| Stream 3 | 97± LF | Intermittent | 40.008131 -83.127797 | 40.008025 -83.127517 |
| Stream 4 | 119± LF | Intermittent | 40.008147 -83.127458 | 40.007983 -83.127319 |
| Stream 5 | 50± LF | Intermittent | 40.007975 -83.127436 | 40.007878 -83.127350 |
| Stream 6 | 158± LF | Intermittent | 40.007728 -83.127353 | 40.008128 -83.127278 |
| Stream 7 | 114± LF | Ephemeral | 40.008425 -83.127272 | 40.008136 -83.127278 |
| Stream 8 | 61± LF | Ephemeral | 40.008403 -83.127339 | 40.008244 -83.127281 |
| Stream 9 | 320± LF | Intermittent | 40.002356 -83.129508 | 40.002489 -83.128431 |
| Stream 10 | 2,552± LF | Perennial | 39.997258 -83.132658 | 40.002511 -83.128356 |
| Stream 11 | 3,921± LF | Perennial | 39.993333 -83.134142 | 39.983883 -83.130006 |
| Stream 12 | 369± LF | Perennial | 39.989911 -83.134697 | 39.990389 -83.133558 |
| Stream 13 | 2,297± LF | Perennial | 39.969858 -83.138011 | 39.966231 -83.132869 |
| **Total** | **10,377± LF** | | | |

Stream 1 – Roberts Millikin Ditch (260± linear feet North Section)
Stream 1 is an east/west oriented portion of Roberts Millikin Ditch crossing the central part of the North Section of the evaluation area. Roberts Millikin Ditch flows through residential and industrial areas to the west prior to entering the evaluation area. This stream is littered with trash and debris and has perennial flow characteristics. Surface water was flowing within Stream 1 during our field reconnaissance on April 9, 2021.

Stream 1 originates at a round concrete culvert near the western boundary of the North Section of the evaluation area. Stream 1 flows unobstructed for approximately 73 LF before entering double round culverts beneath elevated railroad lines. Upon exiting these culverts, Stream 1 flows for an additional 187 LF before entering a second set of double round culverts beneath elevated railroad lines and exiting the evaluation area to the east.

Stream 1 is located within a wooded corridor on the central part of the North Section. This area appears frequently flooded with numerous deposits of sand and gravel. Stream 1 is highly braided within this frequently flooded area, and overflow drainage from Stream 1 has created several other smaller order streams (Streams 3, 4, and 5). Substrate material within Stream 1 consists of cobble, silt, sand, and gravel.

Stream 2 (59± linear feet North Section)
Stream 2 is an ephemeral stream that drains Wetland 4 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 4 follows a natural gradient to the north, where it has cut a channel. Substrate material within Stream 2 consists of silt and hardpan. Surface water was flowing within Stream 2 during our field reconnaissance on April 9, 2021. Stream 2 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 3 (97± linear feet North Section)
Stream 3 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 3 during our field reconnaissance on April 9, 2021. Substrate material within Stream 3 consists of silt, sand, and gravel.

Stream 4 (119± linear feet North Section)
Stream 4 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 4 during our field reconnaissance on April 9, 2021. Substrate material within Stream 4 consists of silt, sand, and gravel.

Stream 5 (50± linear feet North Section)
Stream 5 appears to have intermittent flow characteristics, and is a braided sub-channel resulting from overflow drainage of Stream 1 (Roberts Millikin Ditch) within a frequently flooded wooded corridor on the central part of the North Section of the evaluation area. Surface water was flowing within Stream 5 during our field reconnaissance on April 9, 2021. Substrate material within Stream 5 consists of silt, sand, and gravel.

Stream 6 (158± linear feet North Section)
Stream 6 is an intermittent stream that drains Wetland 6 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 6 follows a natural gradient to the north, where it has cut a

channel. This channel transitions to intermittent flow characteristics at the confluence with Streams 4 and 5. Substrate material within Stream 6 consists of silt, sand, and gravel. Surface water was flowing within Stream 6 during our field reconnaissance on April 9, 2021. Stream 6 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 7 (114± linear feet North Section)
Stream 7 is an ephemeral stream that drains Wetland 5 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 5 follows a natural gradient to the south, where it has cut a channel. Substrate material within Stream 7 consists of silt and hardpan. Surface water was flowing within Stream 7 during our field reconnaissance on April 9, 2021. Stream 7 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 8 (61± linear feet North Section)
Stream 8 is an ephemeral stream that drains Wetland 5 on the central part of the North Section of the evaluation area. Excess surface water retained within Wetland 5 follows a natural gradient to the south, where it has cut a channel. Substrate material within Stream 8 consists of silt and hardpan. Surface water was flowing within Stream 8 during our field reconnaissance on April 9, 2021. Stream 8 has a direct surface water connection with Stream 1 (Roberts Millikin Ditch).

Stream 9 (320± linear feet Central Section)
Stream 9 is a west to east flowing intermittent stream on the north part of the Central Section of the evaluation area. Stream 9 originates at the outfall of a round concrete culvert pipe which discharges surface water from a west adjoining stormwater management pond. This stream is littered with trash and debris. Stream 9 has a direct surface water connection with Stream 10 on the northwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 9 during our field reconnaissance on April 13, 2021. Substrate material within Stream 9 consists of silt, sand, and gravel.

Stream 10 (2,552± linear feet Central Section)
Stream 10 is a general southwest to northeast flowing perennial stream on the northwest part of the Central Section of the evaluation area. Stream 10 originates at the outfall of an oval-shaped concrete culvert pipe near the western boundary of the Central Section of the evaluation area. This culvert discharges surface water from the west. Surface water was flowing within Stream 10 during our field reconnaissance on April 13, 2021. Substrate material within Stream 10 consists of cobble, silt, sand, and gravel. Stream 10 is partially impounded by Pond 1.

Stream 11 (3,921± linear feet Central Section)
Stream 11 is a north to south flowing perennial stream contained within a ditch on the southwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 11 during our field reconnaissance on April 13, 2021.

Stream 12 (369± linear feet Central Section)
Stream 12 is a west to east flowing perennial stream contained within a ditch on the southwest part of the Central Section of the evaluation area. Surface water was flowing within Stream 12 during our field reconnaissance on April 13, 2021. Stream 12 has a direct surface water connection to Stream 11.

Stream 13 (2,297± linear feet South Section)
Stream 13 is a west to southeast flowing perennial stream contained within a ditch on the South Section of the evaluation area. Stream 13 enters the South Section of the evaluation area from a culvert beneath Manor Park Drive. Portions of Stream 13 have been impounded by beavers in numerous locations, resulting in the creation of Wetland 11. Surface water was flowing within Stream 13 during our field reconnaissance on April 12, 2021.

### 4.2.1 WETLANDS

COWC identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres within the evaluation area. These areas exhibit a dominance of hydrophytic species, primary and secondary wetland hydrology indicators, and hydric soil characteristics. These wetlands were delineated as Wetland 1 (0.40± acre), Wetland 2 (0.31± acre), Wetland 3 (1.53± acre), Wetland 4 (1.67± acre), Wetland 5 (4.72± acre), Wetland 6 (1.45± acre), Wetland 7 (0.49± acre), Wetland 8 (0.29± acre), Wetland 9 (1.10± acre), Wetland 10 (0.22± acre), Wetland 11 (0.92± acre), and Wetland 12 (0.43± acre). These wetlands are further described below.

**TABLE 3**
**WETLAND INFORMATION**

| Wetland ID | Acreage (On-Site) | Cowardin Classification | ORAM Score | Status | Location |
|---|---|---|---|---|---|
| Wetland 1 | 0.40± | Palustrine Emergent (PEM) | 29 (Cat. 1) | Jurisdictional | 40.014106 -83.127944 |
| Wetland 2 | 0.31± | Palustrine Forested (PFO) | 32 (Cat. 2) | Jurisdictional | 40.012344 -83.126881 |
| Wetland 3 | 1.53± | Palustrine Emergent (PEM) | 42 (Cat. 2) | Jurisdictional | 40.011019 -83.128378 |

| | | | | | |
|---|---|---|---|---|---|
| Wetland 4 | 1.67± | Palustrine Emergent (PEM) | 25 (Cat. 1) | Jurisdictional | 40.006775 -83.128611 |
| Wetland 5 | 4.72± | Palustrine Emergent (PEM) | 27 (Cat. 1) | Jurisdictional | 40.009728 -83.127467 |
| Wetland 6 | 1.45± | Palustrine Emergent (PEM) | 26 (Cat. 1) | Jurisdictional | 40.006722 -83.127569 |
| Wetland 7 | 0.49± | Palustrine Forested (PFO) | 49 (Cat. 2) | Jurisdictional | 39.998444 -83.130556 |
| Wetland 8 | 0.29± | Palustrine Emergent (PEM) | 38 (Cat. 2) | Jurisdictional | 39.997300 -83.131078 |
| Wetland 9 | 1.10± | Palustrine Emergent (PEM) | 34 (Cat. 2) | Jurisdictional | 39.970158 -83.133319 |
| Wetland 10 | 0.22± | Palustrine Emergent (PEM) | 24 (Cat. 1) | Jurisdictional | 39.969094 -83.133639 |
| Wetland 11 | 0.92± | Palustrine Forested (PFO) | 52 (Cat. 2) | Jurisdictional | 39.968056 -83.133531 |
| Wetland 12 | 0.43± | Palustrine Emergent (PEM) | 35 (Cat. 2) | Jurisdictional | 39.963508 -83.131206 |
| **Total** | **13.53±** | | | | |

COWC completed Ohio Rapid Assessment Method (ORAM) score sheets for the wetland areas delineated within the evaluation area. Wetland areas identified within the evaluation area scored within Category 1 and Category 2, according to Ohio EPA standards. The ORAM forms are appended.

Using the USACE OMBIL Regulatory Module (ORM) Project Upload Template, COWC determined the Cowardin classification of wetlands within the evaluation area as palustrine emergent (PEM) and palustrine forested (PFO).

<u>Wetland 1 (0.40± acre North Section)</u>
Wetland 1 is a flooded depression on the north part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 1 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Based on visual observation, Wetland 1 appears to be regularly inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 1 is generally dominated by various Dogwood species (*Cornus species*), Green Ash (*Fraxinus pennsylvanica*), Black Willow (*Salix nigra*), Narrow-Leaf Cattail (T*ypha angustifolia*), and Marsh Primrose (*Ludwigia palustris*).

<u>Wetland 2 (0.31± acre North Section)</u>
Wetland 2 is a flooded, forested depression on the north part of the North Section of the evaluation area. Wetland 2 is located within a low-lying area surrounded by elevated railroad tracks. Establishment of Wetland 2

appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) provide a buffer between Wetland 2 and the surrounding railroad tracks. A culvert pipe is located along the eastern boundary of Wetland 2, partially draining this wetland with surface water flow to the east, beneath elevated railroad tracks. Based on visual observation, Wetland 2 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 2 is generally dominated by Eastern Cottonwood (*Populus deltoides*), Green Ash (*Fraxinus pennsylvanica*), Black Willow (*Salix nigra*), and Narrow-Leaf Cattail (T*ypha angustifolia*).

Wetland 3 (1.53± acre North Section)
Wetland 3 is located along the western boundary of the North Section of the evaluation area. This wetland is part of a larger wetland complex that extends off-site to the west. Portions of Wetland 3 are located within a channelized ditch that has been impounded by beavers in numerous locations. These beaver impoundments of an apparently perennial ditch have also facilitated the establishment of additional wetlands to the west of the evaluation area. Wetland 3 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 3 appears to receive hydrology from precipitation and stormwater drainage from areas to the west of the evaluation area. Wetland 3 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*), Black Willow (*Salix nigra)*, and various Dogwood species (*Cornus species*). Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 3.

Wetland 4 (1.67± acre North Section)
Wetland 4 is located within a low-lying area on the central part of the North Section of the evaluation area. Railroad tracks abut the wetland to the east with higher surface elevations to the west. Wetland 4 is dominated by Narrow-leaf Cattail (*Typha angustifolia*) and Common Reed (*Phragmites australis).* This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 2. Based on visual observation, Wetland 4 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands.

Wetland 5 (4.72± acre North Section)
Wetland 5 is located within a low-lying area on the central part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 5 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Wetland 5 is

dominated by Narrow-leaf Cattail (*Typha angustifolia*). This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 7 and 8. Based on visual observation, Wetland 5 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 5 is mapped with a PEM1C designation on the NWI map.

Wetland 6 (1.45± acre North Section)
Wetland 6 is located within a low-lying area on the central part of the North Section of the evaluation area. Elevated railroad tracks surround the wetland. Establishment of Wetland 6 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Wetland 6 is dominated by Narrow-leaf Cattail (*Typha angustifolia*). This wetland has a direct surface water connection to Stream 1 (Roberts Millikin Ditch) via Stream 6. Based on visual observation, Wetland 6 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands.

Wetland 7 (0.49± acre Central Section)
Wetland 7 is located within the wooded northwest part of the Central Section of the evaluation area. According to the USDA web soil survey map, this wetland is located within hydric Kokomo silty clay loam soils. Wetland 7 is mapped with a PFO1A designation on the NWI map. The wetland appears to receive hydrology from precipitation, overland flow from adjacent uplands, and flood waters from Stream 10. Stream 10 abuts the east side of the wetland and appears to provide surface water to Wetland 7 during prolonged precipitation events. Based on visual observation, Wetland 7 appears to be regularly inundated/saturated. Wetland 7 is generally dominated by American Elm (*Ulmus americana*), Swamp White Oak (*Quercus bicolor*), and Green Ash (*Fraxinus pennsylvanica*).

Wetland 8 (0.29± acre Central Section)
Wetland 8 is located within the wooded northwest part of the Central Section of the evaluation area. According to the USDA web soil survey map, this wetland is located within hydric Kokomo silty clay loam soils. The wetland appears to receive hydrology from precipitation, overland flow from adjacent uplands, and flood waters from Stream 10. Stream 10 abuts the north side of the wetland and appears to provide surface water to Wetland 8 during prolonged precipitation events. Based on visual observation, Wetland 8 appears to be seasonally saturated. Wetland 8 is generally dominated by Reed Canary Grass (*Phalaris arundinacea*) and Black Willow (*Salix nigra).*

Wetland 9 (1.10± acre South Section)
Wetland 9 is located within a channelized ditch along the western boundary of the South Section of the evaluation area. Based on visual observation, Wetland 9 appears to be semi to permanently inundated/saturated. Wetland 9 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*) and Black Willow (*Salix nigra)*.

Wetland 10 (0.22± acre South Section)
Wetland 10 is a flooded depression on the western part of the South Section of the evaluation area. Railroad tracks abut the wetland to the south, east, and west with higher surface elevations to the north. Establishment of Wetland 10 appears to be attributed to poor surface water drainage in low-lying areas between rail lines. Based on visual observation, Wetland 10 appears to be semi to permanently inundated/saturated. The wetland receives hydrology from precipitation and overland flow from adjacent uplands. Wetland 10 is generally dominated by various Dogwood species (*Cornus species*), Black Willow (*Salix nigra*), and Narrow-Leaf Cattail (T*ypha angustifolia*).

Wetland 11 (0.92± acre South Section)
Wetland 11 is located along the western part of the South Section of the evaluation area. This wetland is part of a wetland complex established due to numerous beaver impoundments within Stream 13. Several of these beaver dam structures are elaborate, flooding areas west of Stream 13. Wetland 11 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 11 appears to receive hydrology from precipitation and perennial surface water from Stream 13. Wetland 11 is generally dominated by Narrow-leaf Cattail (*Typha angustifolia*), Black Willow (*Salix nigra),* American Elm (*Ulmus americana*), Green Ash (*Fraxinus pennsylvanica*), Eastern Cottonwood (*Populus deltoides*), and various Dogwood (*Cornus species*) and Carex (*Carex species*) species. Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 11.

Wetland 12 (0.43± acre South Section)
Wetland 12 is located on the southern part of the South Section of the evaluation area. This wetland is located within a channelized ditch that has been impounded by beavers in numerous locations. These beaver impoundments of an apparently perennial ditch have facilitated the establishment of wetlands within the ditch limits. Wetland 12 appears to be permanently inundated by surface water, with flowing water observed at beaver dam locations. Wetland 12 appears to receive hydrology from precipitation and stormwater flow from areas to the west of the evaluation area. Wetland 12 is generally dominated by Narrow-leaf Cattail (*Typha*

*angustifolia*), Black Willow (*Salix nigra)*, and various Dogwood species (*Cornus species*). Dense brushy areas dominated by European Privet (*Ligustrum vulgare*) and Morrow's Honeysuckle (*Lonicera morrowii*) generally surround Wetland 12.

### 4.2.2 PONDS

COWC identified two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area. These ponds were delineated as Pond 1 (0.23± acre) and Pond 2 (0.95± acre), and further described below.

Pond 1 (0.23± acre)

Pond 1 is located on the western part of the Central Section of the evaluation area. Pond 1 appears to be a heavily silted excavation that partially impounds Stream 10, which flows through the central part of Pond 1. Pond 1 may provide a limited amount of stormwater retention from areas to the west of the evaluation area, and may help reduce the flow volume of Stream 10. This pond contains no rooted or emergent vegetation. Pond 1 is mapped with a PUBG designation on the NWI map.

Pond 2 (0.95± acre)

Pond 2 is located on the southern part of the South Section of the evaluation area. This pond appears to have been created by excavation, and does not impound a stream or apparent surface water feature. Two (2) round culvert outlet structures are located in the northeast part of the pond. Pond 2 is mapped with a PEM1A designation on the NWI map.

**TABLE 4**
**POND INFORMATION**

| Pond ID | Acreage | Description | Location |
|---|---|---|---|
| Pond 1 | 0.23± | Impoundment | 39.997153<br>-83.131842 |
| Pond 2 | 0.95± | Stormwater Management | 39.964861<br>-83.131814 |
| **Total** | **1.18±** | | |

## 5.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

COWC identified twelve (12) wetlands (Wetland 1 through Wetland 12) totaling 13.53± acres, thirteen (13) streams (Stream 1 through Stream 13) totaling 10,377± linear feet, and two (2) ponds (Pond 1 and Pond 2) totaling 1.18± acre within the evaluation area.

COWC followed the Navigable Waters Protection Rule (effective June 22, 2020) to determine the potential regulatory status of surface water features identified with the evaluation area. Per Title 33 (Navigation and Navigable Waters) of the Code of Federal

Regulations (CFR), Chapter 2 (Corps of Engineers, Department of the Army, Department of Defense), Part 328 (Definition of Waters of the United States), Section 328.3 (Definitions), COWC has come to the following conclusions:

- Wetland 1 through Wetland 12 are likely considered waters of the U.S. per 33 CFR 328.3(a)(4), as they appear to meet the definition "adjacent wetlands" per 33 CFR 328.3(c)(1)(i)-(iv).
- Stream 1, Stream 3, Stream 4, Stream 5, Stream 6, Stream 9, Stream 10, Stream 11, Stream 12, and Stream 13 are likely considered waters of the U.S. per 33 CFR 328.3(a)(2), as they appear to meet the definition of ""tributaries" per 33 CFR 328.3(c)(12).
- Stream 2, Stream 7, and Stream 8 are likely considered "non-jurisdictional waters" or "excluded features" because they appear to be ephemeral. Ephemeral features are considered "non-jurisdictional waters" per 33 CFR 328.3(b)(3). "Ephemeral" is defined in 33 CFR 328.3(c)(3) as "surface water flowing or pooling only in direct response to precipitation (e.g. rain or snow fall).
- Pond 1 is likely considered waters of the U.S. per 33 CFR 328.3(a)(3), as Pond 1 appears to meet the definition of "lakes and ponds, and impoundments of jurisdictional waters" per 33 CFR 328.3(c)(6).
- Pond 2 may be considered "non-jurisdictional" or "excluded" per 33 CFR 328.3 (b)(10), as Pond 2 appears to meet the definition of a "stormwater control feature constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater run-off".

Except for Stream 2, Stream 7, Stream 8, and Pond 2, surface water features identified within the evaluation area are likely to be regulated by the USACE. Section 404 of the CWA requires pre-construction notification (PCN) to the USACE and a Department of the Army (DA) permit prior to discharging dredged or fill material into waters of the U.S.

Stream 2, Stream 7, and Stream 8 appear to have ephemeral characteristics; therefore, may fall under the jurisdiction of the Ohio EPA. Ephemeral streams in the State of Ohio are regulated by the Ohio EPA. Certain situations may require a pre-activity notice (PAN) to the Ohio EPA for ephemeral stream impacts.

Pond 2 may be a non-regulated feature, as it appears to have been constructed for stormwater control use.

The USACE has authority to determine the jurisdictional status of surface water features identified within the evaluation area. Therefore, findings in this report are preliminary until verified by the USACE. COWC recommends obtaining an Approved Jurisdictional Determination (AJD) from the USACE Huntington, WV District Office for written verification of the findings documented within this report. With your authorization, COWC will supply the required information to process this request. With this reported

information and/or a site visit, the USACE will make the official determination on jurisdiction. The findings and conclusions of this delineation report are subject to change, pending USACE verification. This report will become public information upon submittal to the USACE.

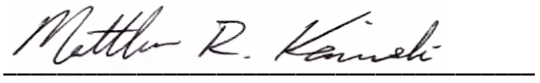
## 6.0 SIGNATURE OF PROFESSIONAL PERSONNEL

To the best of our professional knowledge and belief, COWC personnel responsible for this report declare we have the specific qualifications based on education, training, and experience to assess the evaluation area for waters of the U.S. and isolated waters of the State of Ohio. The jurisdictional waters delineation has been conducted in a manner consistent with the criteria contained in the USACE Wetlands Delineation Manual (1987) and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, and with the level of care and skill ordinarily used by similar professionals performing similar services under similar conditions in the vicinity of the evaluation area.

COWC appreciates the opportunity to serve you on this project. Please contact COWC owner Matt Kaminski at mkaminski434@gmail.com with any questions or concerns regarding this report.

Respectfully submitted,

**Central Ohio Wetland Consulting, LLC**

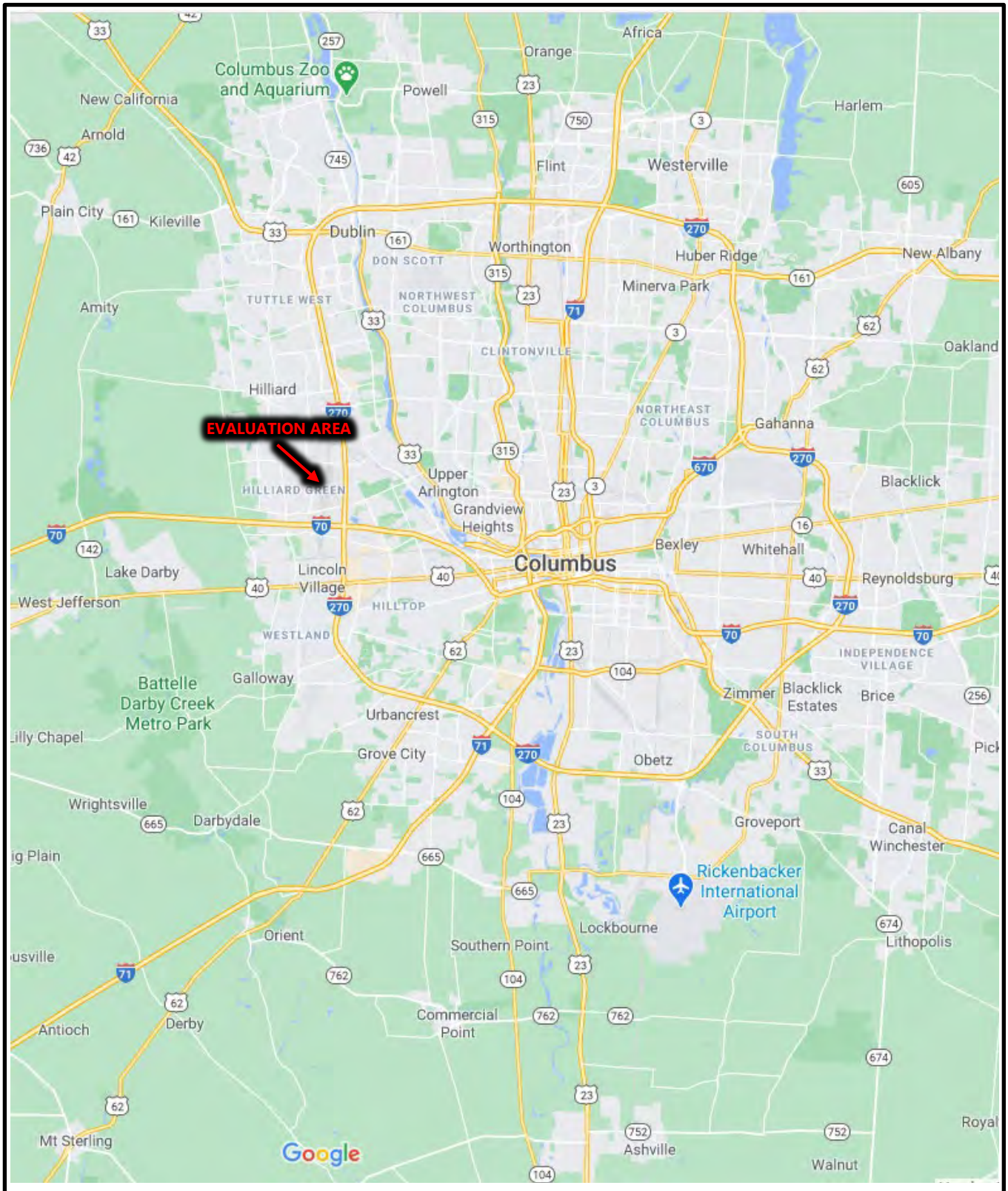
*Prepared by:* 

Matthew R. Kaminski, Owner
Wetland Scientist, 401/404 Specialist

Matthew R. Kaminski holds a Bachelor of Science Degree in Environmental Geography from Ohio University with 16 years of experience as an environmental consultant. Mr. Kaminski has completed hundreds of jurisdictional waters delineations throughout the State of Ohio upon completion of the 38 Hour Army Corps of Engineers Wetland Delineation & Management Training Program in 2006. Mr. Kaminski's experience includes wetland/stream delineation, plant identification, stream evaluations, 404/401 permitting, Ohio Rapid Assessment Method v. 5.0, Clean Water Act (CWA) regulations, Sections 7 & 9 of the Endangered Species Act (ESA), and Ohio Historic Preservation Office (OHPO) Section 106. Throughout his career, Mr. Kaminski has successfully facilitated regulatory approval of numerous residential, commercial, and institutional projects. Since September 2020, Mr. Kaminski has been sole proprietor of Central Ohio Wetland Consulting, LLC, offering comprehensive wetland and stream consultation and guidance for commercial and residential developers, architects, civil design professionals, and private individuals. Professional wetland and stream consulting services include preliminary jurisdictional waters assessments, wetland/stream delineation, approved and preliminary jurisdictional determination requests, and 404/401 permitting services.

# APPENDIX 1

# *GENERAL LOCATION MAP OF EVALUATION AREA*

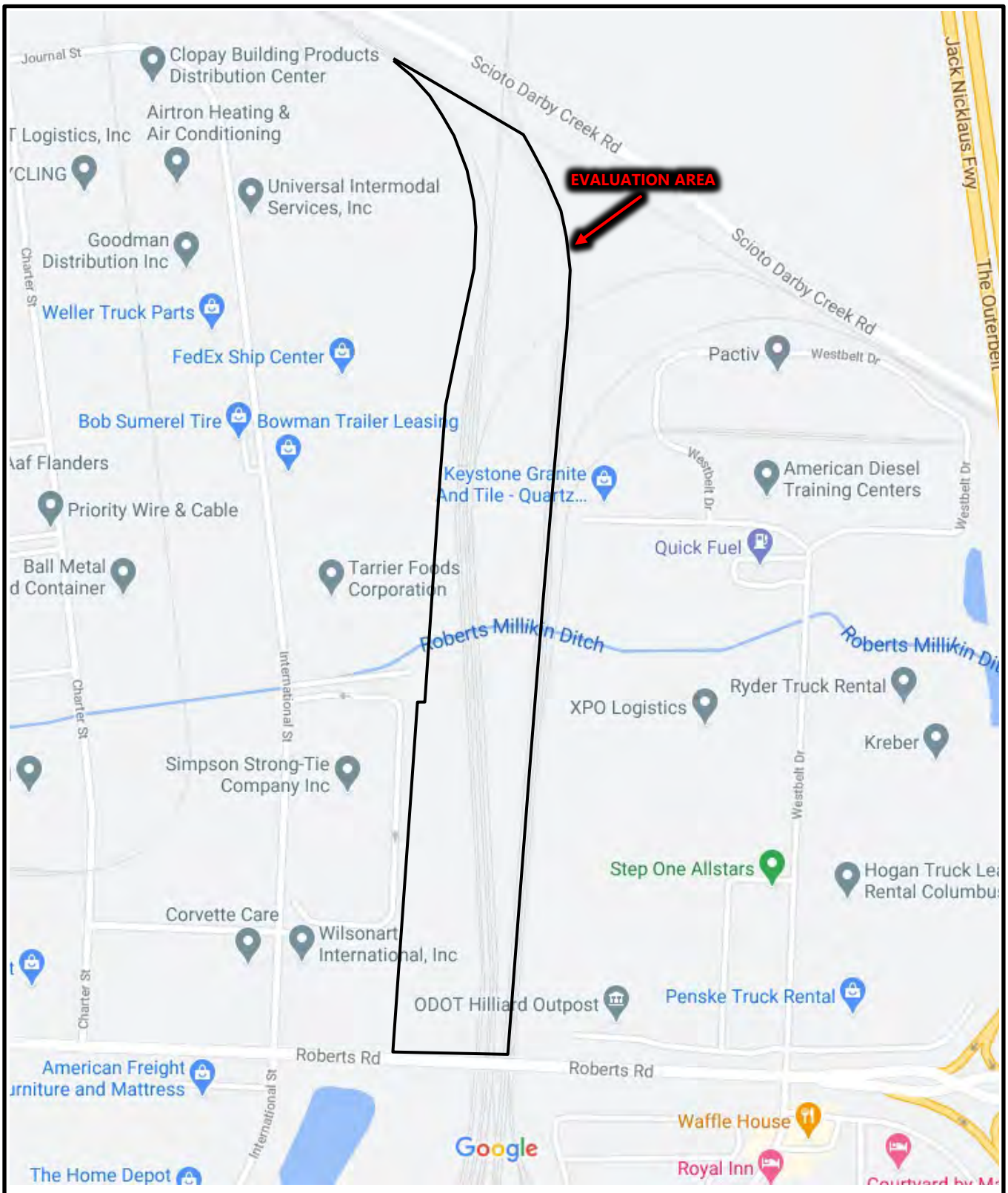



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*LOCATION MAP OF EVALUATION AREA (NORTH SECTION)*




NORTH

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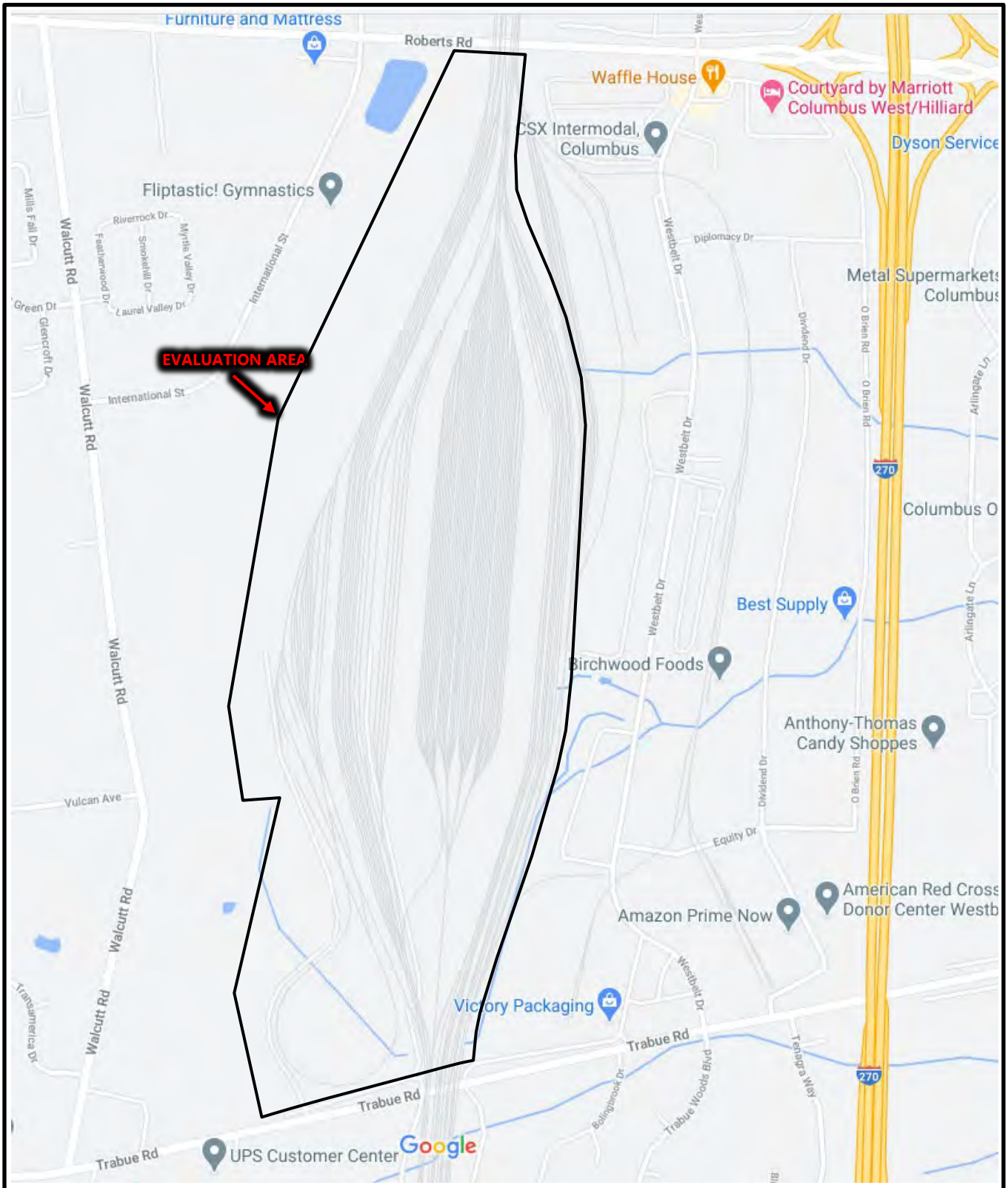
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*LOCATION MAP OF EVALUATION AREA (CENTRAL SECTION)*

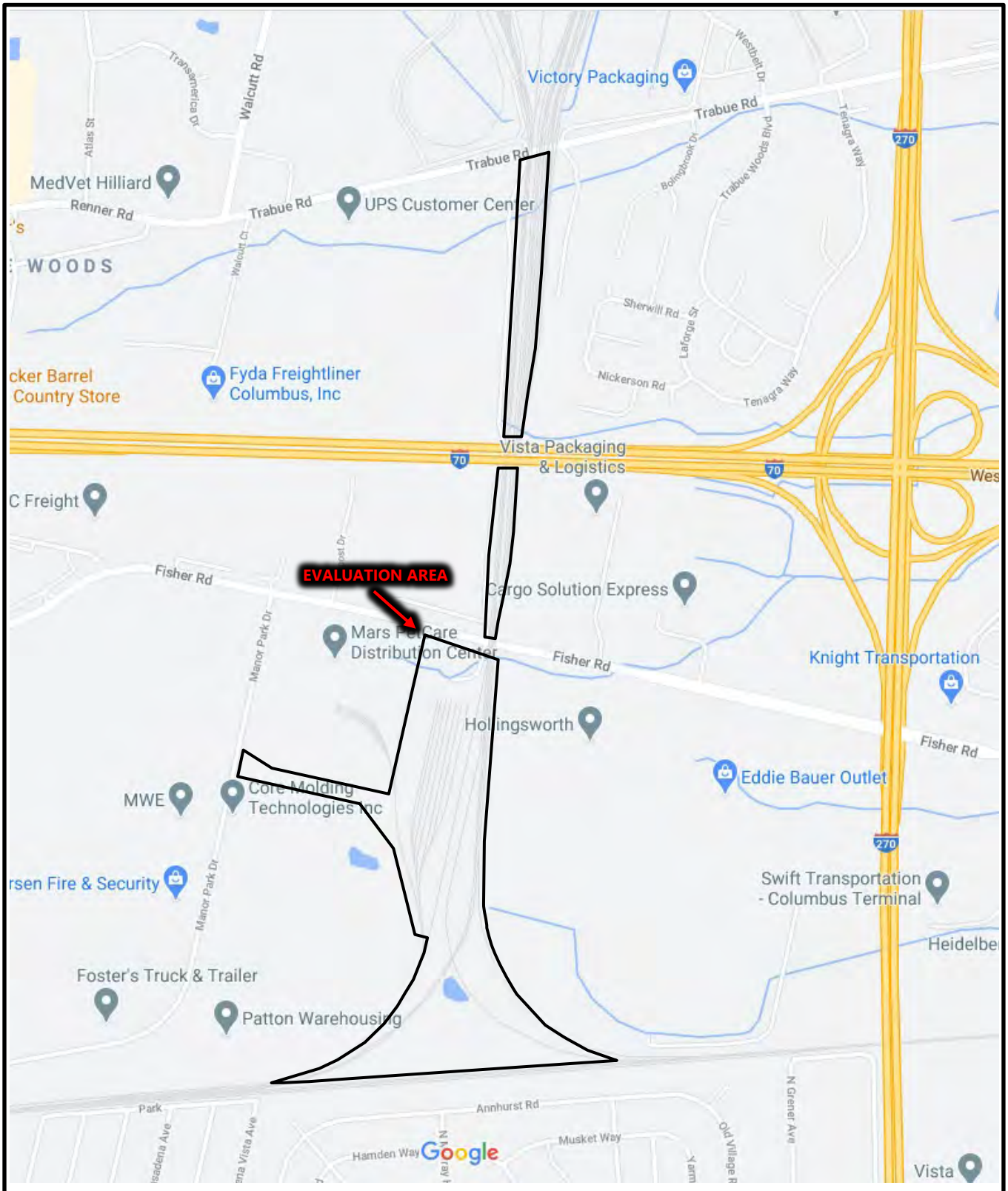



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*LOCATION MAP OF EVALUATION AREA (SOUTH SECTION)*

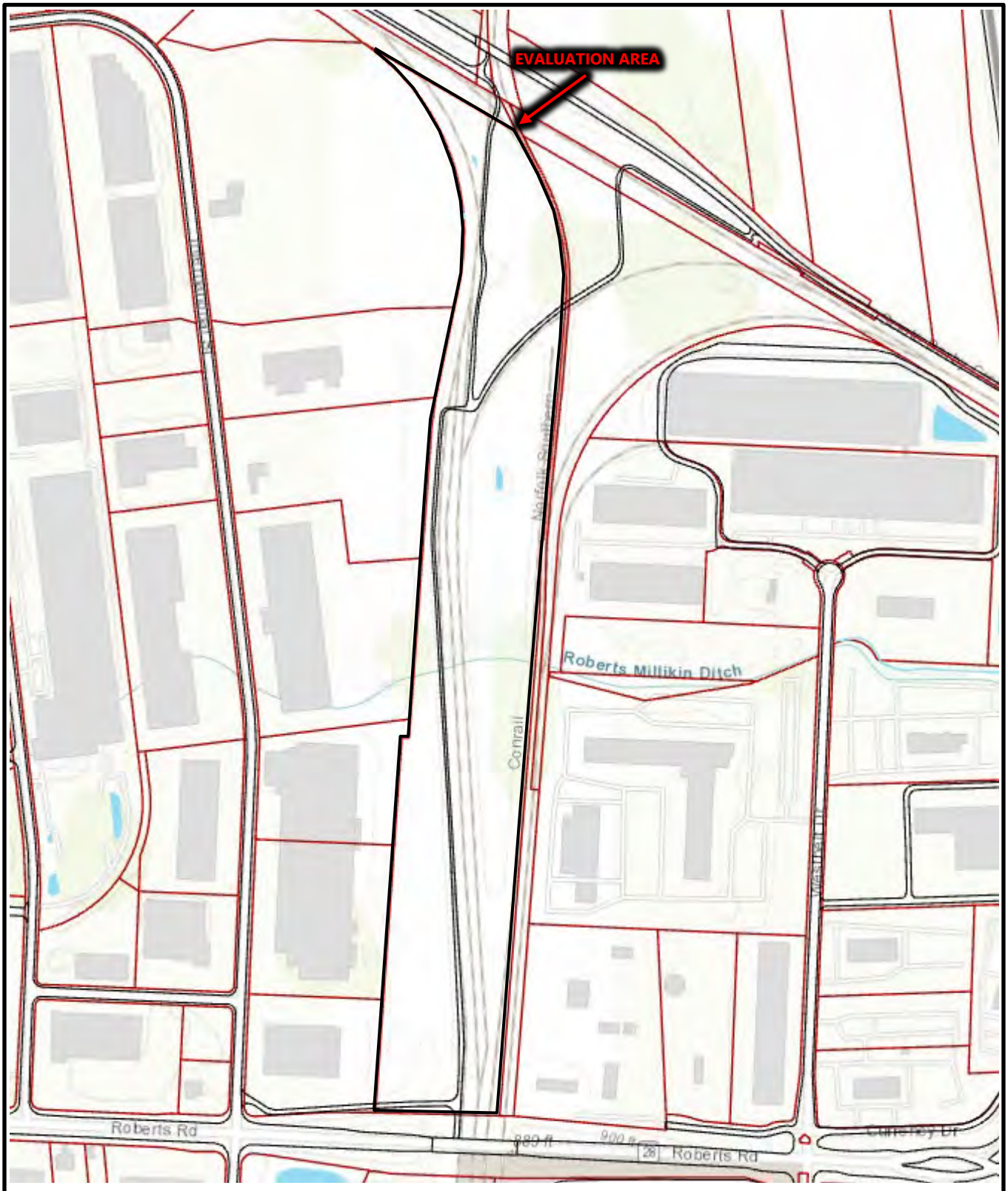



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*FRANKLIN COUNTY AUDITOR GIS MAP (NORTH SECTION)*

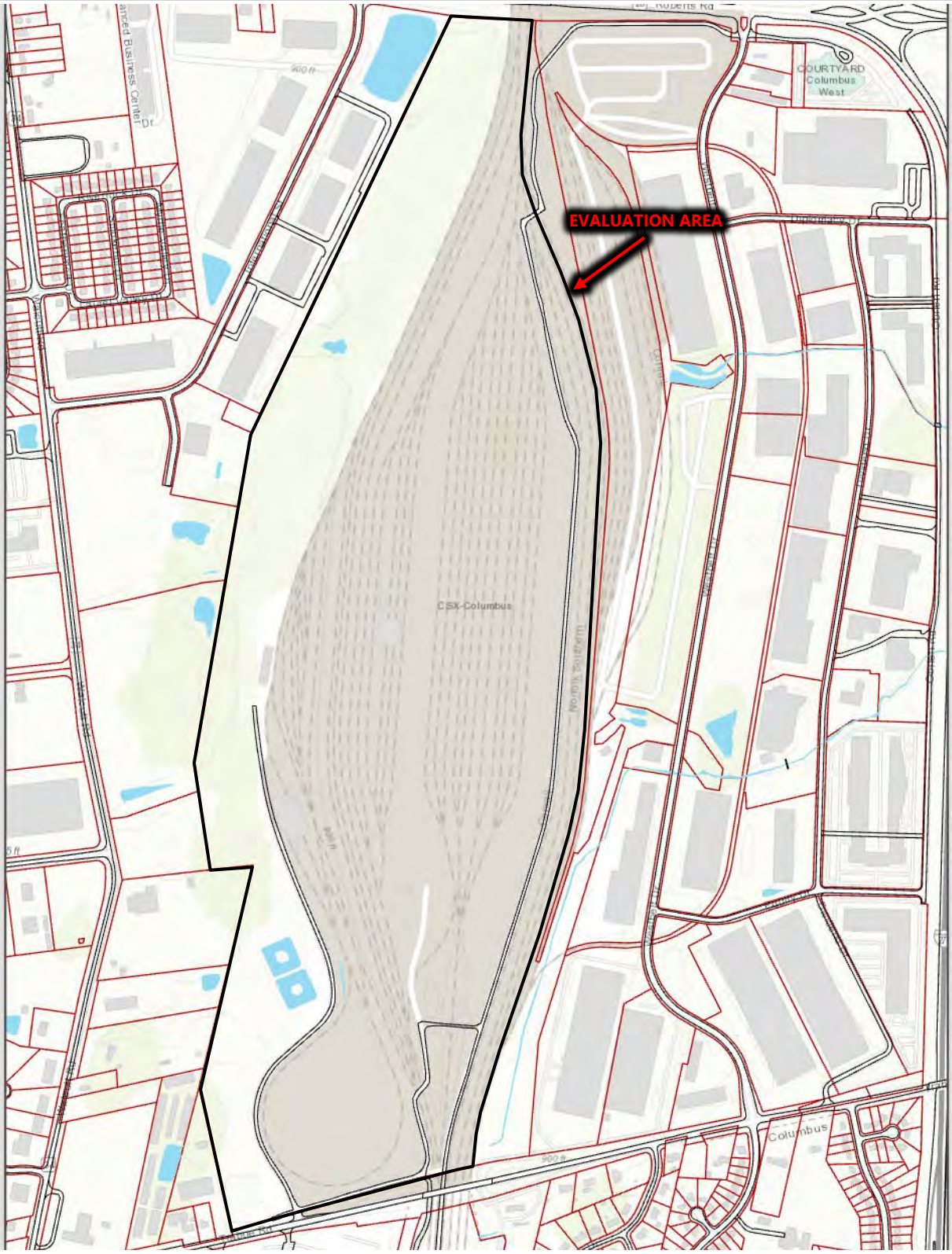



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*FRANKLIN COUNTY AUDITOR GIS MAP (CENTRAL SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

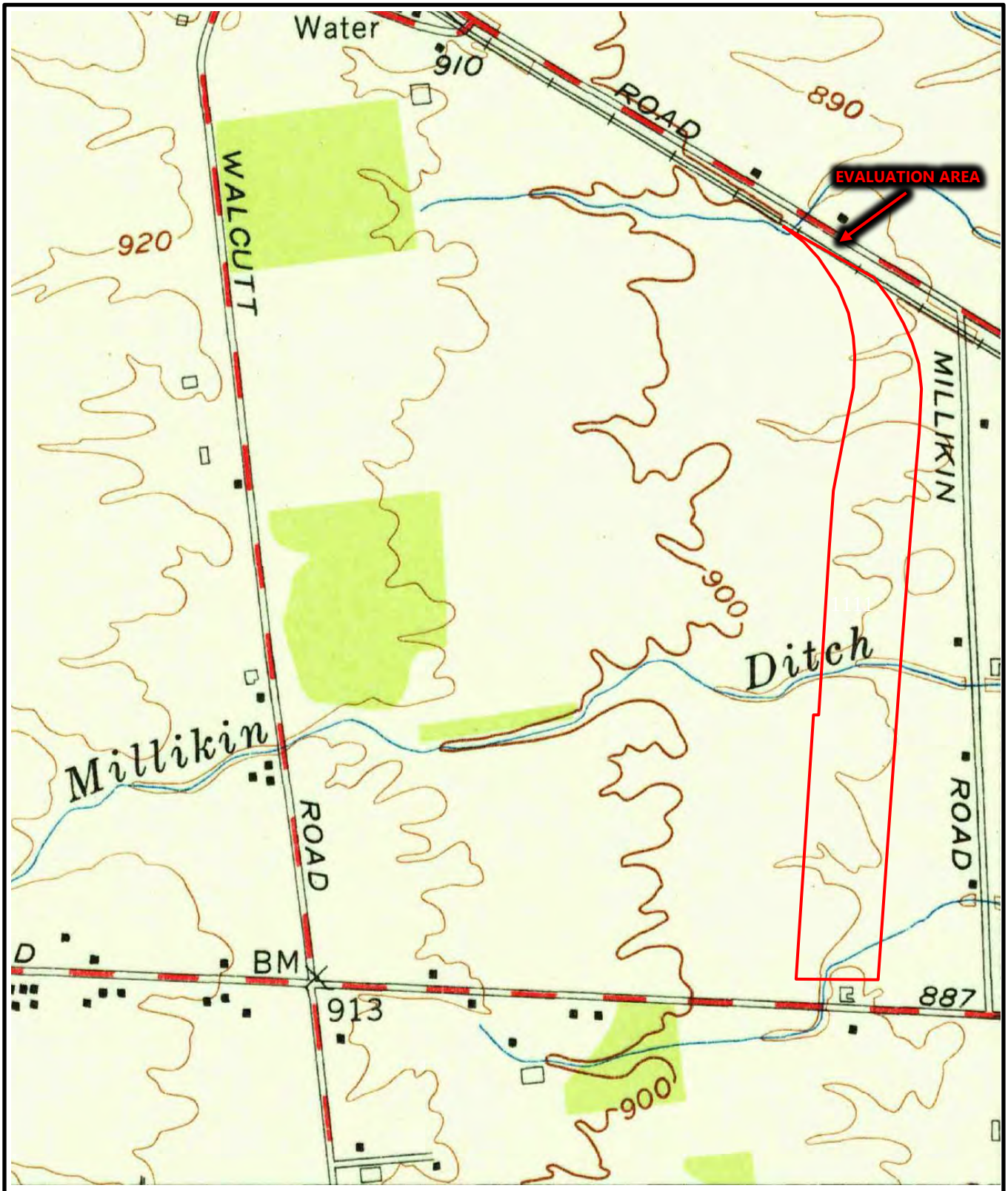
*FRANKLIN COUNTY AUDITOR GIS MAP (SOUTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1954 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*




NORTH

*BUCKEYE YARD*
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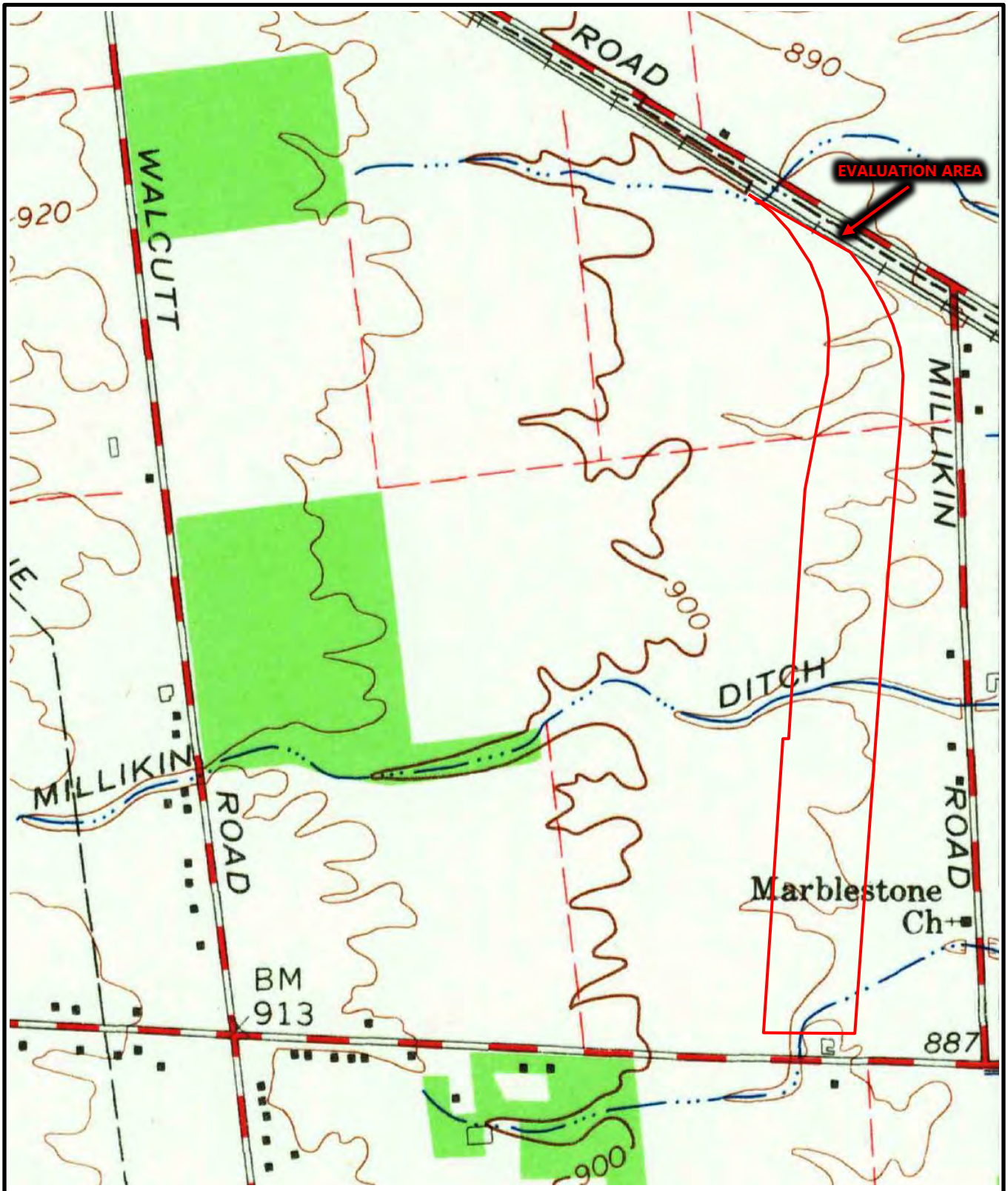
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1966 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*




NORTH

*BUCKEYE YARD*
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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

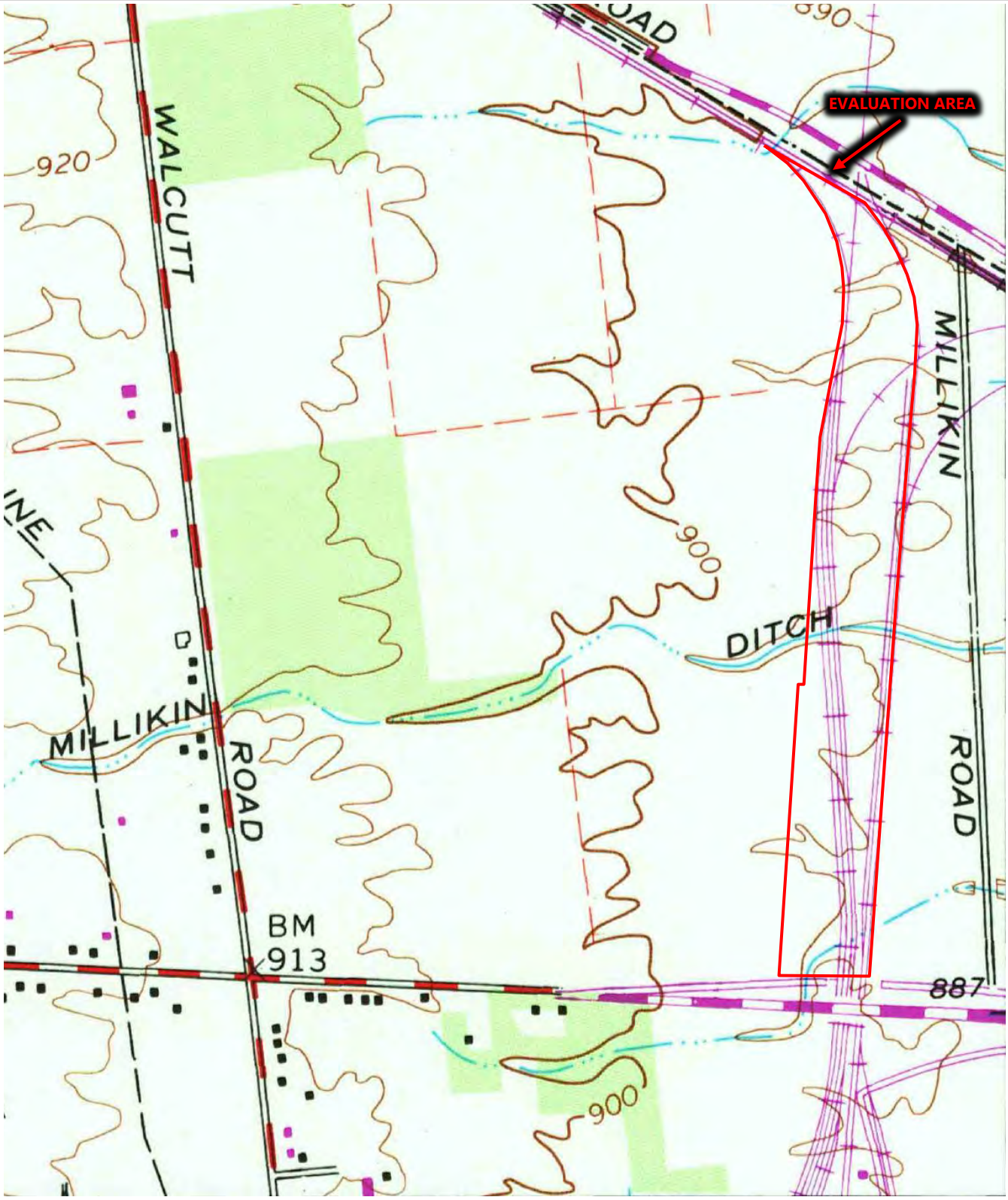
*1973 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1980 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*




NORTH

*BUCKEYE YARD*
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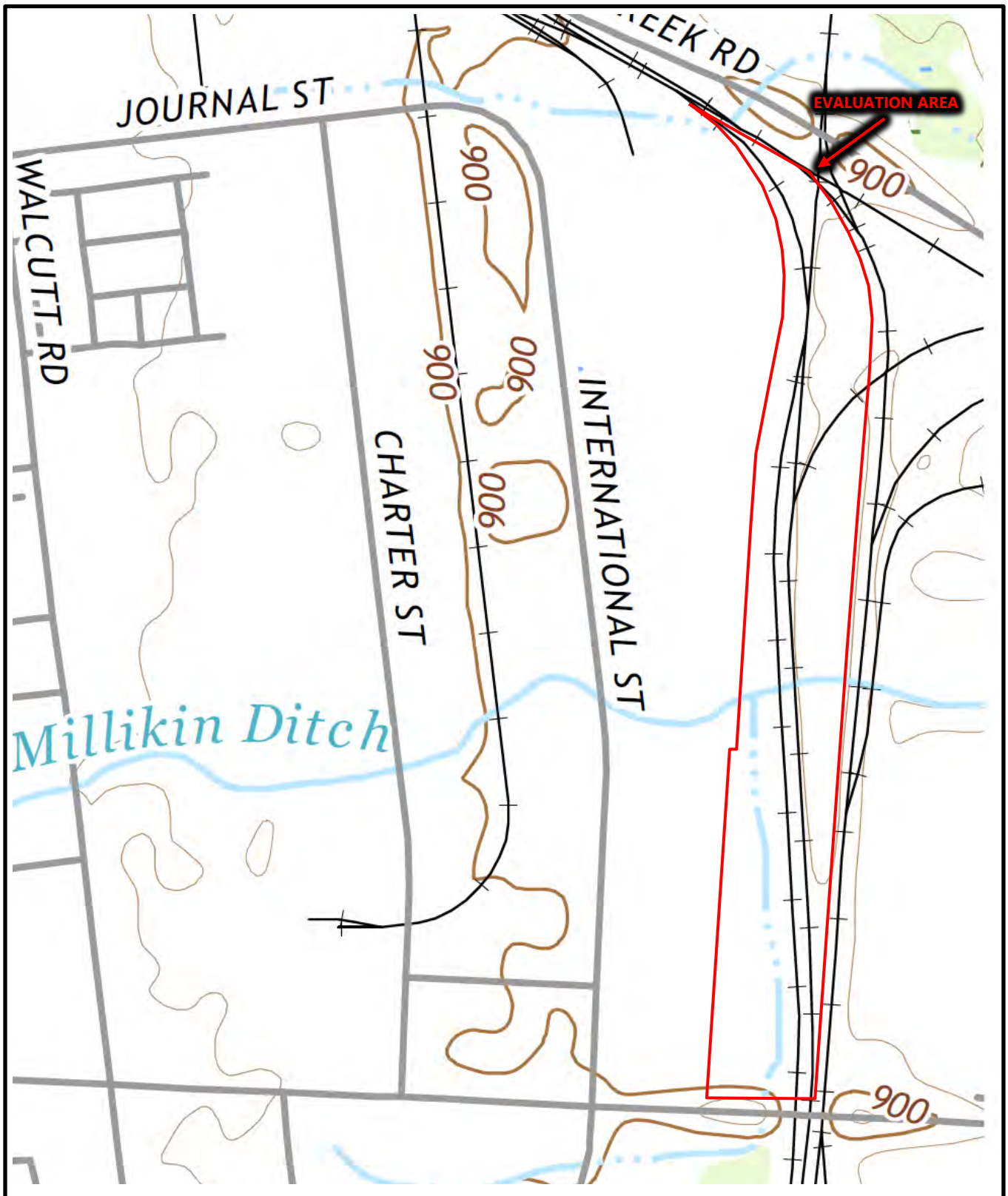
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 USGS (HILLIARD) TOPOGRAPHIC MAP (NORTH SECTION)*




NORTH

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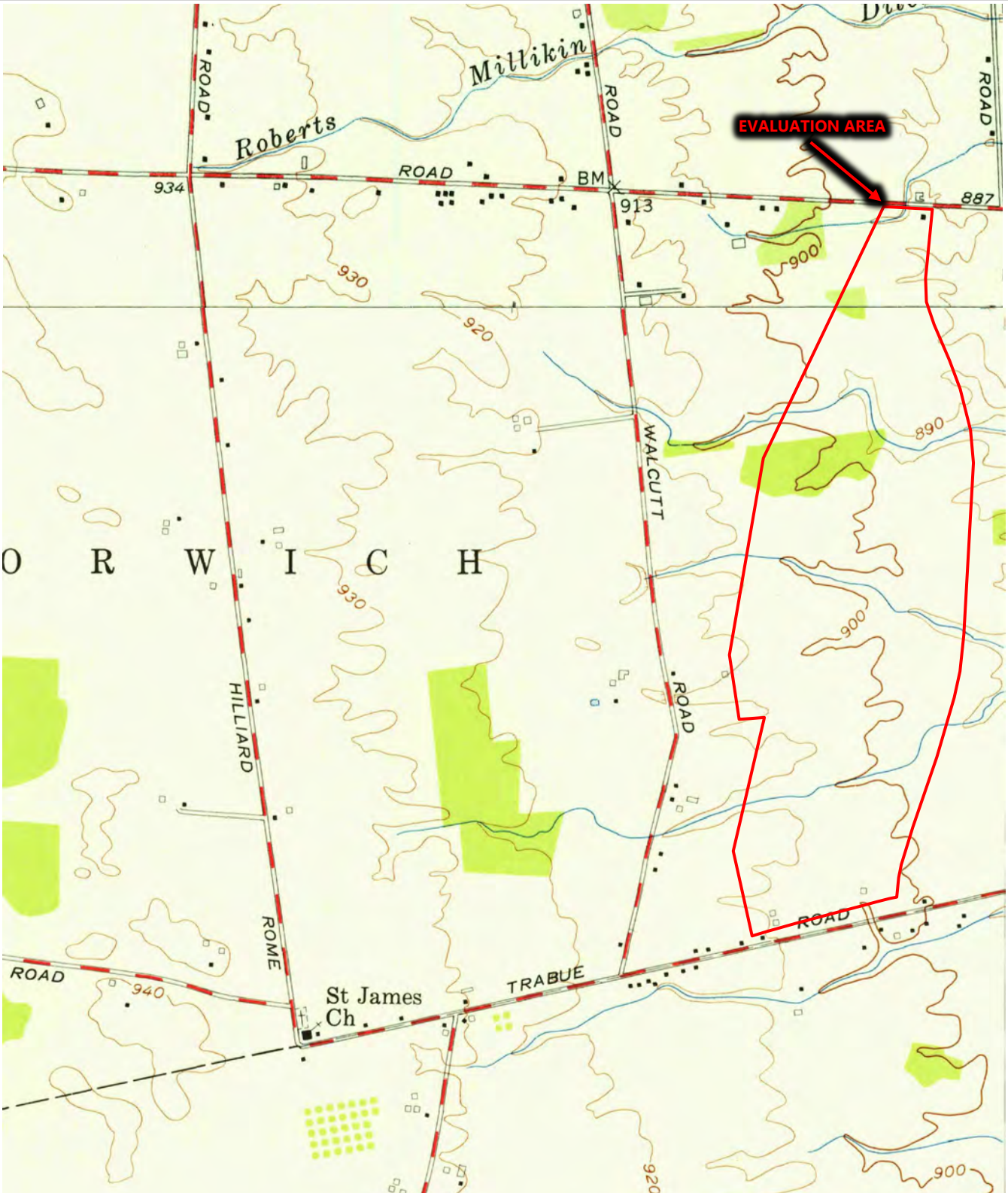
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1954/1955 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)




NORTH

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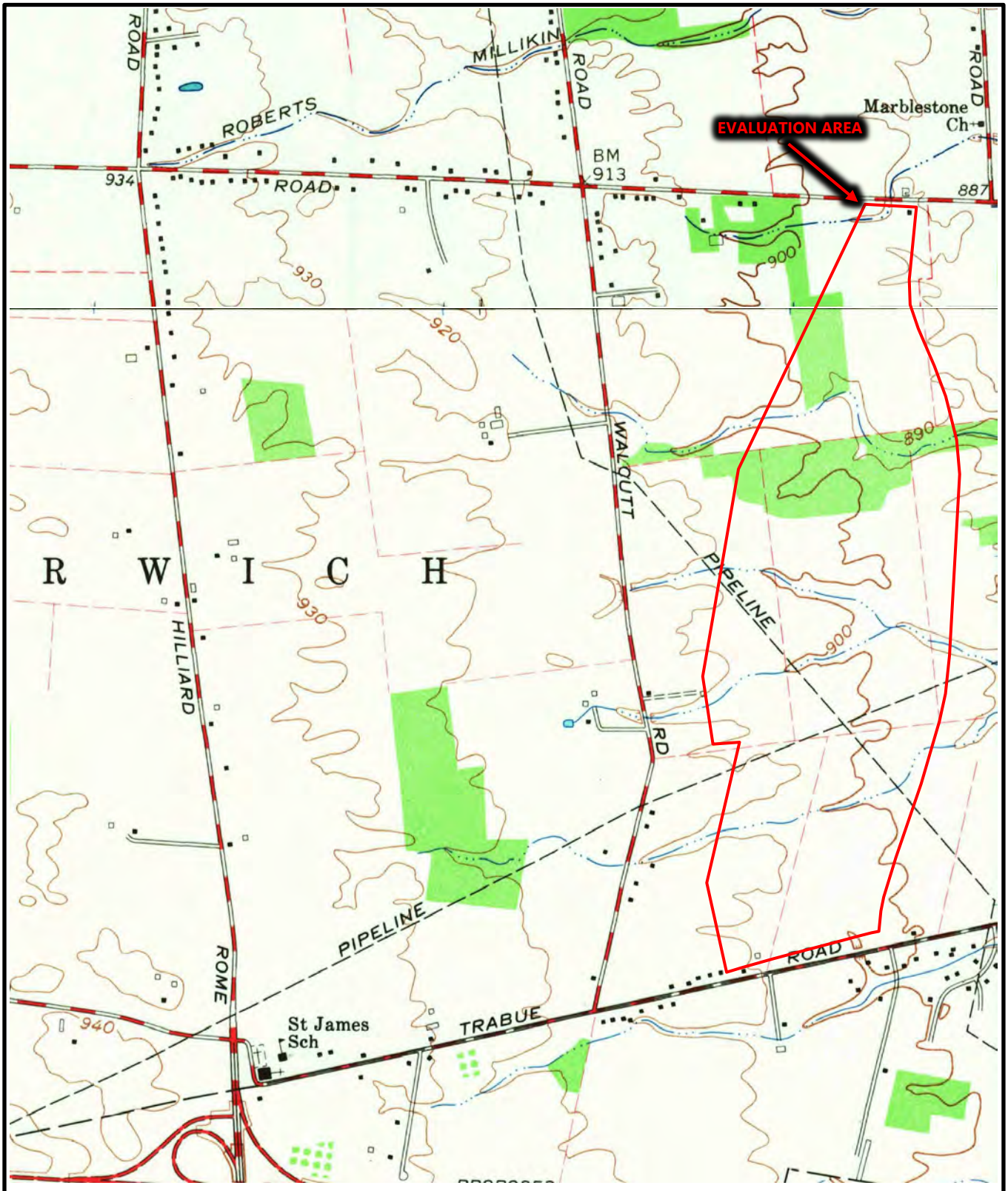
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1966 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)*

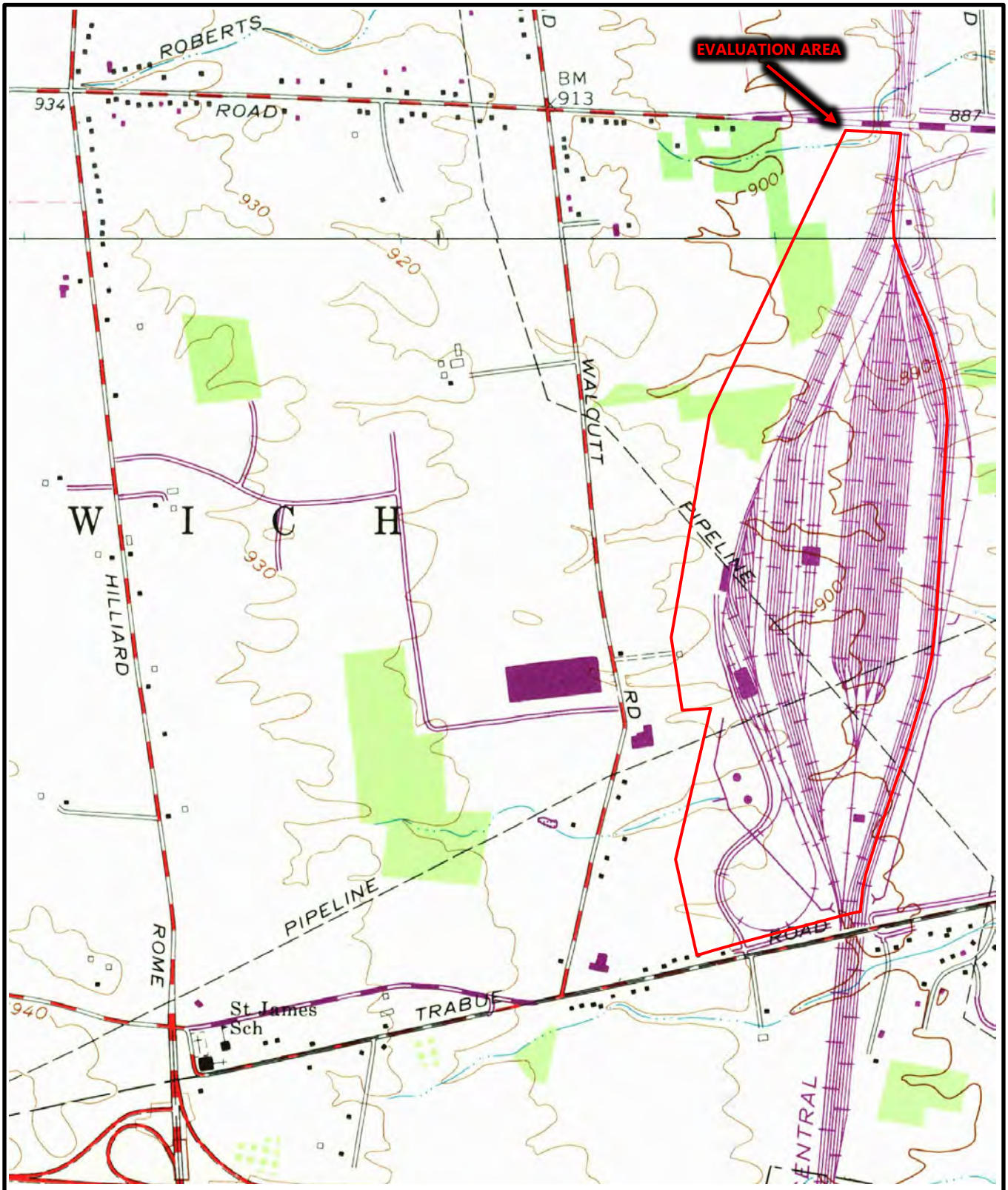



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1973 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)




NORTH

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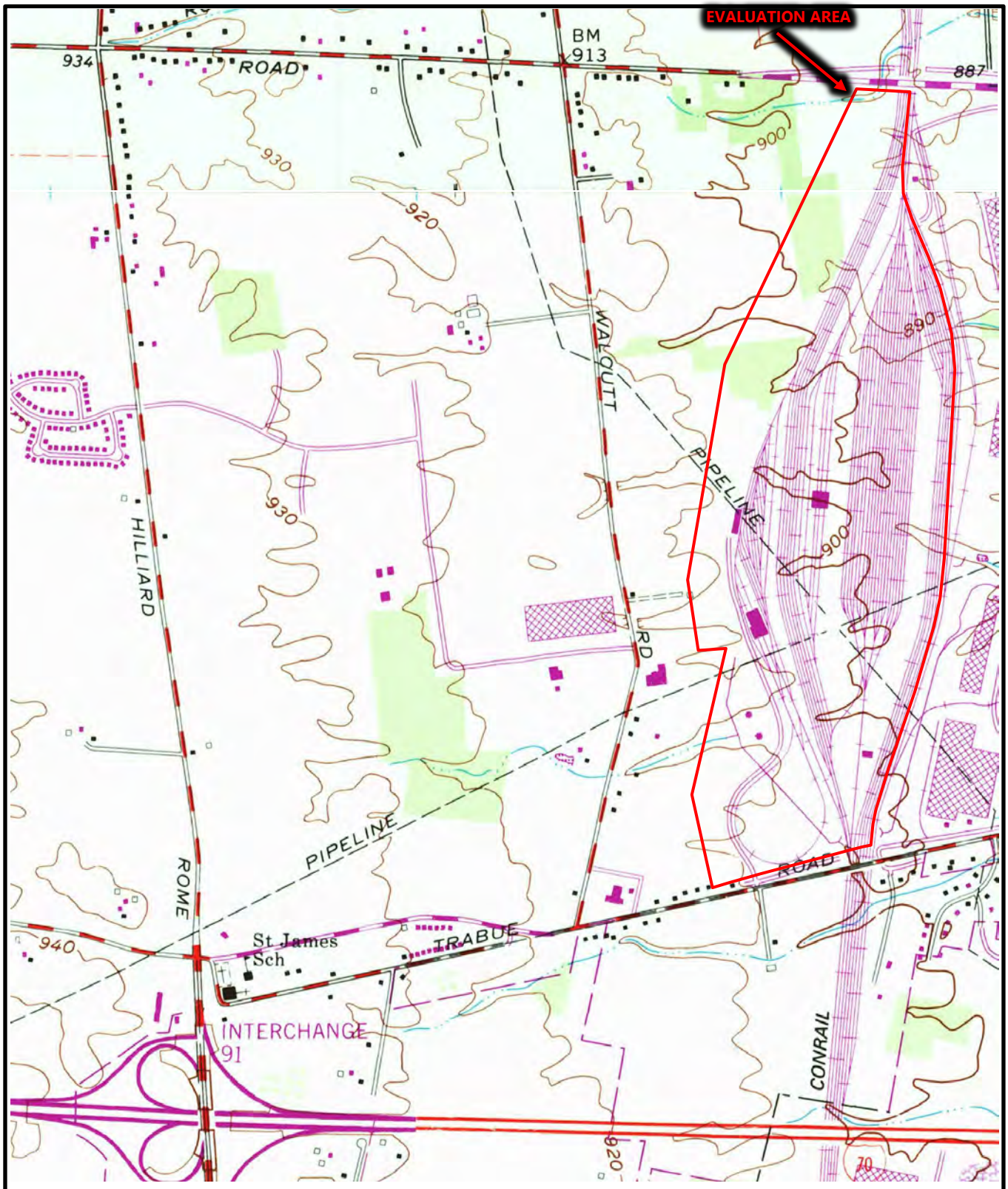
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1980/1981 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)

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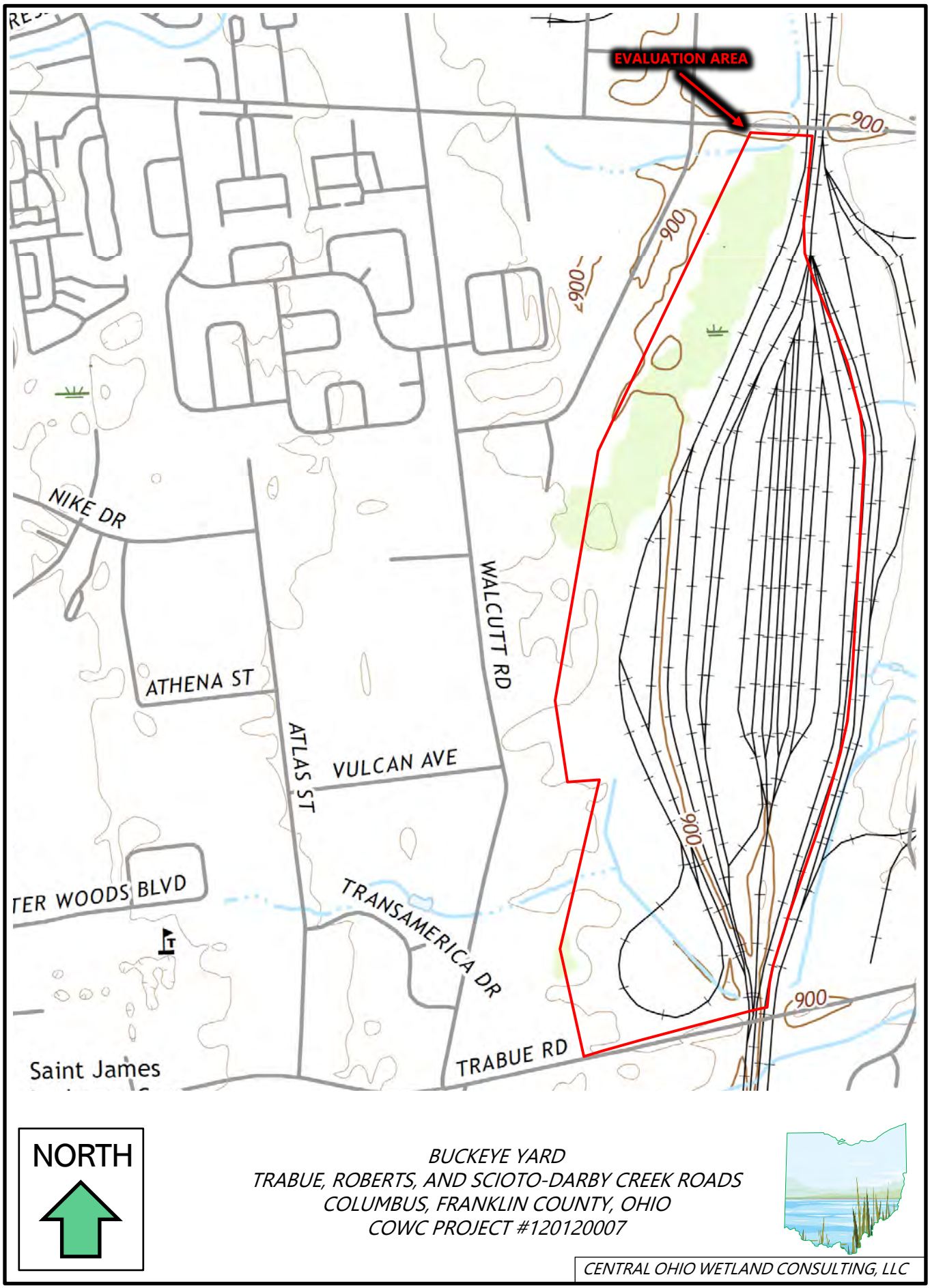
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 USGS (HILLIARD/GALLOWAY) TOPOGRAPHIC MAP (CENTRAL SECTION)*

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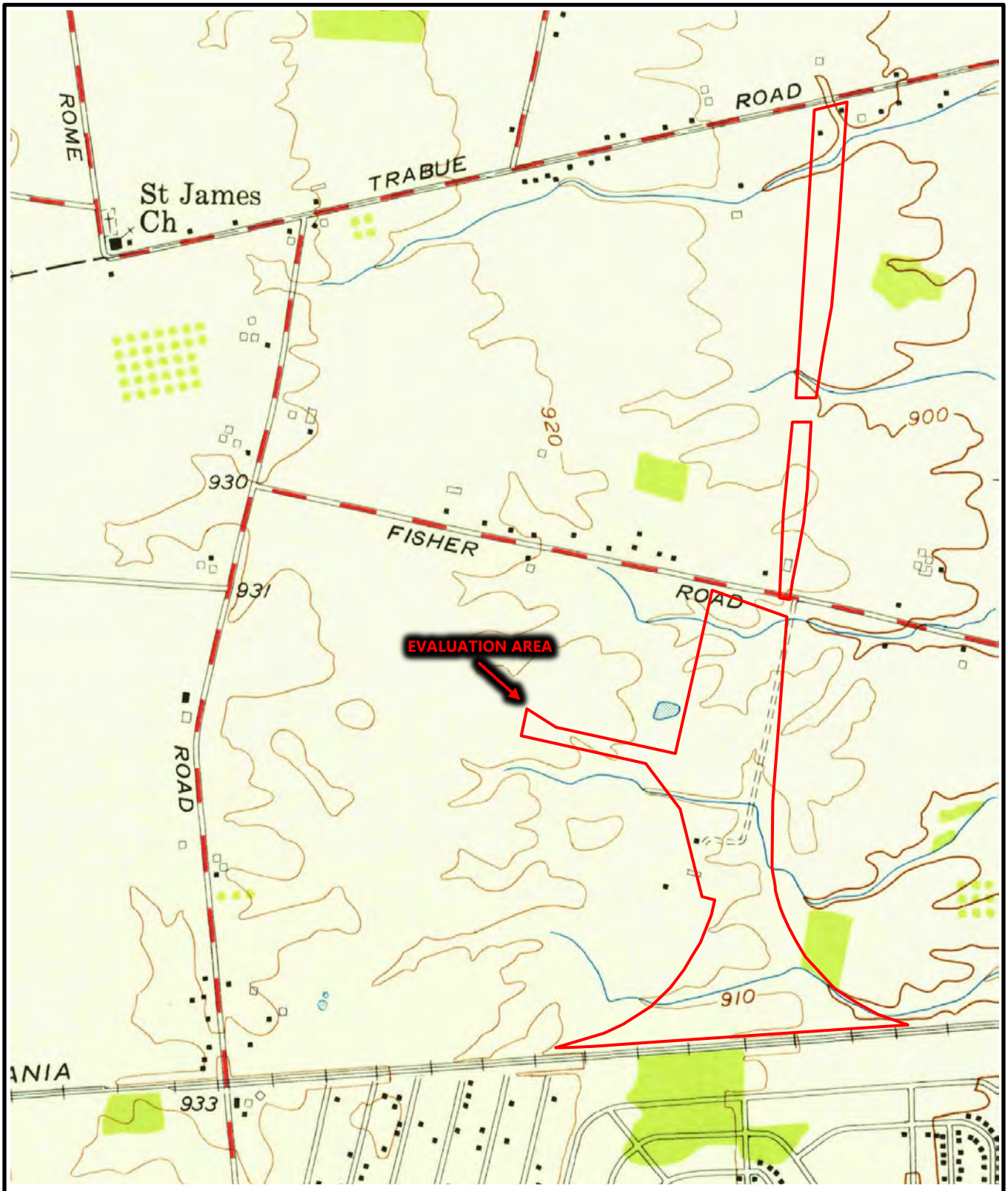
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1955 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)

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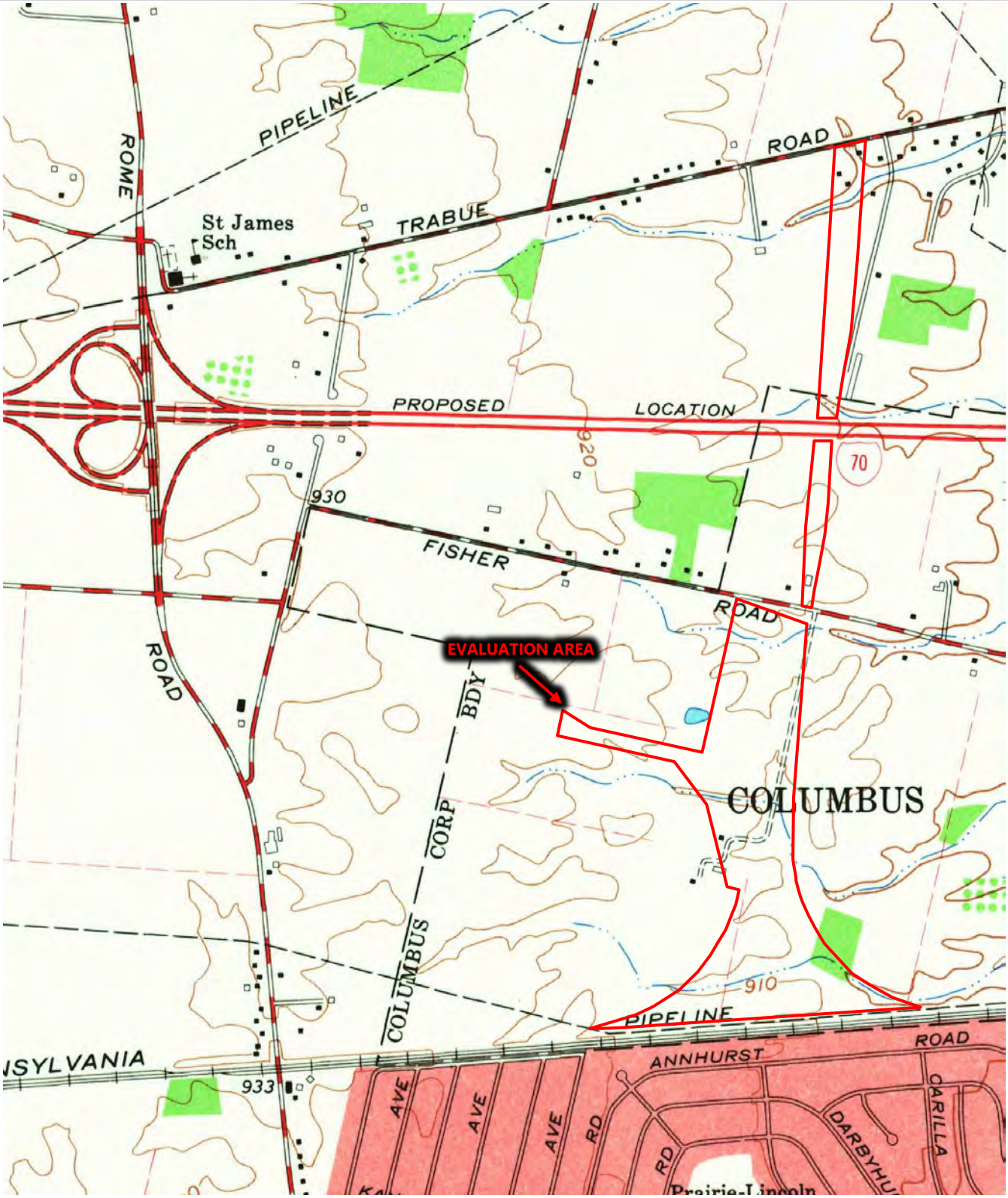
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1966 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*

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*COWC PROJECT #120120007*

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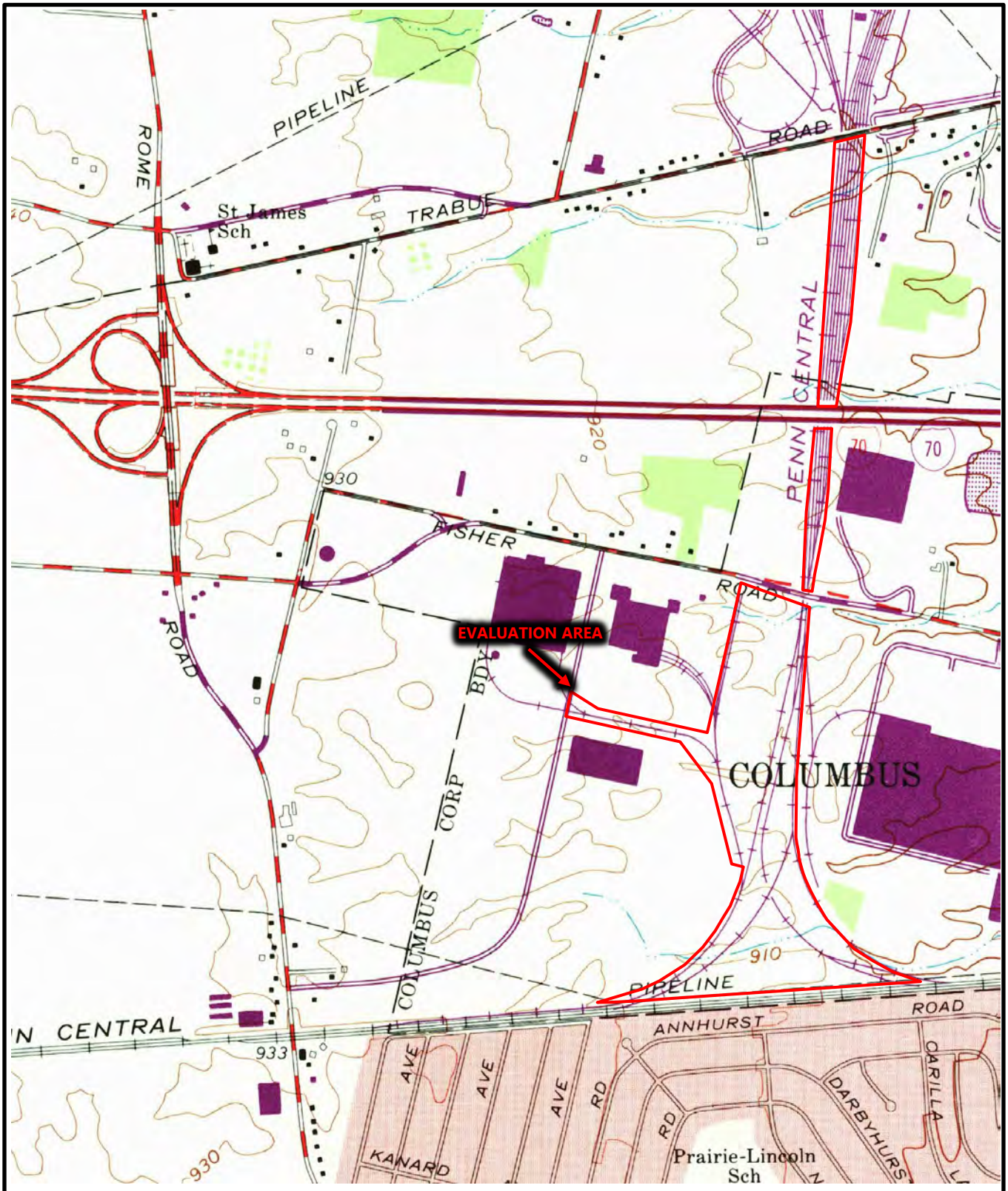
*1973 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*

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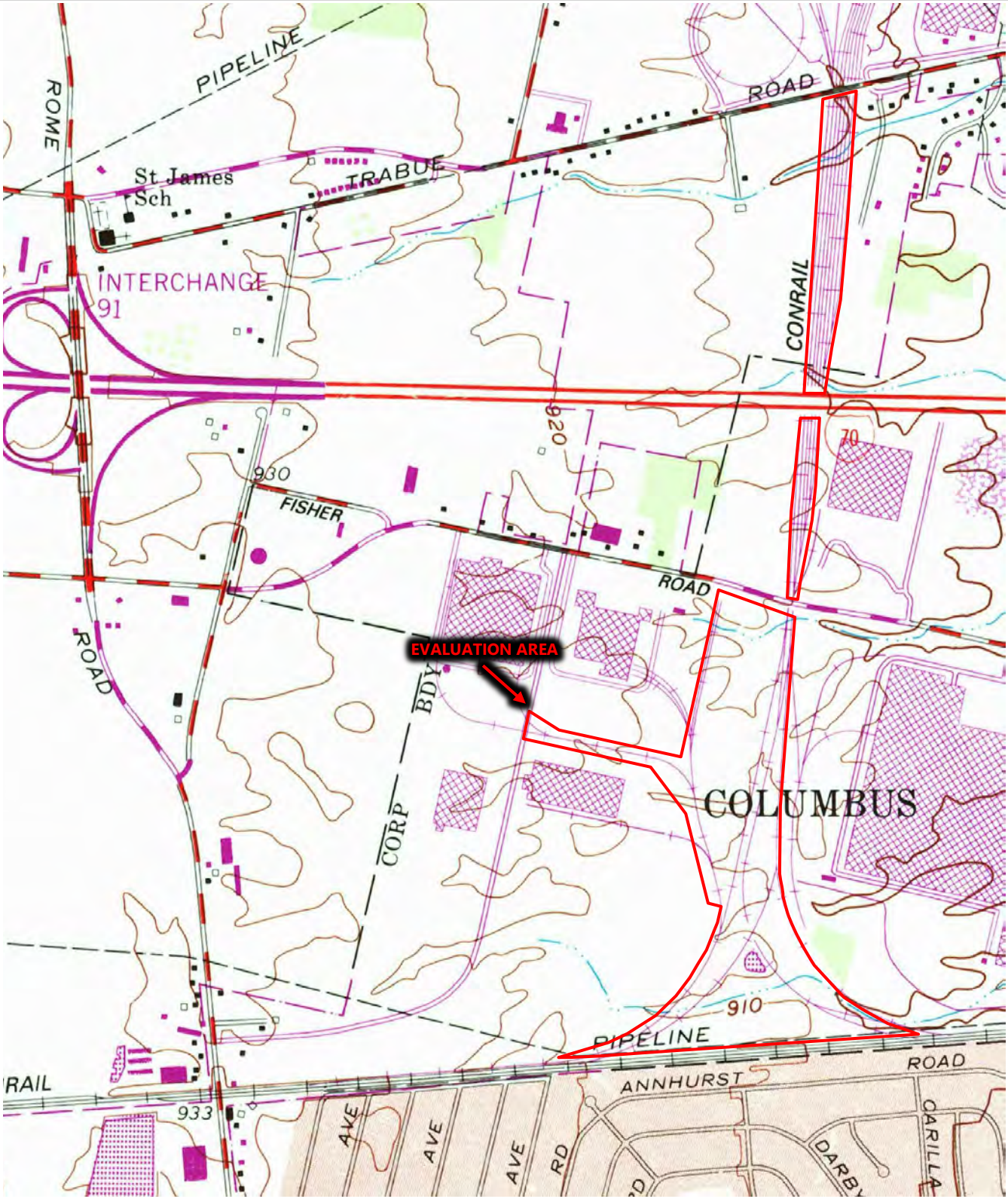
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1981 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*

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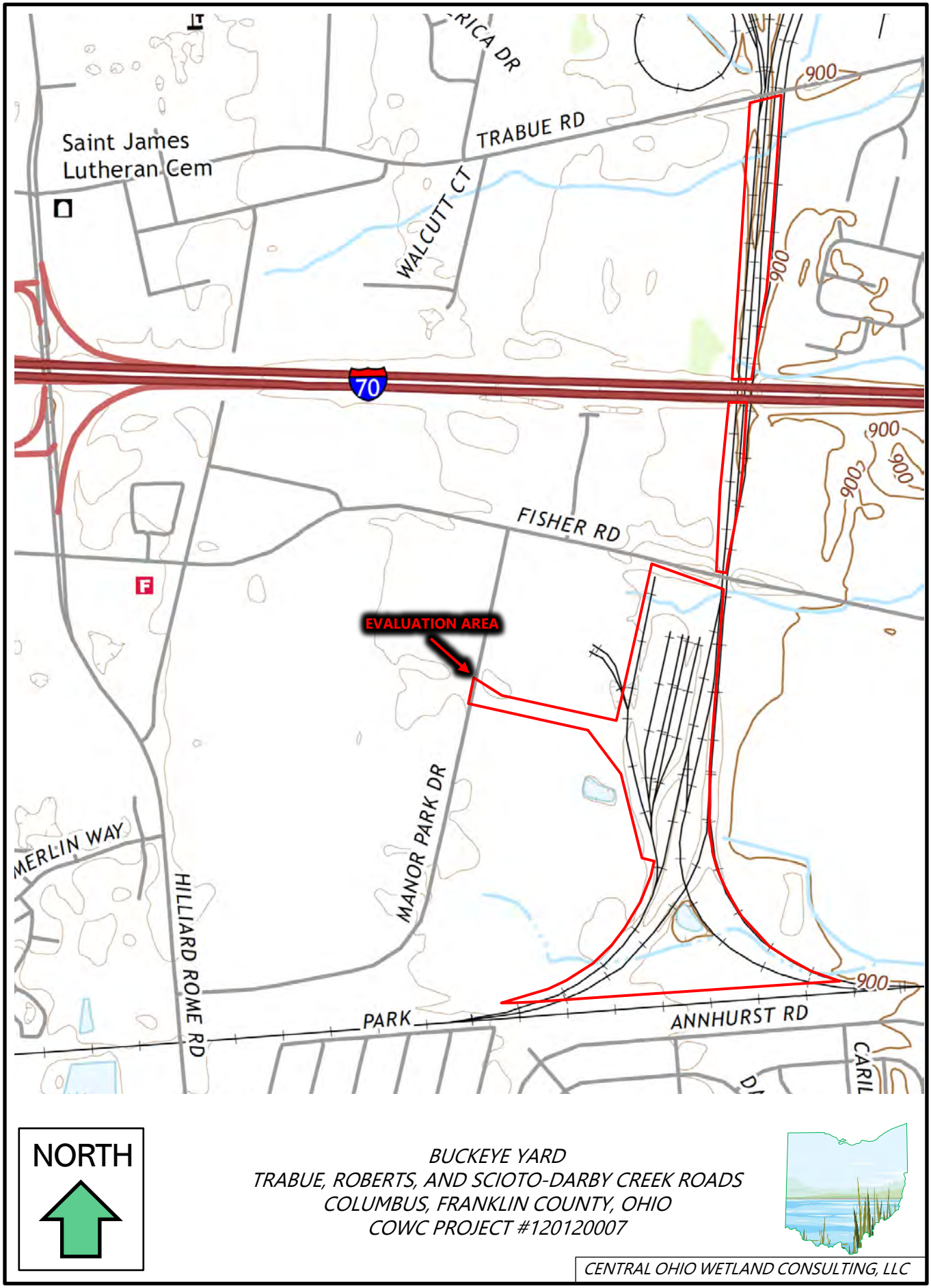
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 USGS (GALLOWAY) TOPOGRAPHIC MAP (SOUTH SECTION)*




*BUCKEYE YARD*
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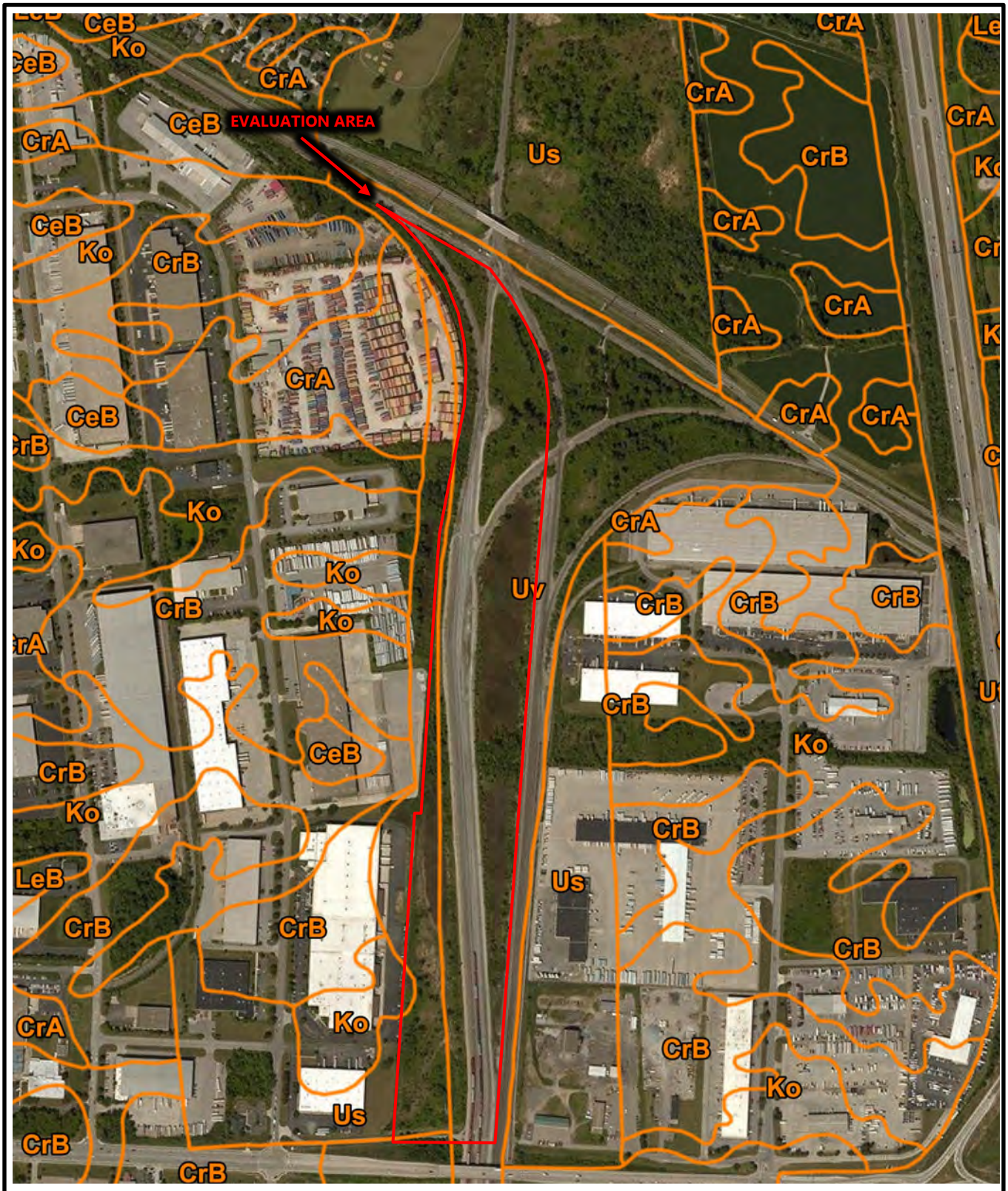
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (NORTH SECTION)*

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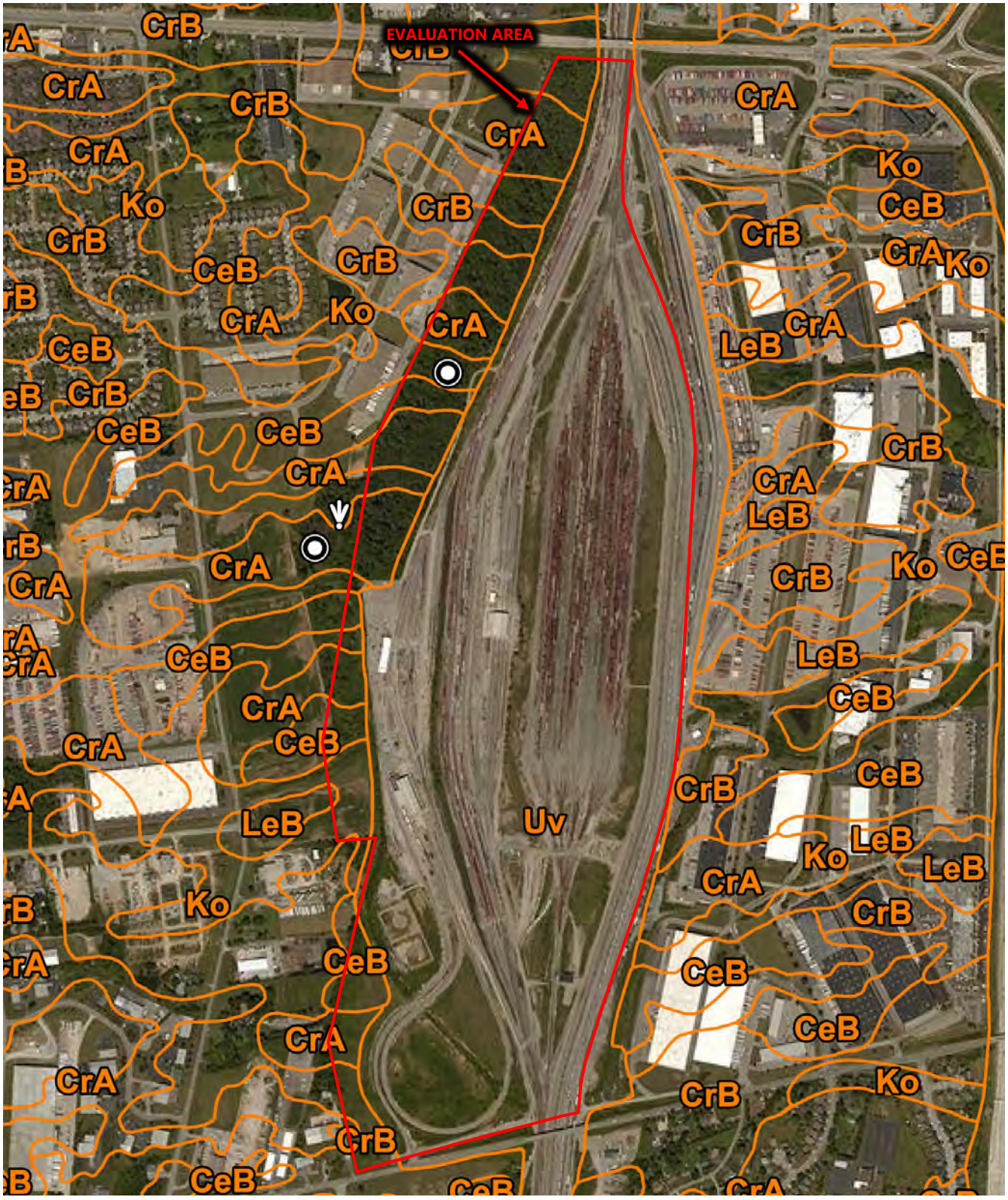
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (CENTRAL SECTION)*

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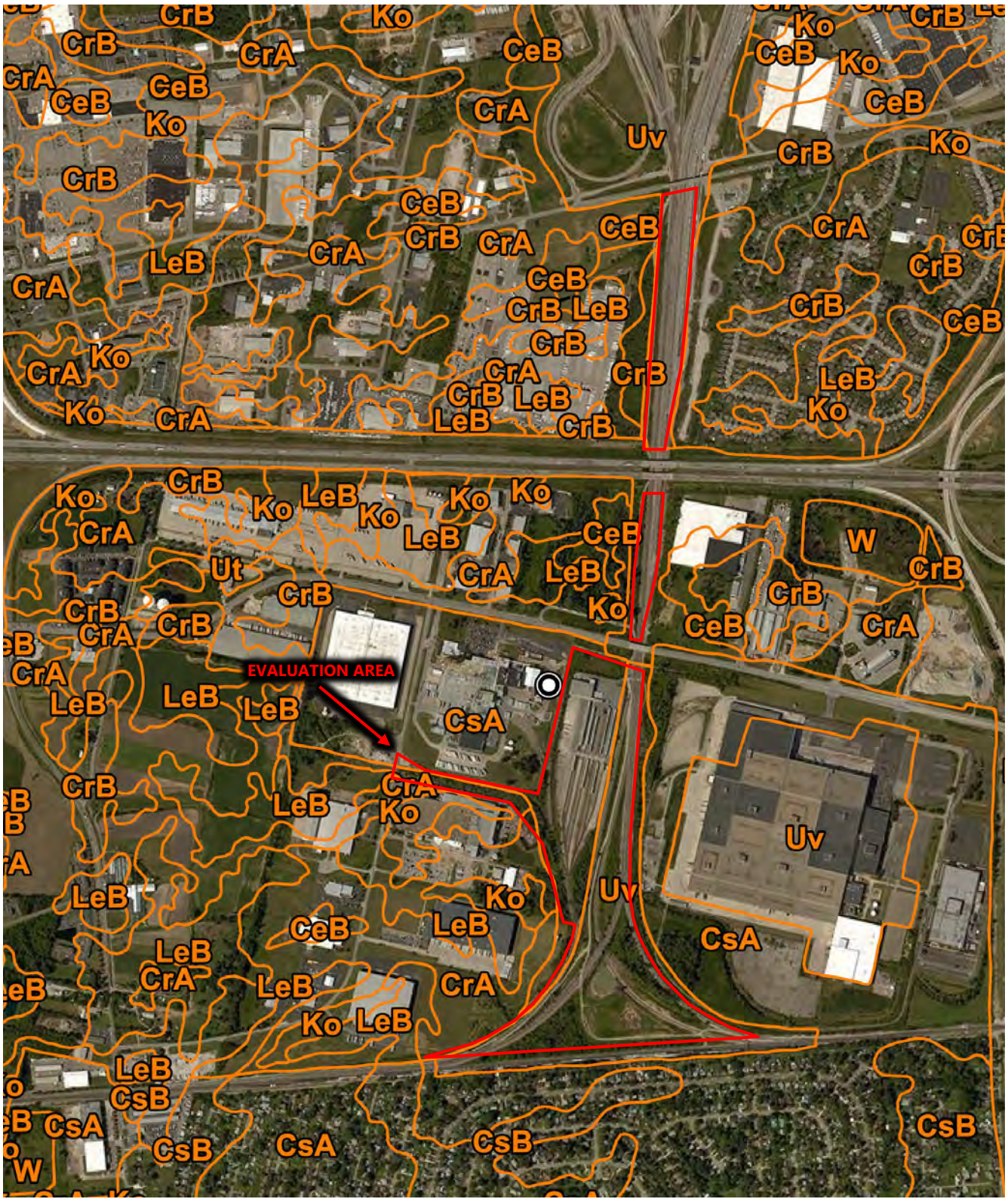
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*USDA WEB SOIL SURVEY MAP (SOUTH SECTION)*

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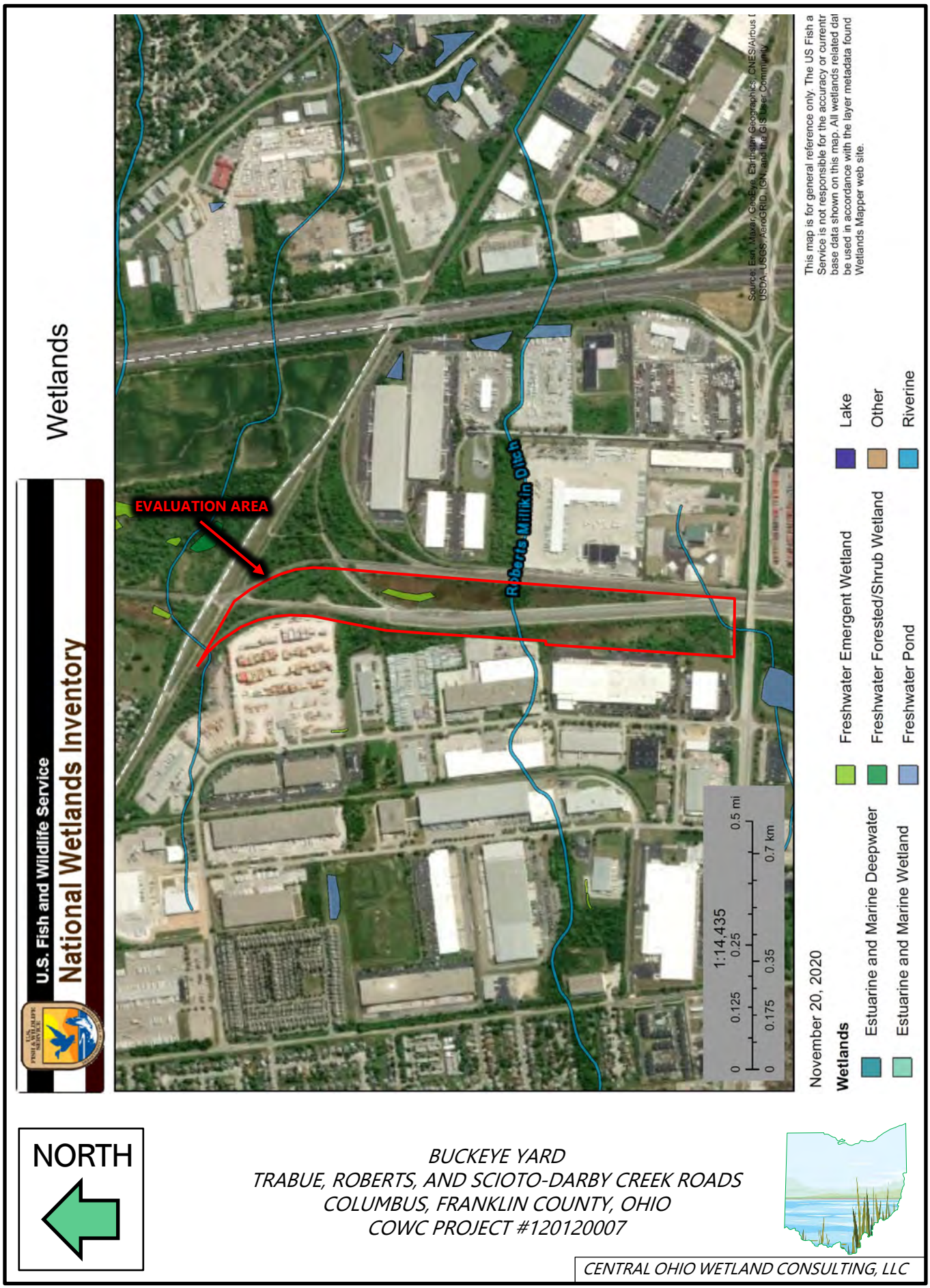
# NATIONAL WETLANDS INVENTORY (NWI) MAP (NORTH SECTION)

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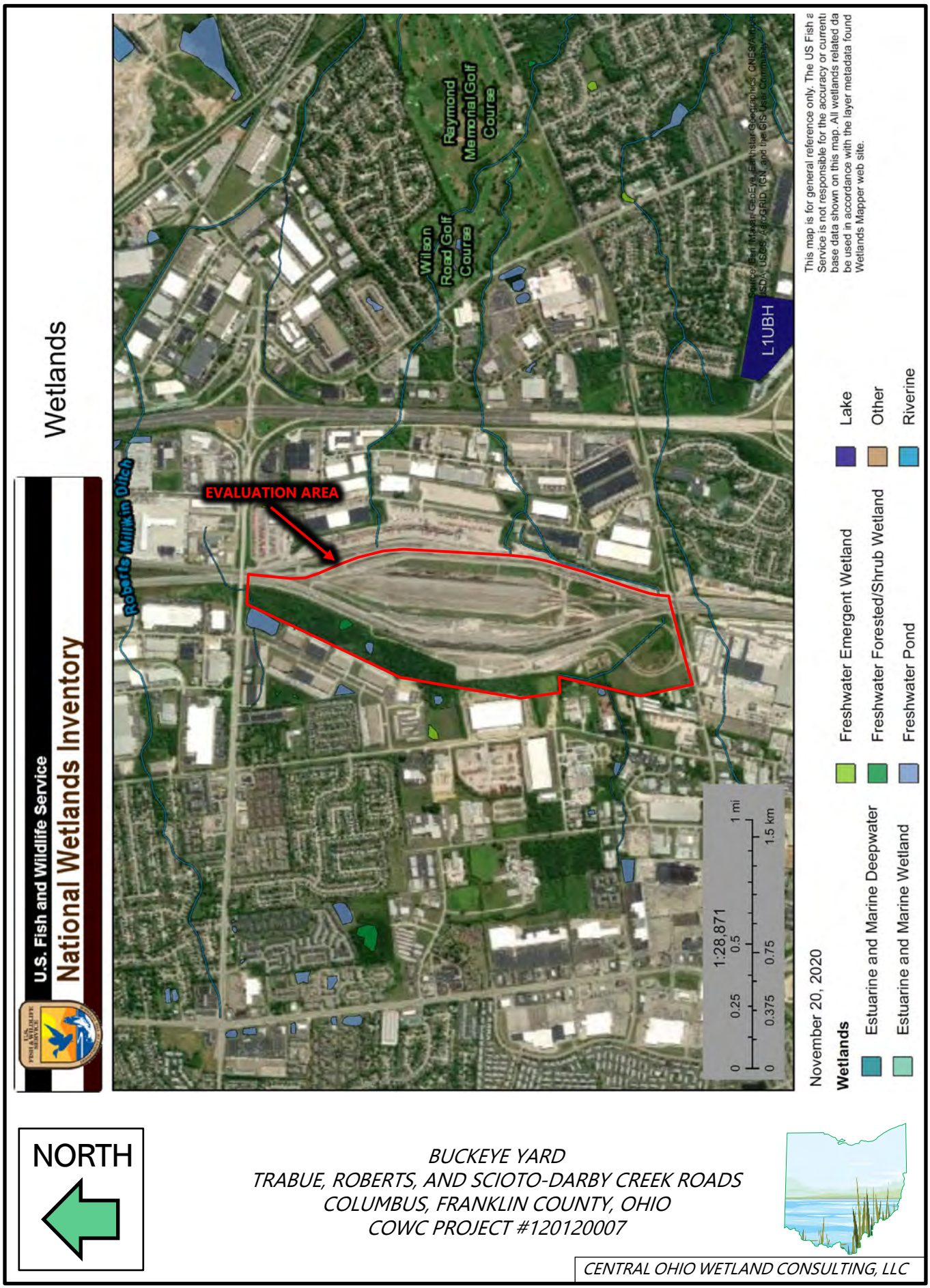
*COWC PROJECT #120120007*



*CENTRAL OHIO WETLAND CONSULTING, LLC*

# NATIONAL WETLANDS INVENTORY (NWI) MAP (CENTRAL SECTION)




*BUCKEYE YARD*
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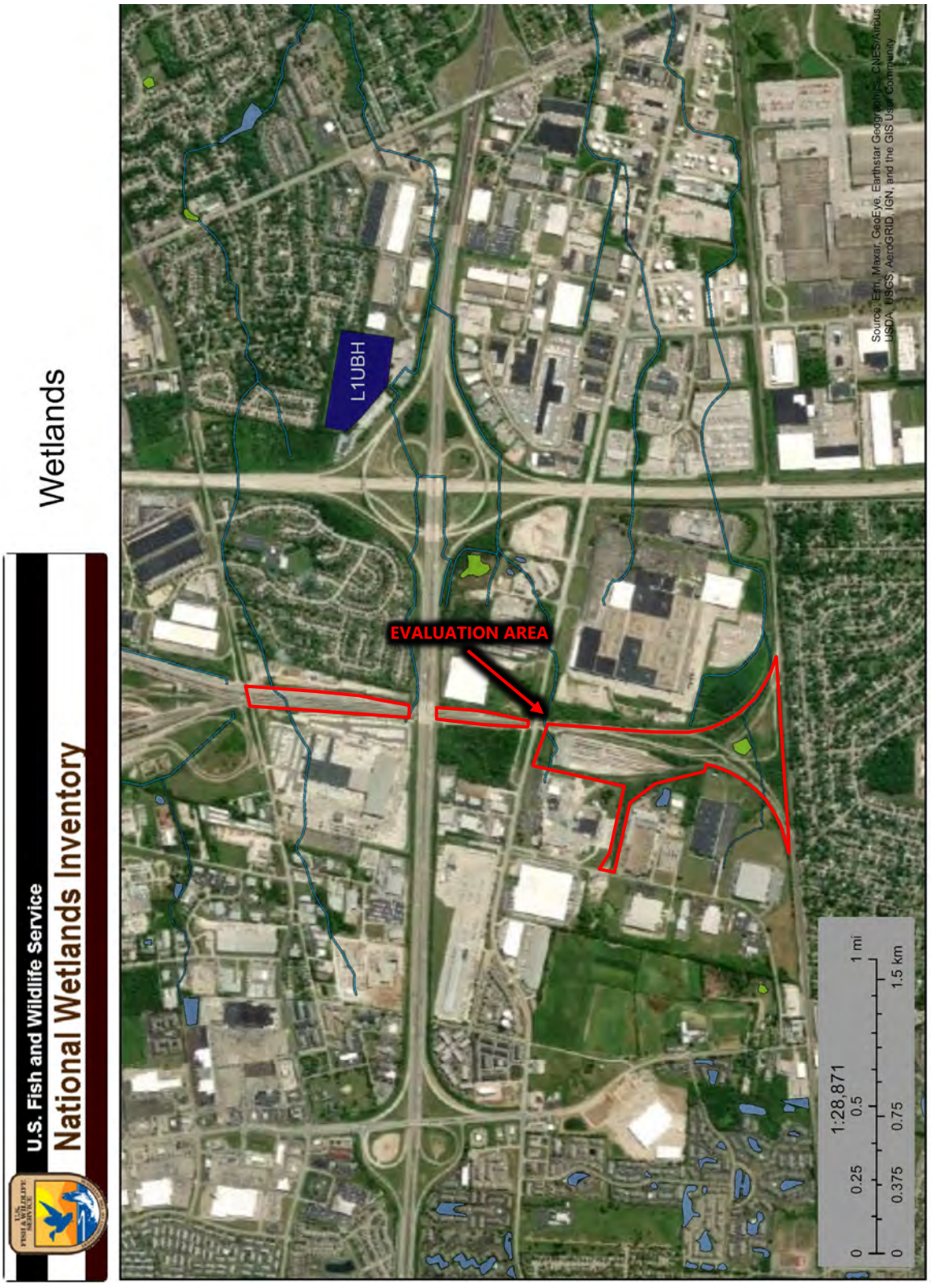
*COWC PROJECT #120120007*



*CENTRAL OHIO WETLAND CONSULTING, LLC*

# NATIONAL WETLANDS INVENTORY (NWI) MAP (SOUTH SECTION)

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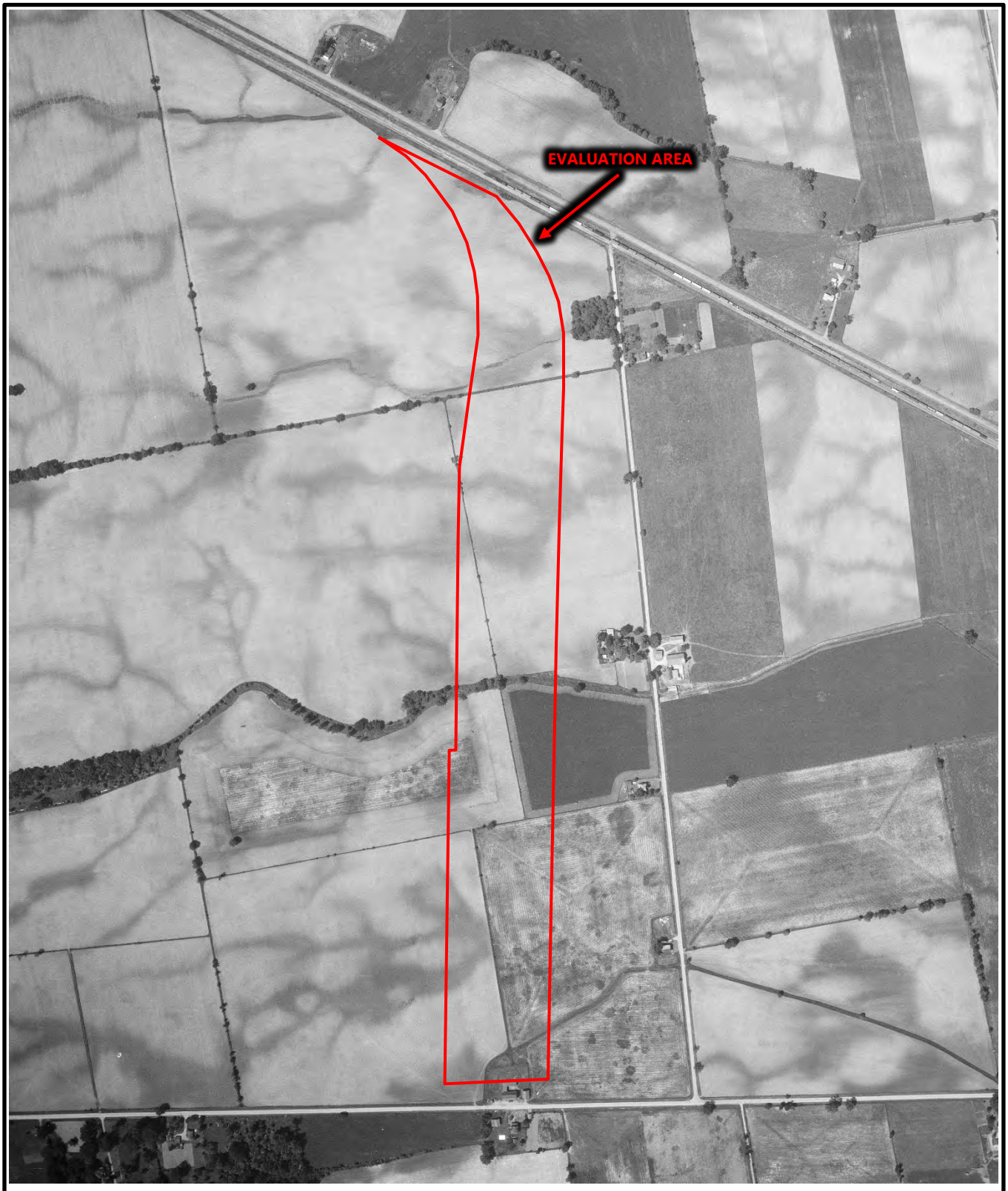
# APPENDIX 2

*1956 AERIAL PHOTOGRAPH (NORTH SECTION)*

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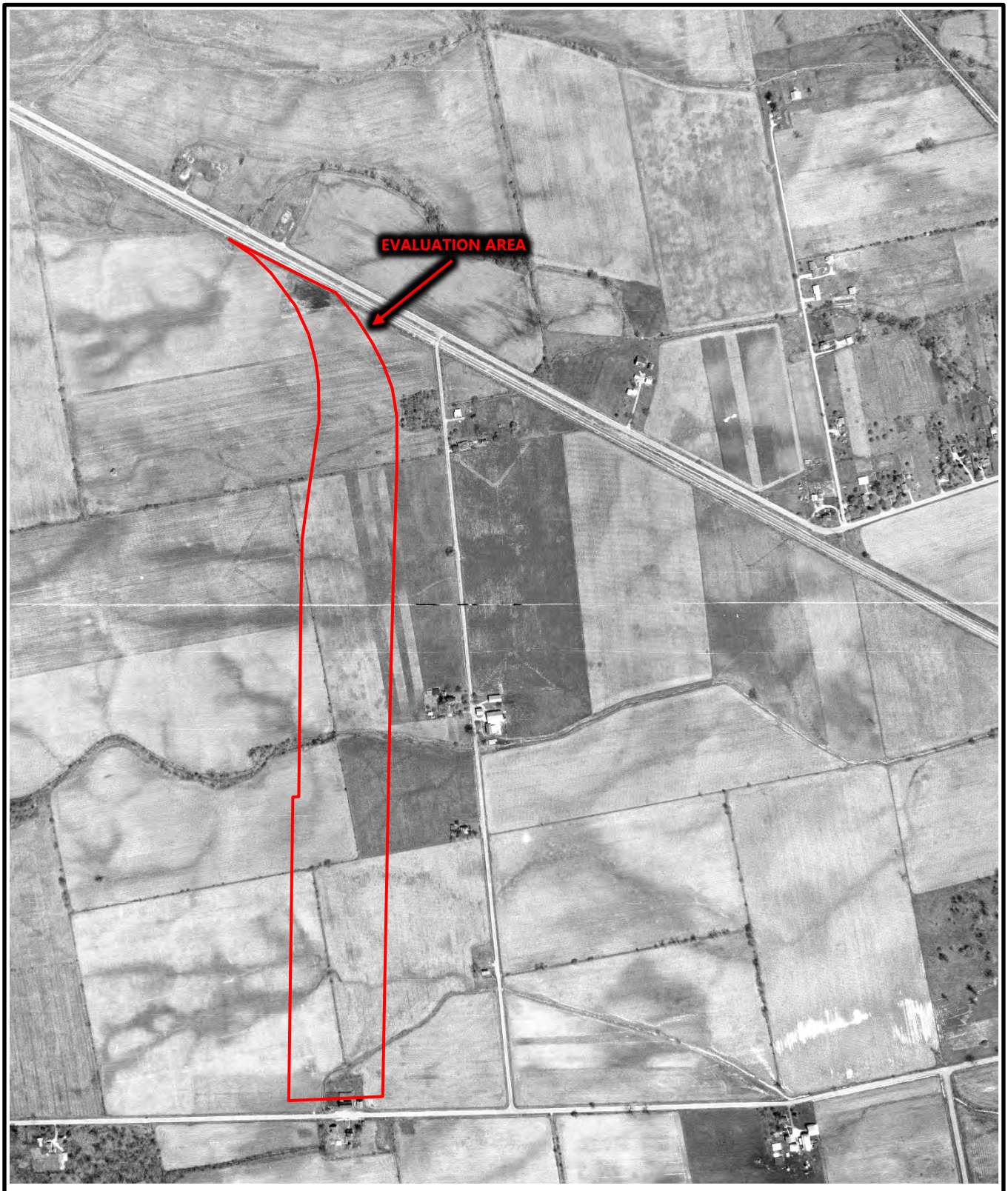
# 1964 AERIAL PHOTOGRAPH (NORTH SECTION)

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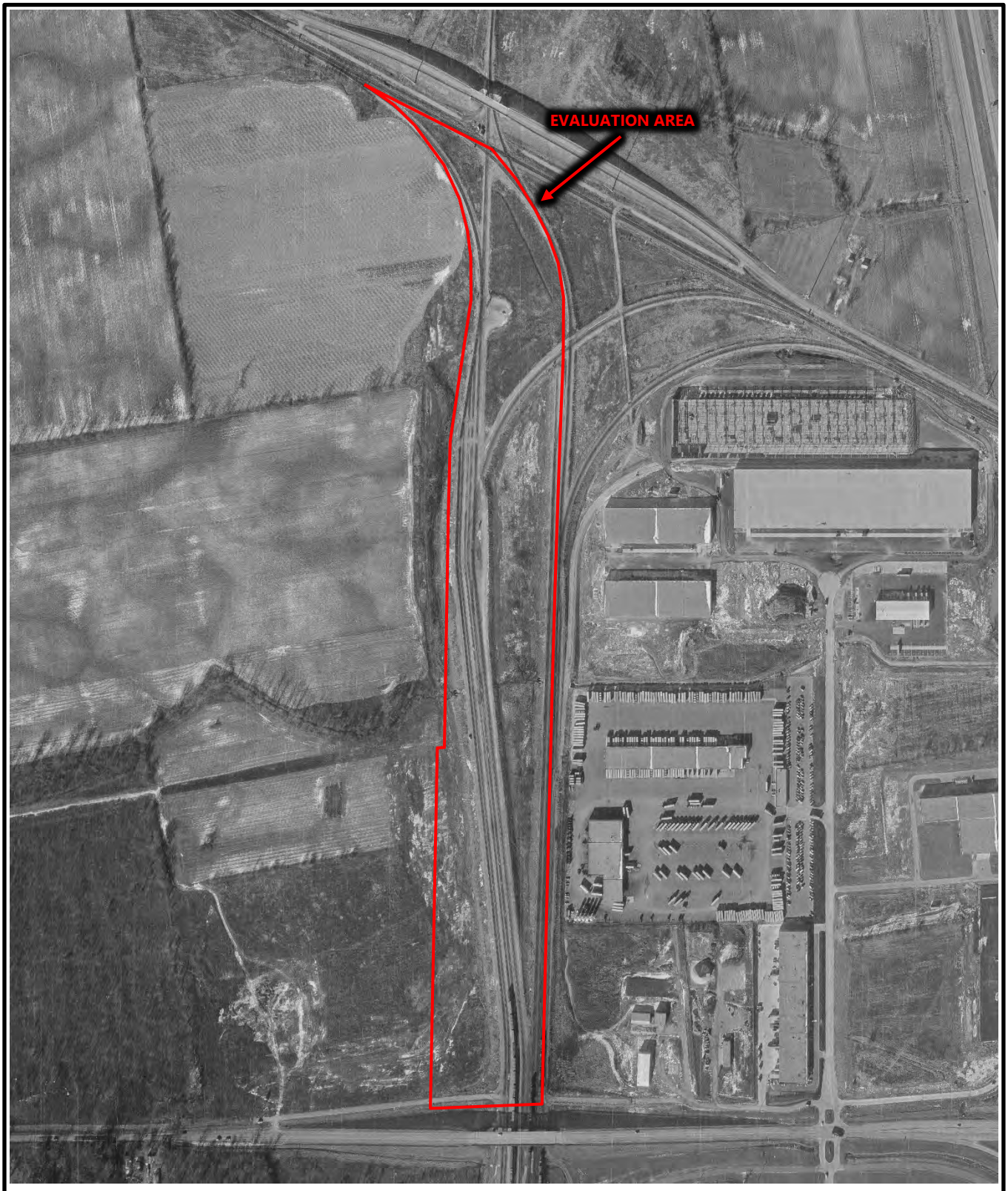
*1979 AERIAL PHOTOGRAPH (NORTH SECTION)*

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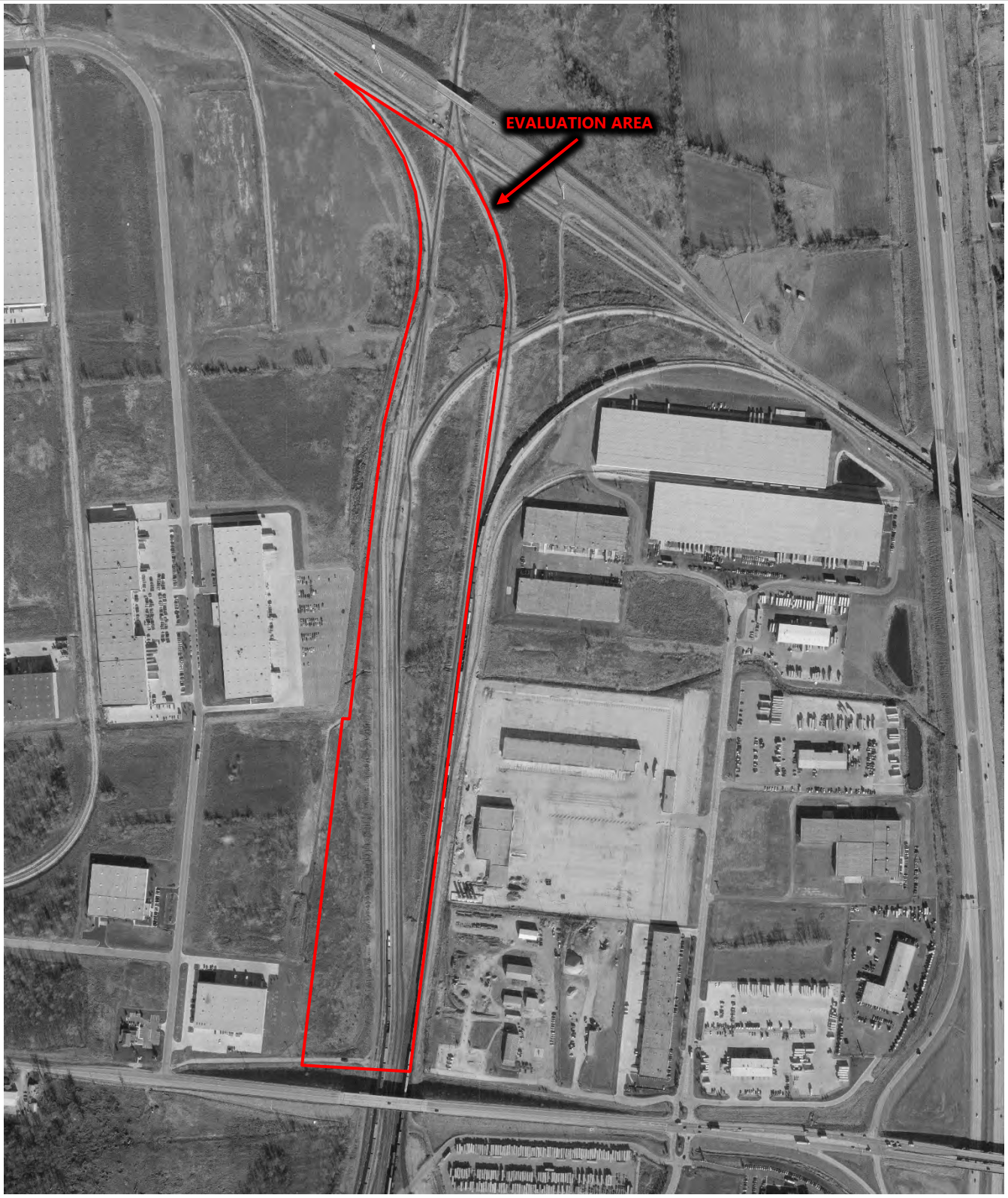
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1989 AERIAL PHOTOGRAPH (NORTH SECTION)

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*COWC PROJECT #120120007*

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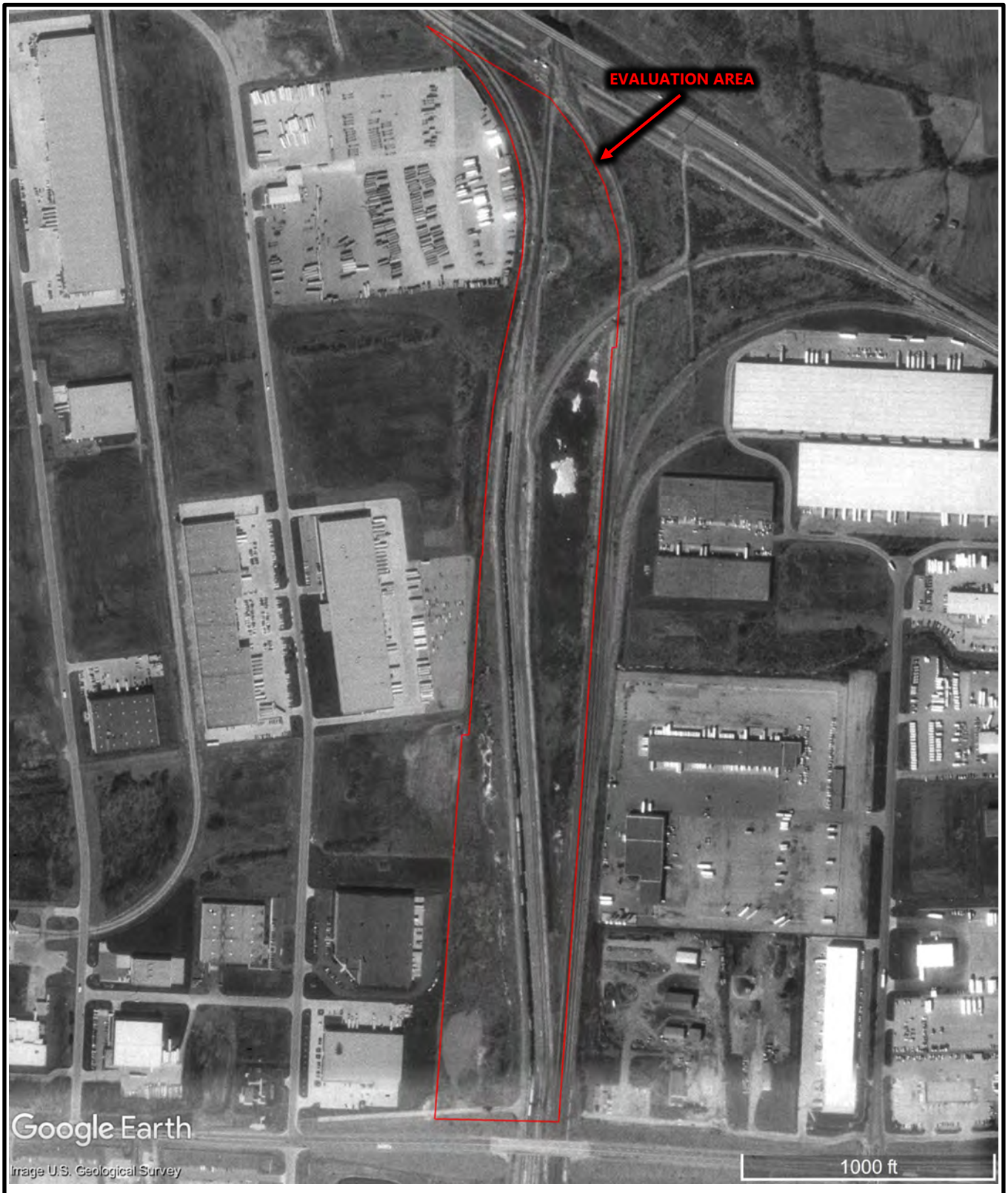
*1994 AERIAL PHOTOGRAPH (NORTH SECTION)*

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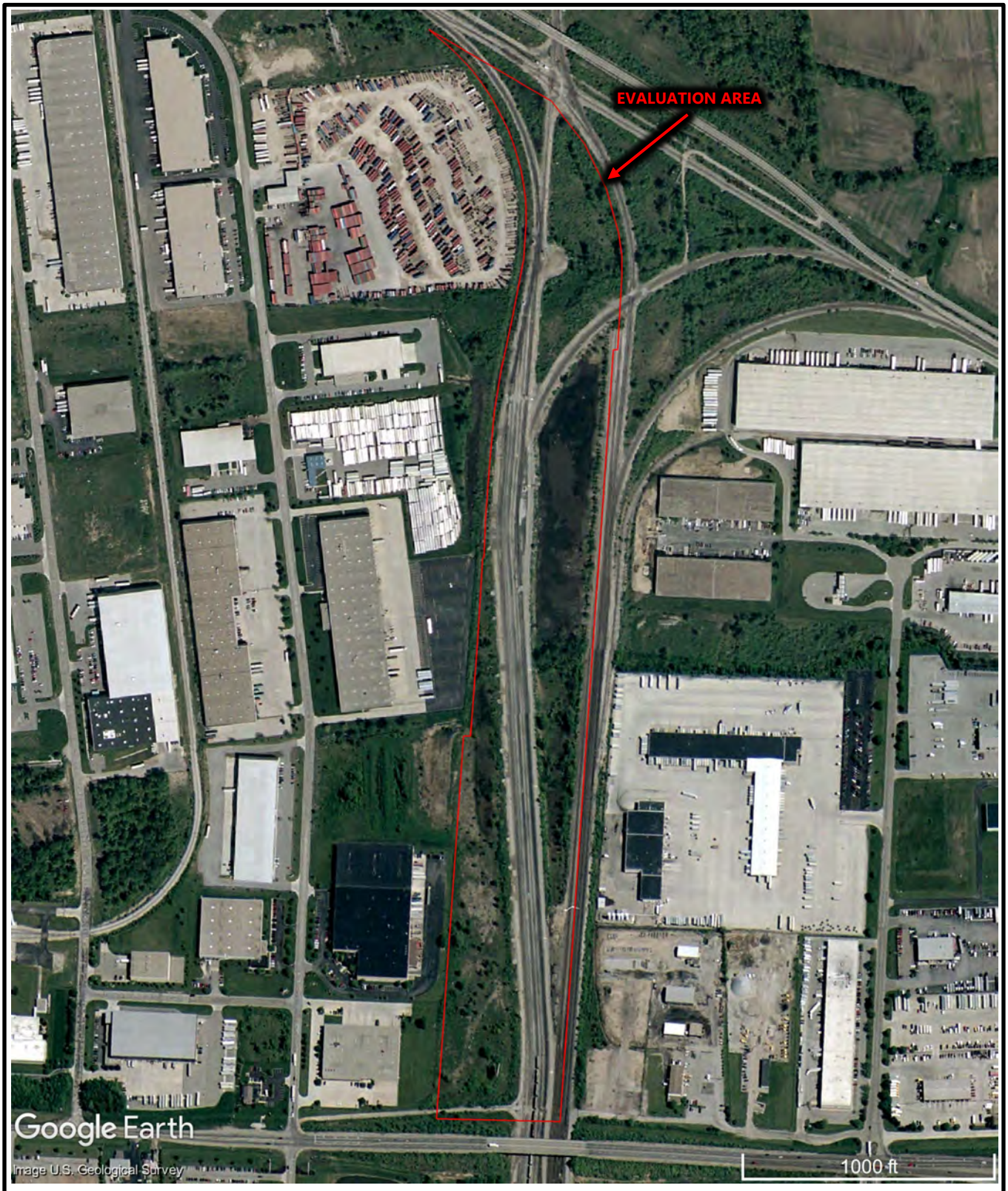
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2002 AERIAL PHOTOGRAPH (NORTH SECTION)

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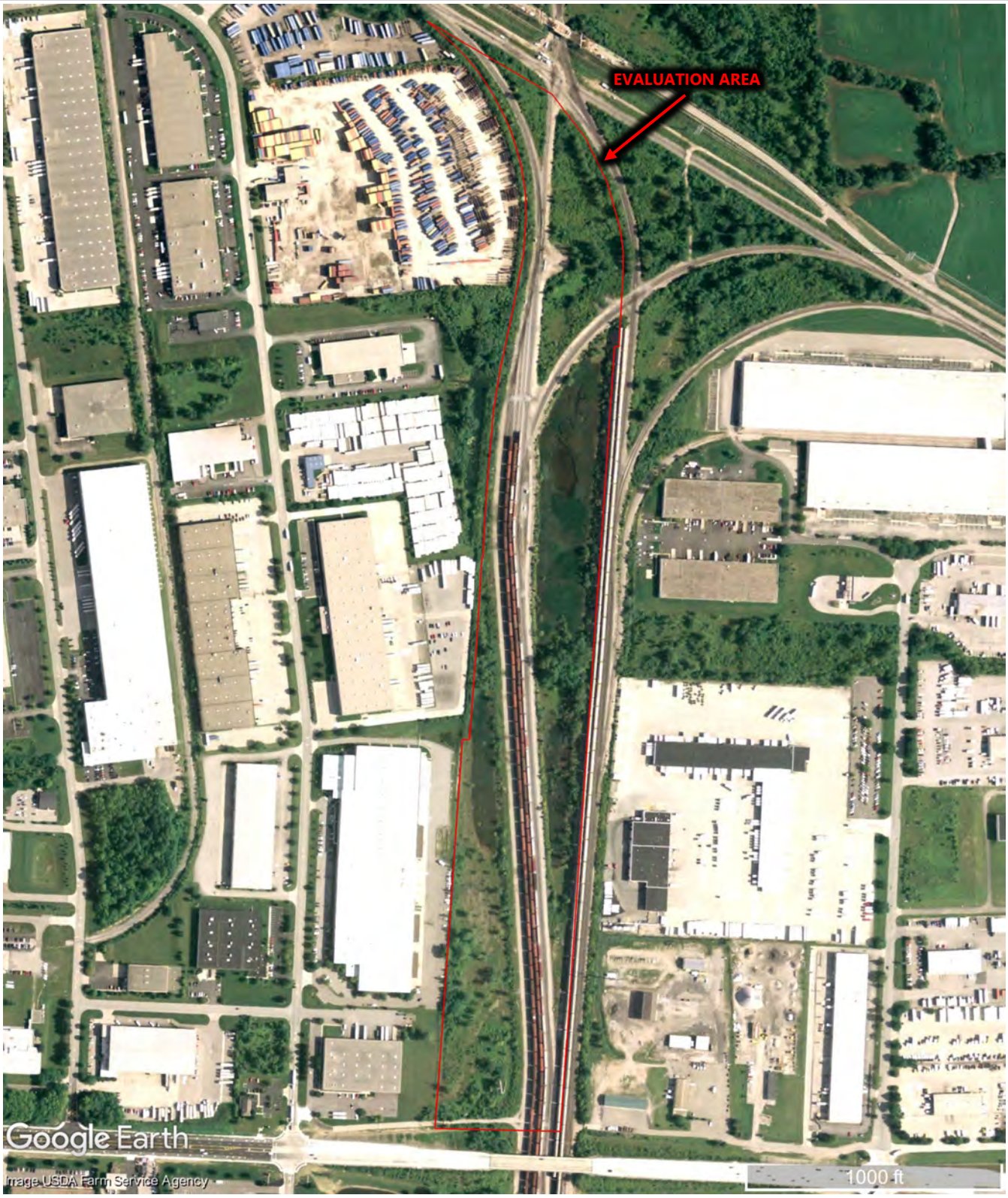
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2009 AERIAL PHOTOGRAPH (NORTH SECTION)*

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

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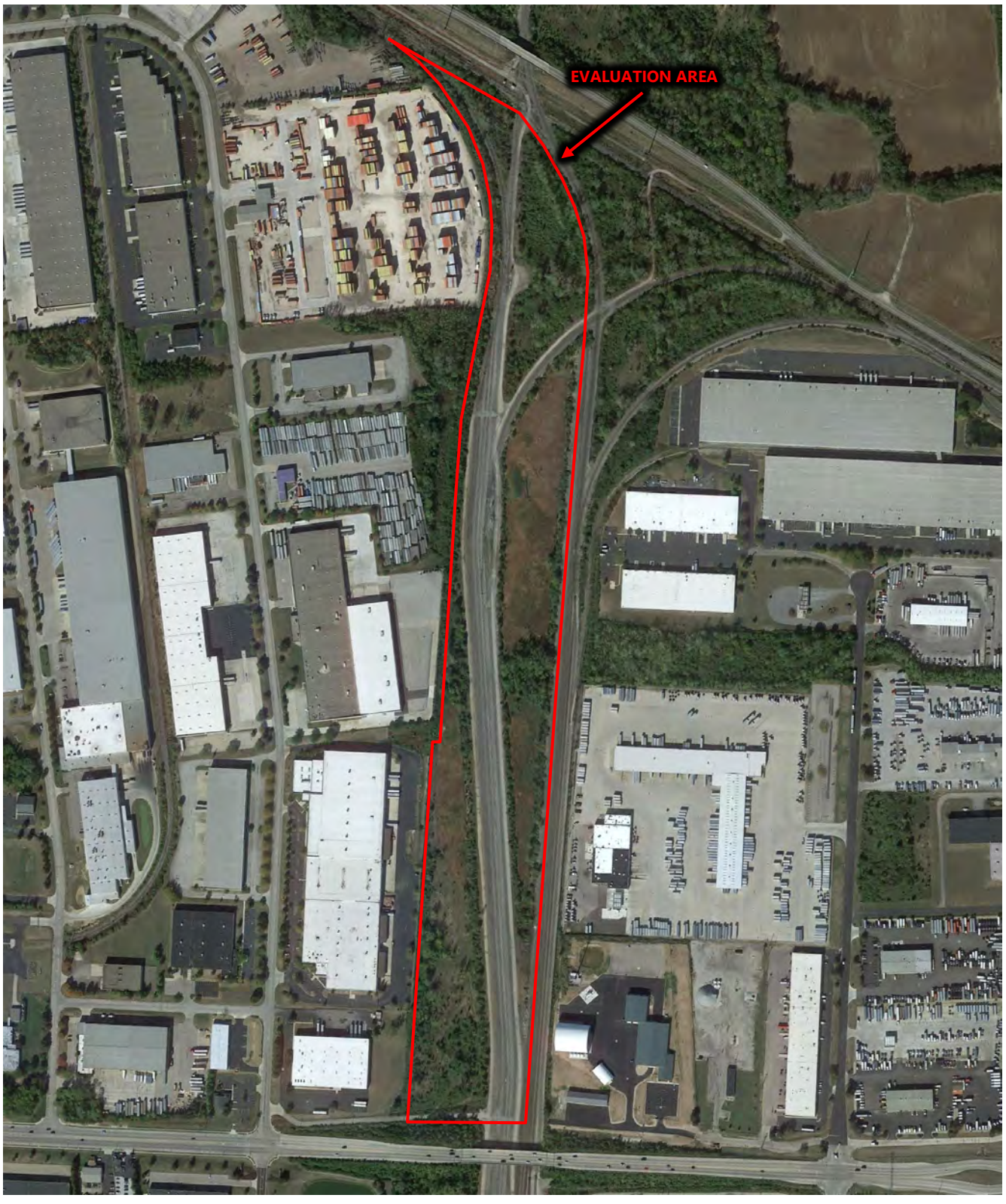
*2019 AERIAL PHOTOGRAPH (NORTH SECTION)*

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*COWC PROJECT #120120007*

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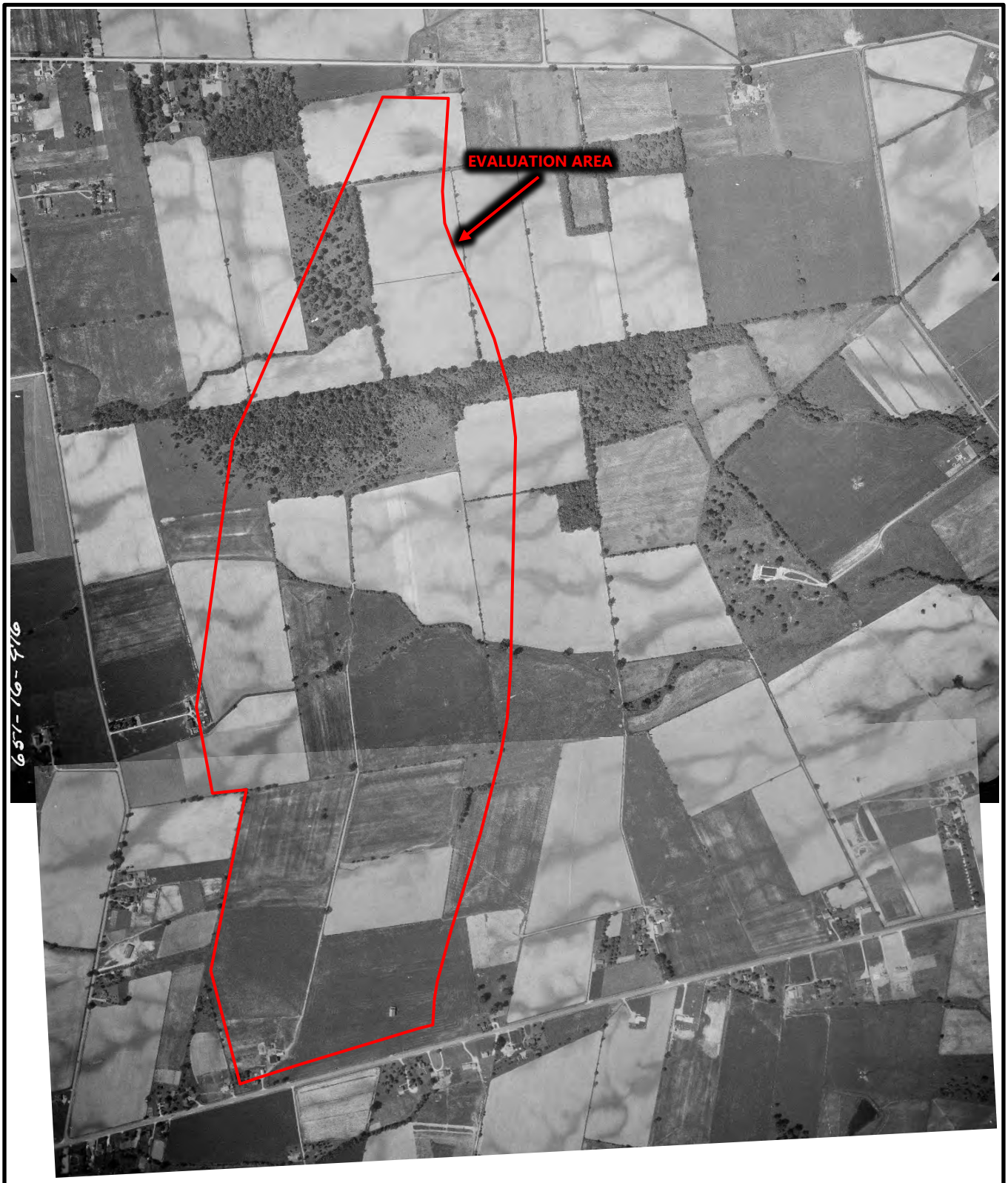
# 1956 AERIAL PHOTOGRAPH (CENTRAL SECTION)

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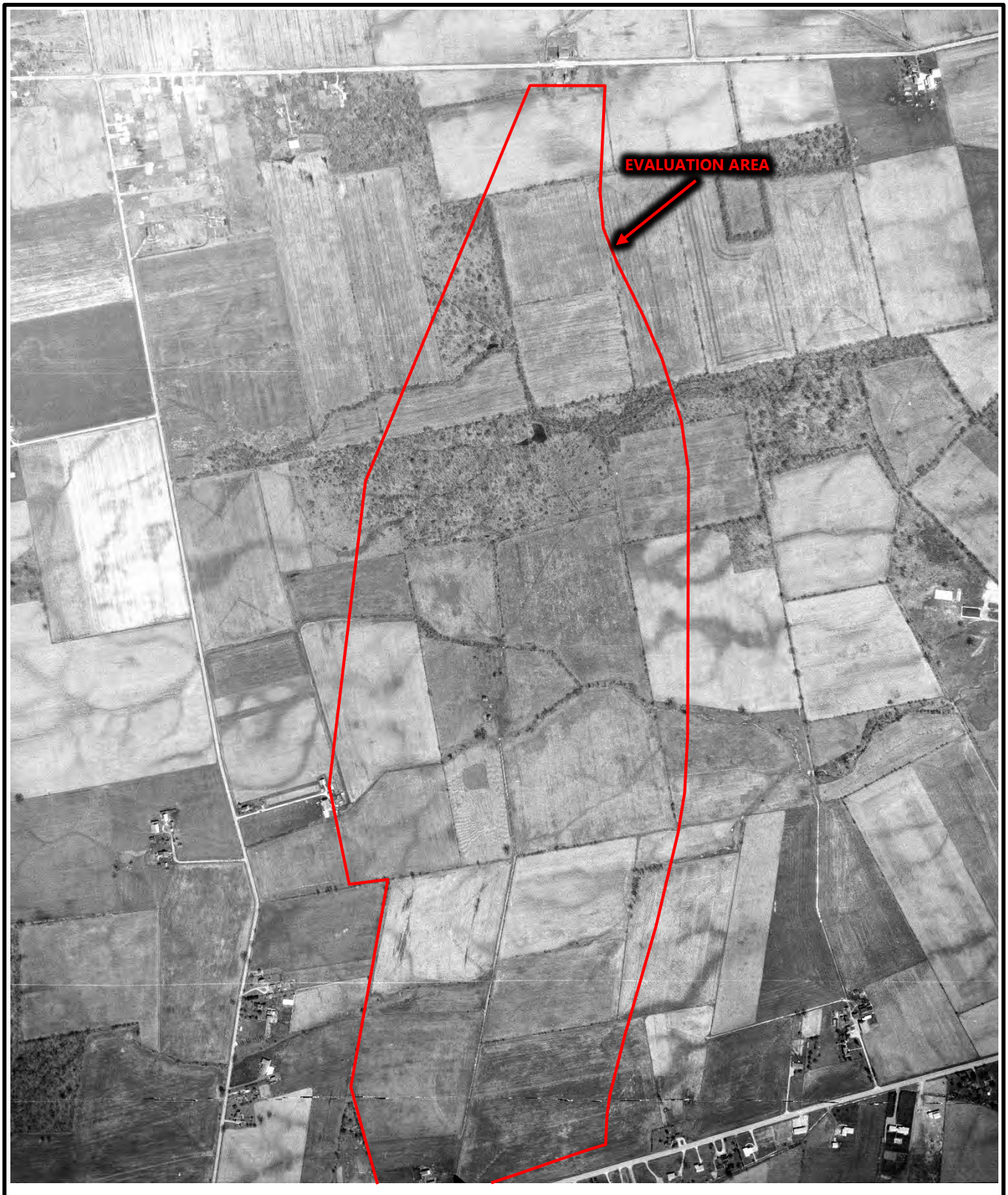
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1964 AERIAL PHOTOGRAPH (CENTRAL SECTION)*

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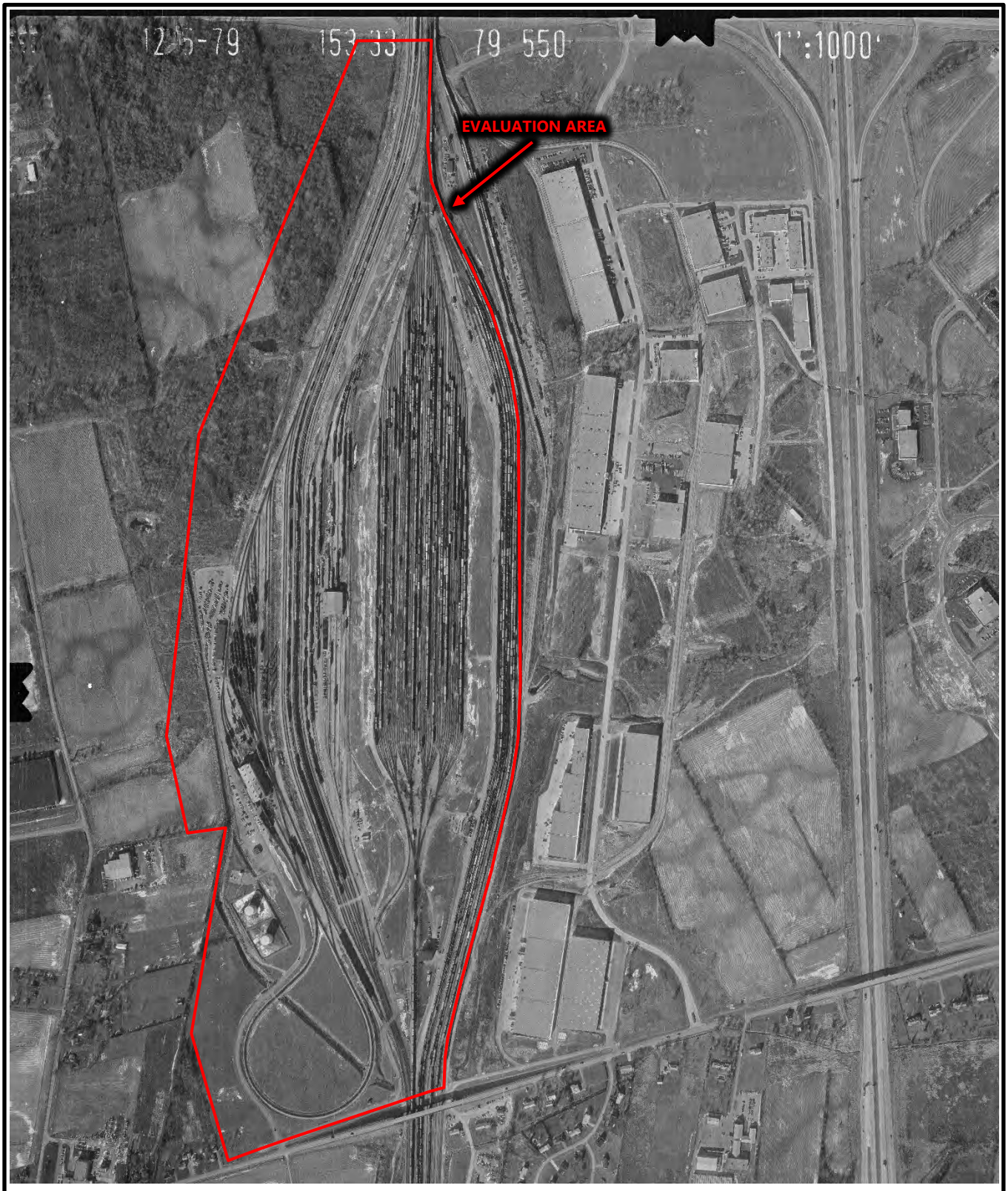
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1979 AERIAL PHOTOGRAPH (CENTRAL SECTION)*




NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

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# 1989 AERIAL PHOTOGRAPH (CENTRAL SECTION)


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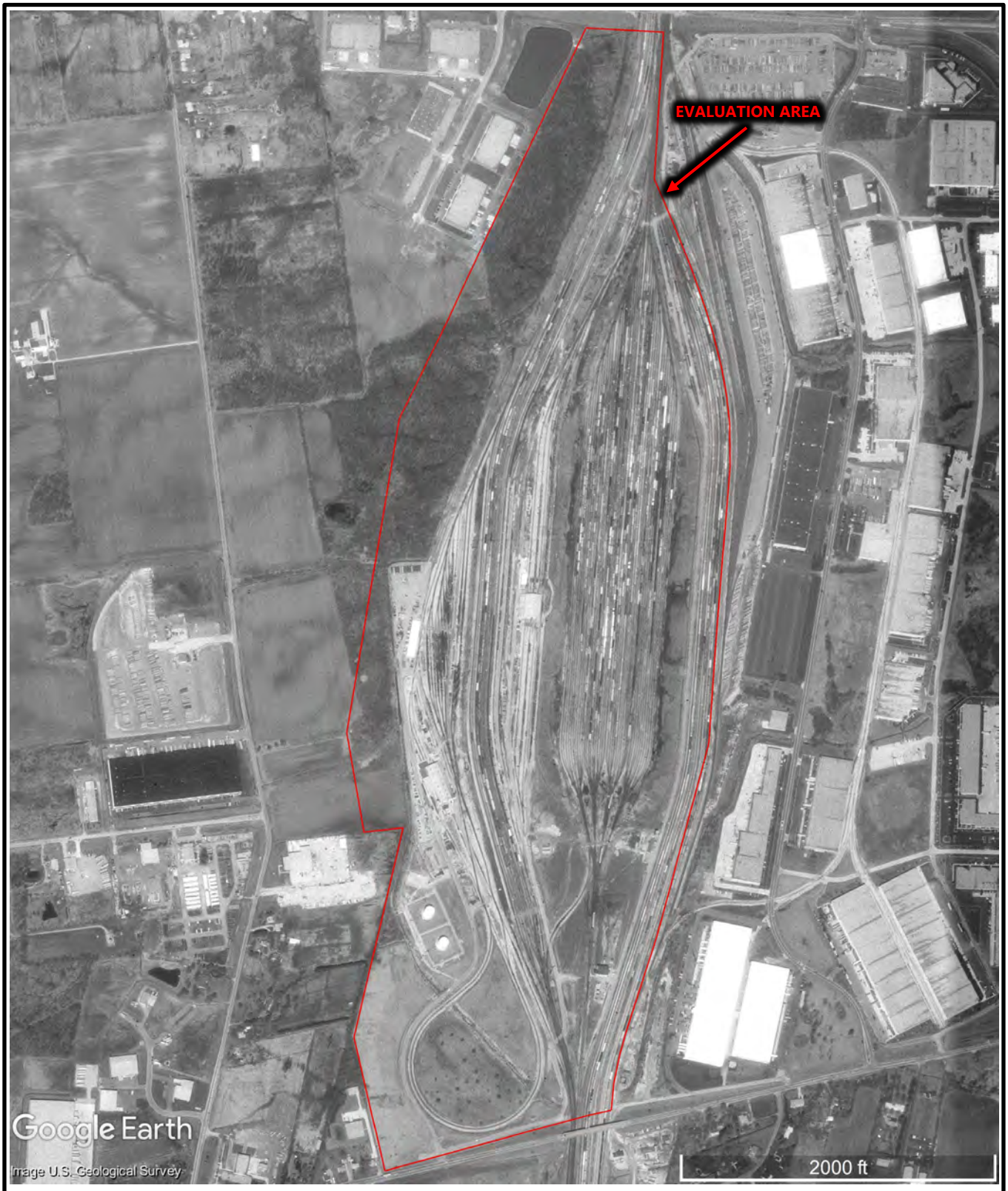
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*1994 AERIAL PHOTOGRAPH (CENTRAL SECTION)*




NORTH

*BUCKEYE YARD*
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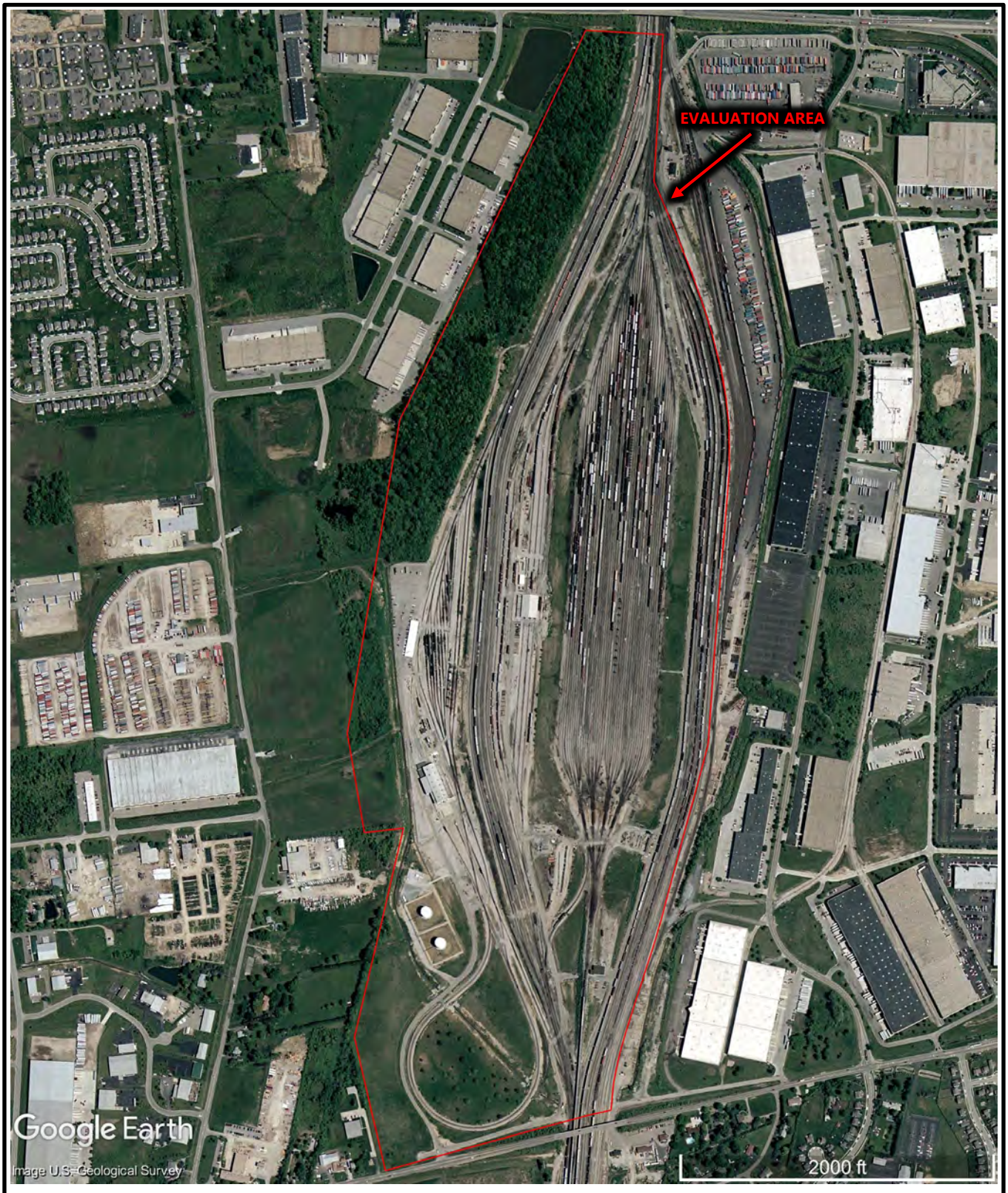
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2002 AERIAL PHOTOGRAPH (CENTRAL SECTION)

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*COWC PROJECT #120120007*

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*2009 AERIAL PHOTOGRAPH (CENTRAL SECTION)*


NORTH

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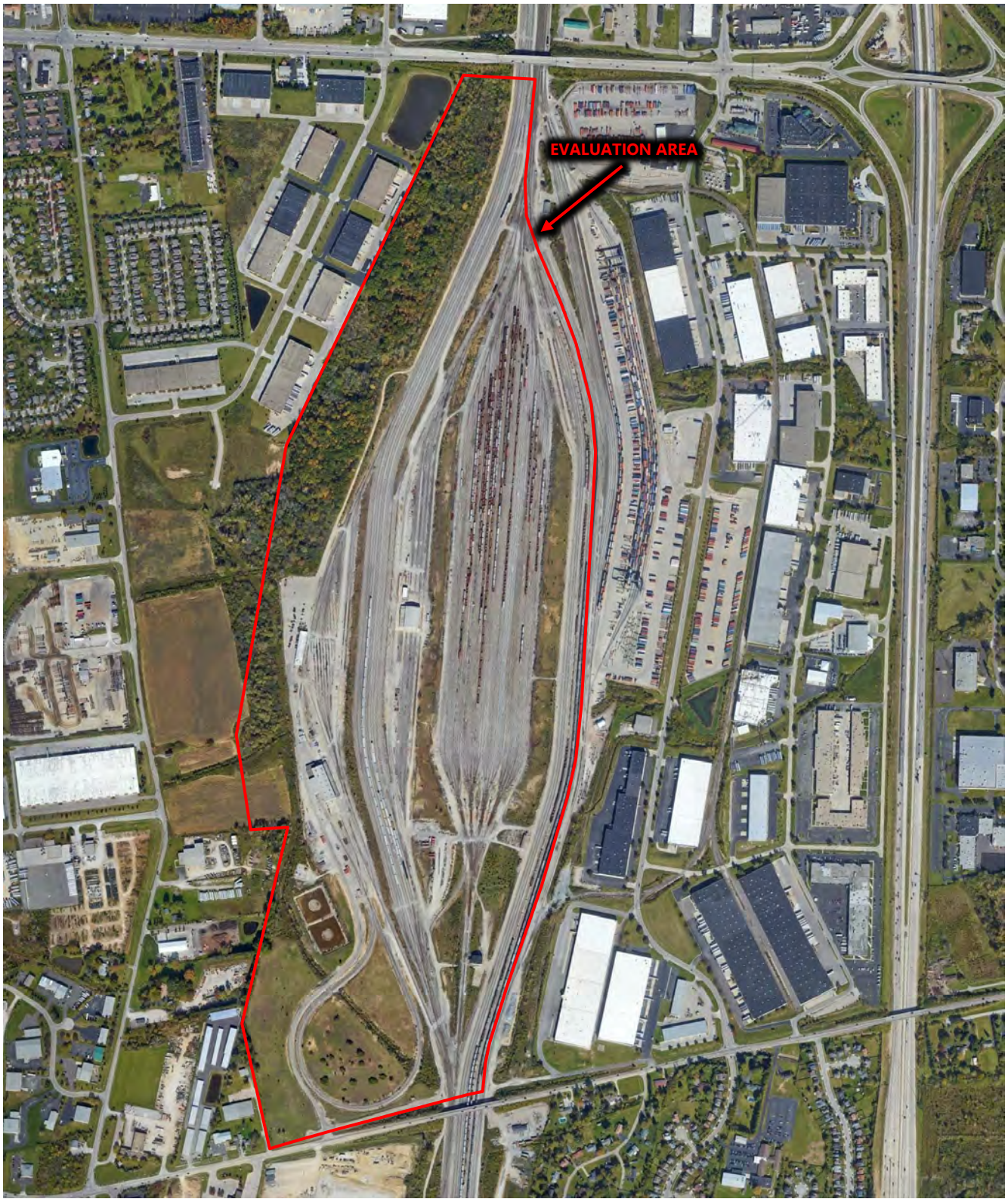
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*2019 AERIAL PHOTOGRAPH (CENTRAL SECTION)*

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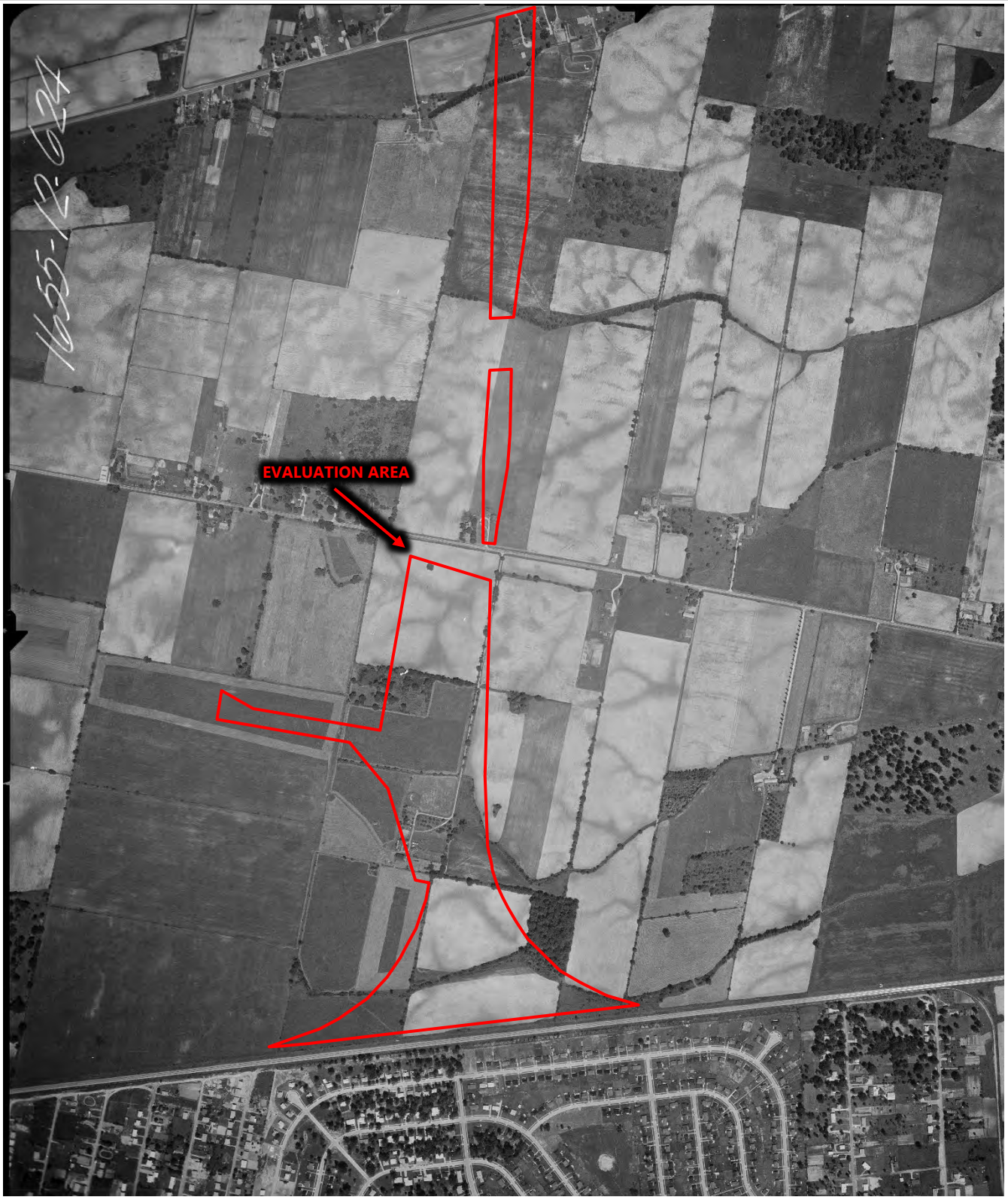
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1960 AERIAL PHOTOGRAPH (SOUTH SECTION)

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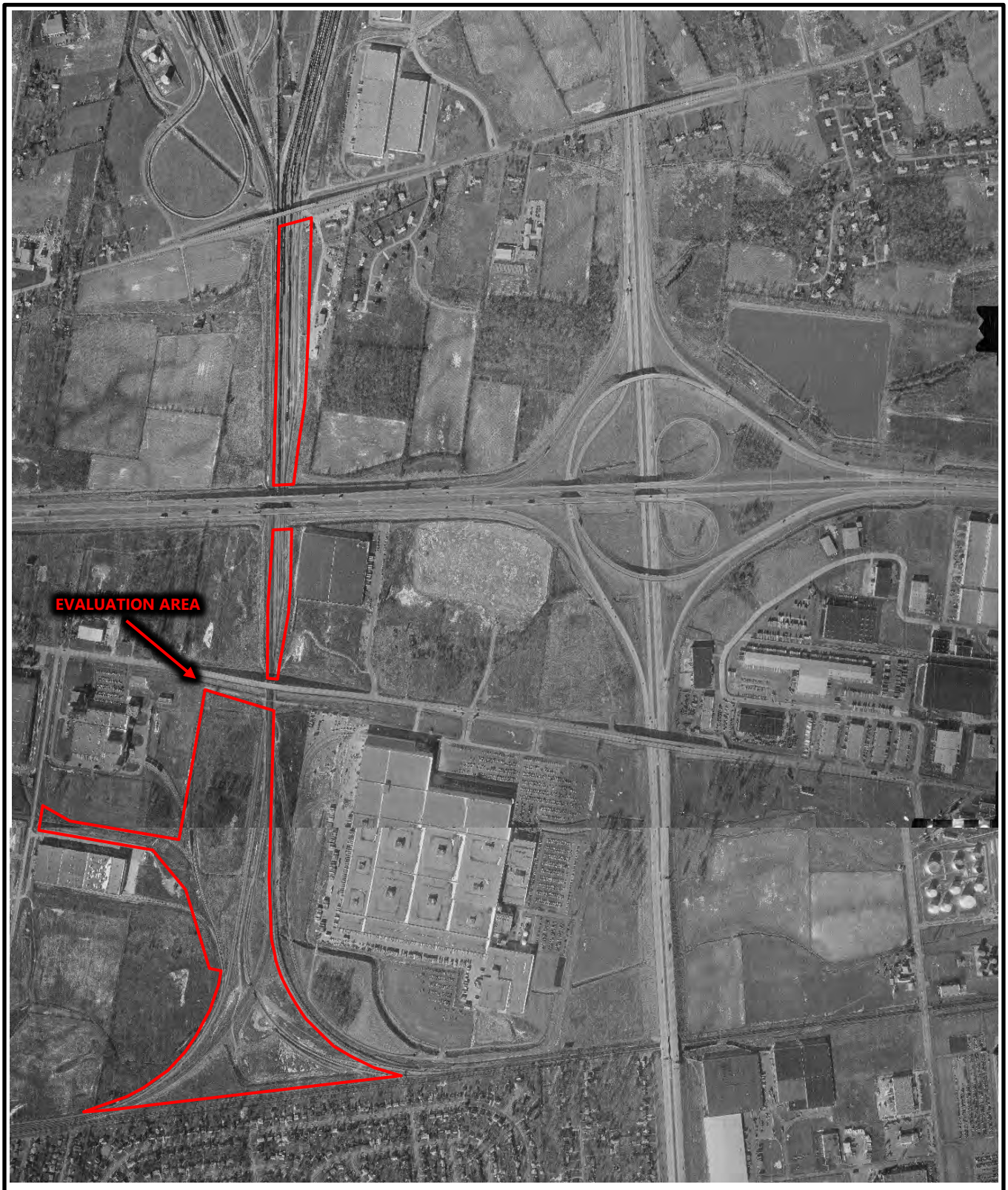
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1979 AERIAL PHOTOGRAPH (SOUTH SECTION)

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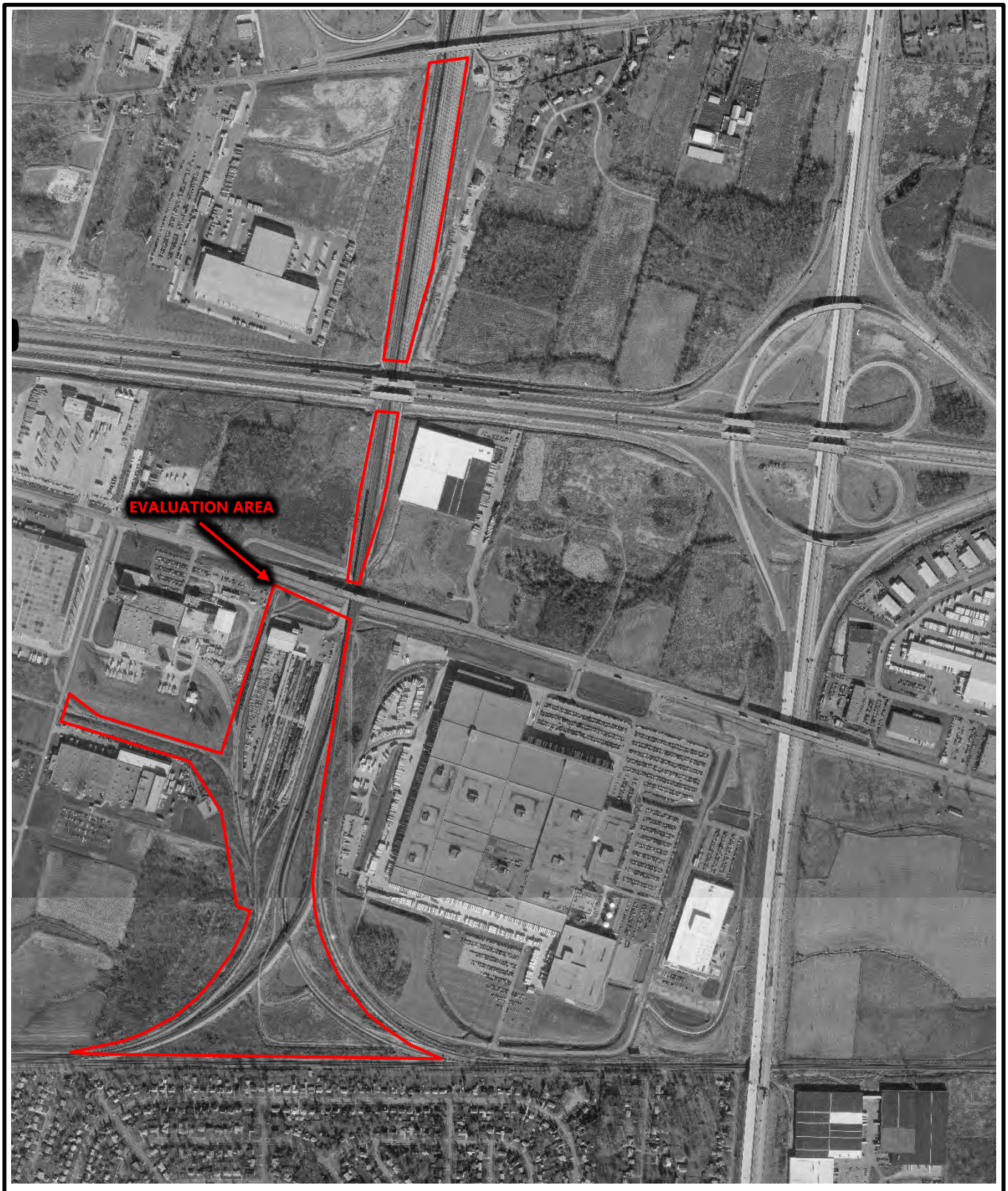
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1989 AERIAL PHOTOGRAPH (SOUTH SECTION)

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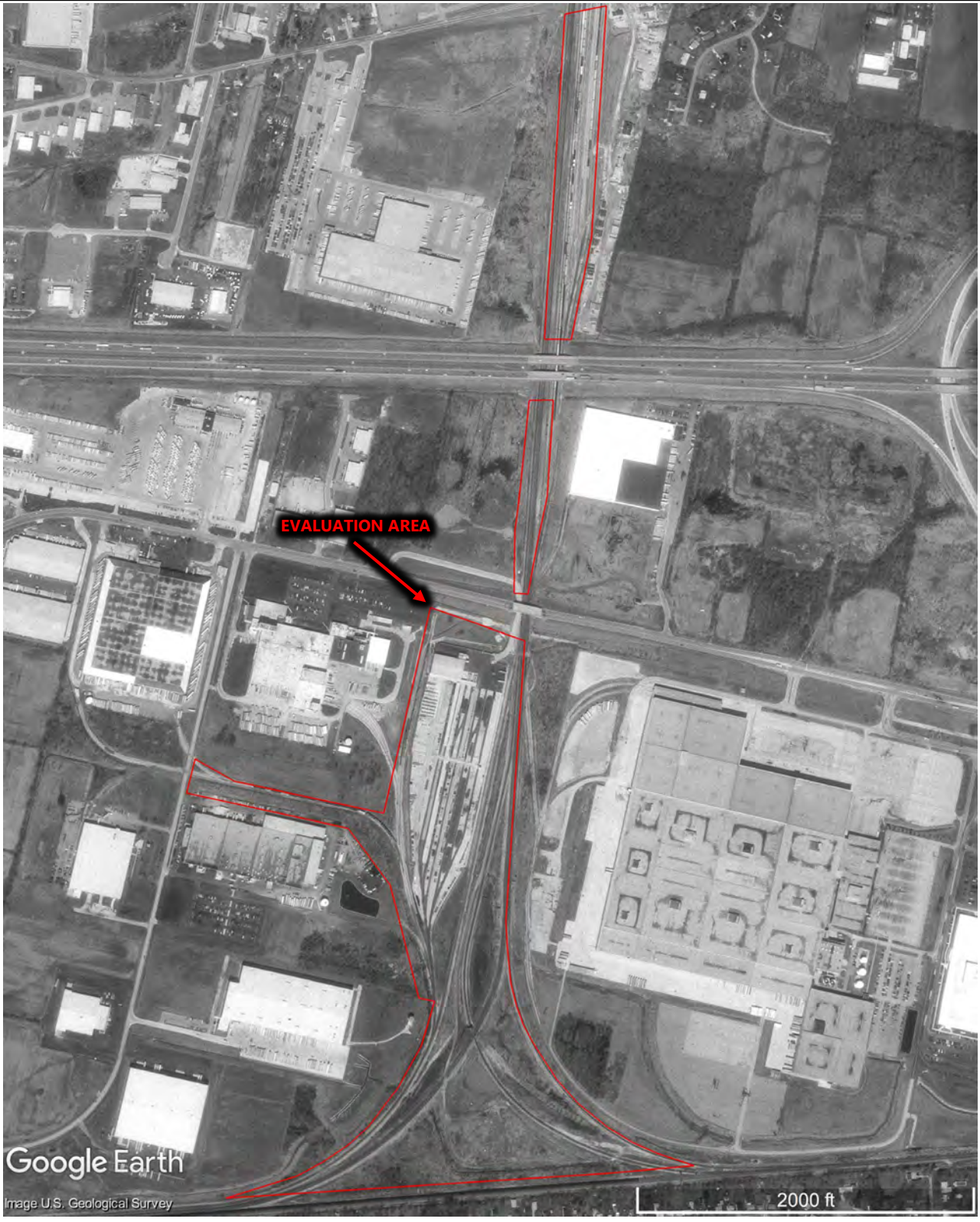
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 1994 AERIAL PHOTOGRAPH (SOUTH SECTION)

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*COWC PROJECT #120120007*

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# 2002 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

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*COLUMBUS, FRANKLIN COUNTY, OHIO*
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# 2009 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# 2019 AERIAL PHOTOGRAPH (SOUTH SECTION)


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# APPENDIX 3

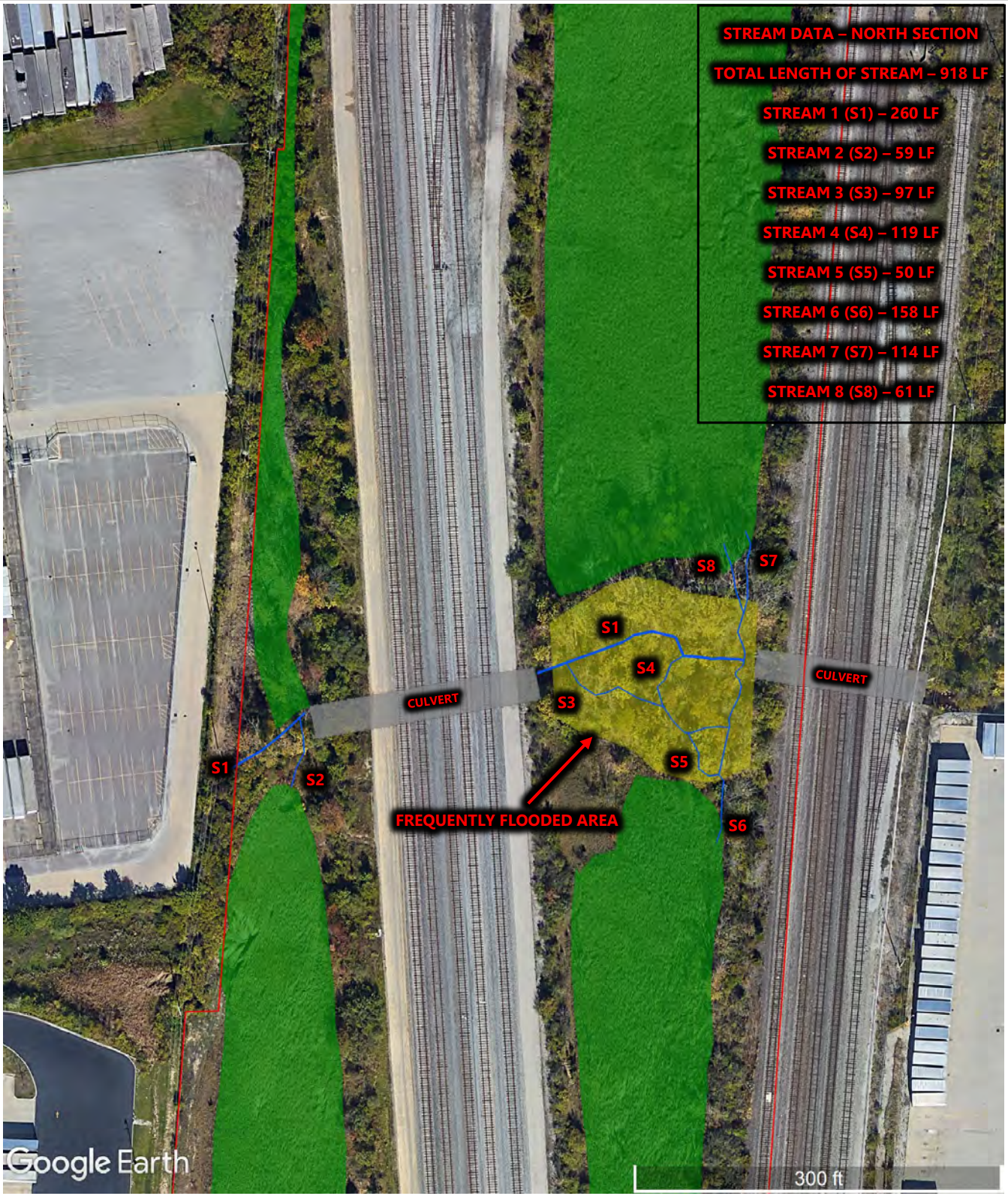
# *WETLAND DELINEATION MAP (NORTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *STREAM DELINEATION MAP (NORTH SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
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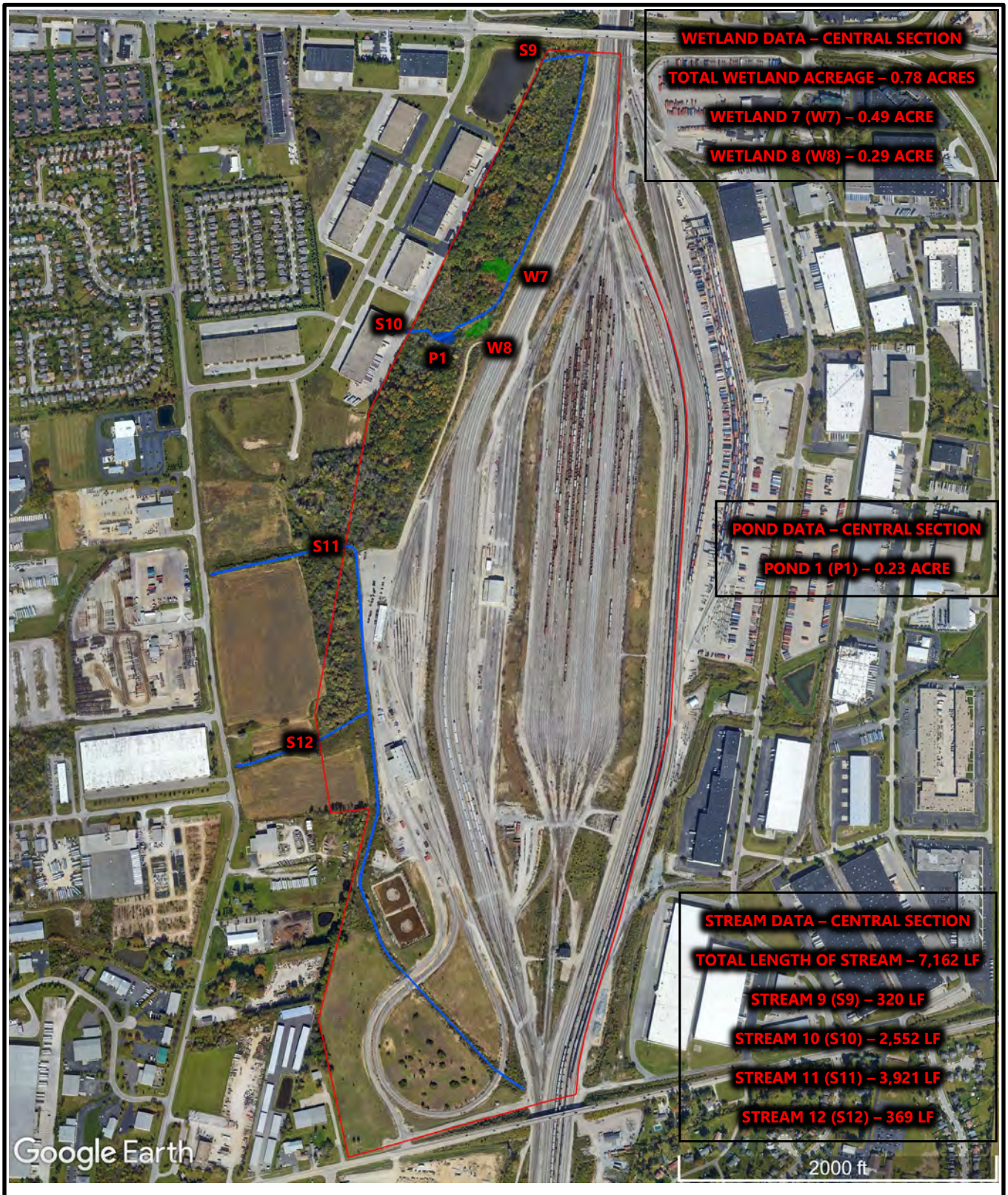
*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *WETLAND AND STREAM DELINEATION MAP (CENTRAL SECTION)*

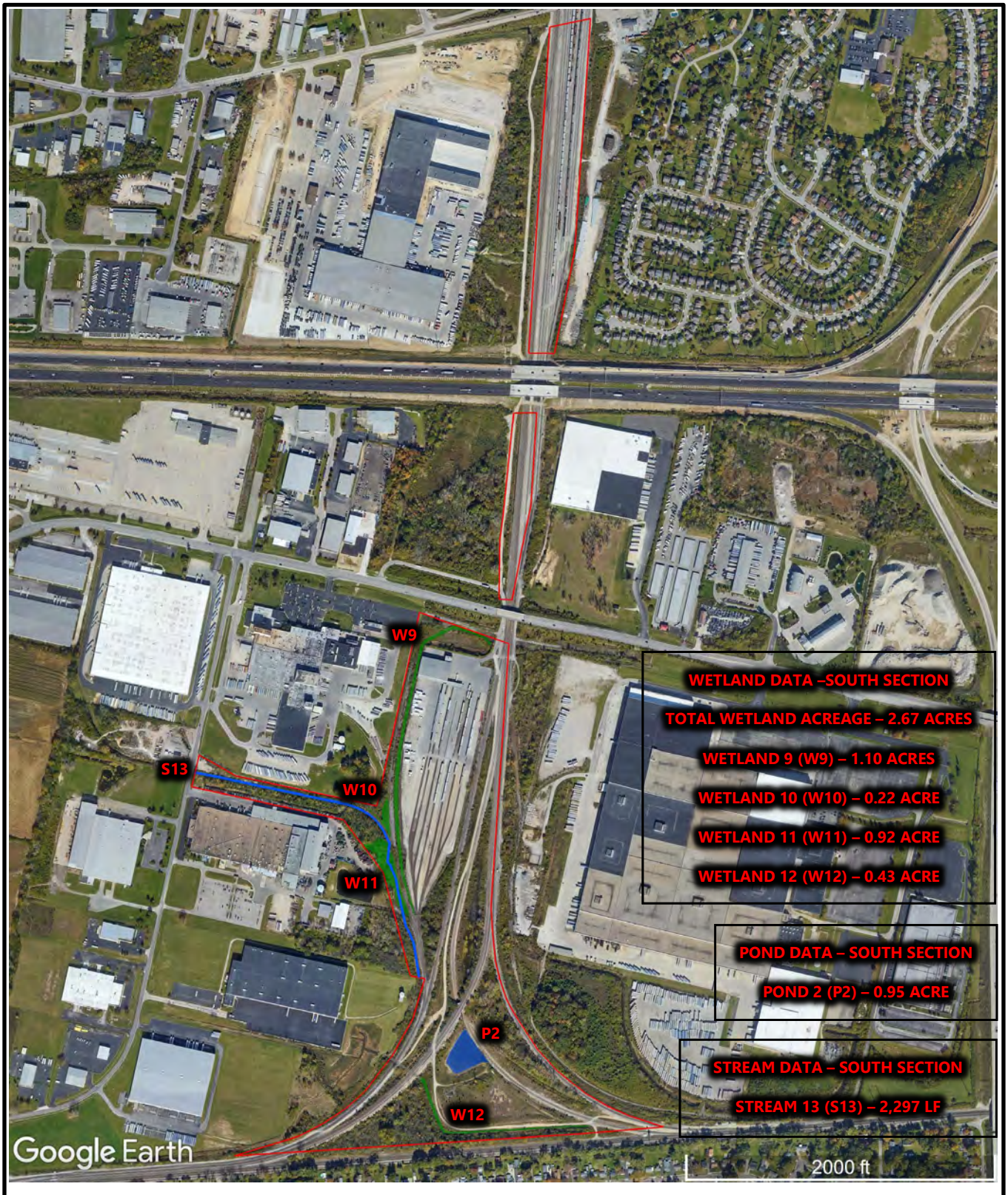



NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# *WETLAND AND STREAM DELINEATION MAP (SOUTH SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

# Wetland 1

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 10 | 13 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 14 | 27 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 27 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 1

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

27
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 27 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

2 max 20 pts. | 29 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

29

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

# Wetland 2

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 11 | 14 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 14 | 28 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 28 |
|---|
| subtotal this page |

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# Wetland 2

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

28
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 28 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

4 max 20 pts. | 32 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

32

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

# Wetland 3

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 25 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert, beaver dams

## Metric 4. Habitat Alteration and Development.

| 15 | 40 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 40 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

# Wetland 3

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

40
subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 40 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

2 max 20 pts. | 42 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 4

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 11 | 14 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 27 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 27 |
|---|
| subtotal this page |

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 4

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

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subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 27 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

-2 max 20 pts. | 25 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 5

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 3 | 3 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 4 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 16 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 29 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 29 |
|---|
| subtotal this page |

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# Wetland 5

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

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subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 29 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

-2 max 20 pts. | 27 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 6

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 15 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 13 | 28 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 28 |
|---|
| subtotal this page |

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# Wetland 6

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/9/2021 |
|---|---|---|

28
subtotal first page

0 | 28
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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-2 | 26
max 20 pts. | subtotal

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 7

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 7 | 9 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 17 | 26 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 17 | 43 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 43 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 7

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

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subtotal first page

## Metric 5. Special Wetlands.

0 max 10 pts. | 43 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

6 max 20 pts. | 49 subtotal

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

- [ ] Aquatic bed
- [ ] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 8

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 1 | 1 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 7 | 8 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 15 | 23 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] Between stream/lake and other human use (1)
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [x] 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)
- [x] <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 15 | 38 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 38 |
|---|
| subtotal this page |

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# Wetland 8

ORAM v. 5.0 Field Form Quantitative Rating

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/13/2021 |
|---|---|---|

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subtotal first page

## Metric 5. Special Wetlands.

0 (max 10 pts.) | 38 (subtotal)

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

## Metric 6. Plant communities, interspersion, microtopography.

0 (max 20 pts.) | 38 (subtotal)

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

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

# Wetland 9

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 1 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 25 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other culvert

## Metric 4. Habitat Alteration and Development.

| 8 | 33 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 33 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 9

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

33
subtotal first page

0 (max 10 pts.) | 33 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

1 (max 20 pts.) | 34 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

34

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

# Wetland 10

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 1 | 1 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 3 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 12 | 15 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

## Metric 4. Habitat Alteration and Development.

| 7 | 22 |
|---|---|
| max 20 pts. | subtotal |

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 22 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 10

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

22
subtotal first page

0 (max 10 pts.) | 22 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 24 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

24

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

# Wetland 11

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 4 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 22 | 26 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other beaver dams

## Metric 4. Habitat Alteration and Development.

| 17 | 43 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 43 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 11

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

43
subtotal first page

0 (max 10 pts.) | 43 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

9 (max 20 pts.) | 52 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [1] Forest
- [ ] Mudflats
- [1] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

52

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

# Wetland 12

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

## Metric 1. Wetland Area (size).

| 2 | 2 |
|---|---|
| max 6 pts. | subtotal |

Select one size class and assign score.

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

## Metric 2. Upland buffers and surrounding land use.

| 2 | 6 |
|---|---|
| max 14 pts. | subtotal |

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

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

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

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

## Metric 3. Hydrology.

| 18 | 24 |
|---|---|
| max 30 pts. | subtotal |

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

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

3b. Connectivity. Score all that apply.

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

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

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

3d. Duration inundation/saturation. Score one or dbl check.

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

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

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

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [x] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other beaver dams

## Metric 4. Habitat Alteration and Development.

| 9 | 33 |
|---|---|
| max 20 pts. | subtotal |

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

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

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

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

| 33 |
|---|
| subtotal this page |

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ORAM v. 5.0 Field Form Quantitative Rating

# Wetland 12

| **Site:** Buckeye Yard | **Rater(s):** Matt Kaminski | **Date:** 4/12/2021 |
|---|---|---|

33
subtotal first page

0 (max 10 pts.) | 33 (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 or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

2 (max 20 pts.) | 35 (subtotal)

## Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [1] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

**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 |

**Narrative Description of Vegetation Quality**

| | |
|---|---|
| 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 also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp |
| high | A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp |

**Mudflat and Open Water Class Quality**

| | |
|---|---|
| 0 | Absent <0.1ha (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 |

**Microtopography Cover Scale**

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

35

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

# APPENDIX 4

*PHOTO KEY (NORTH SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

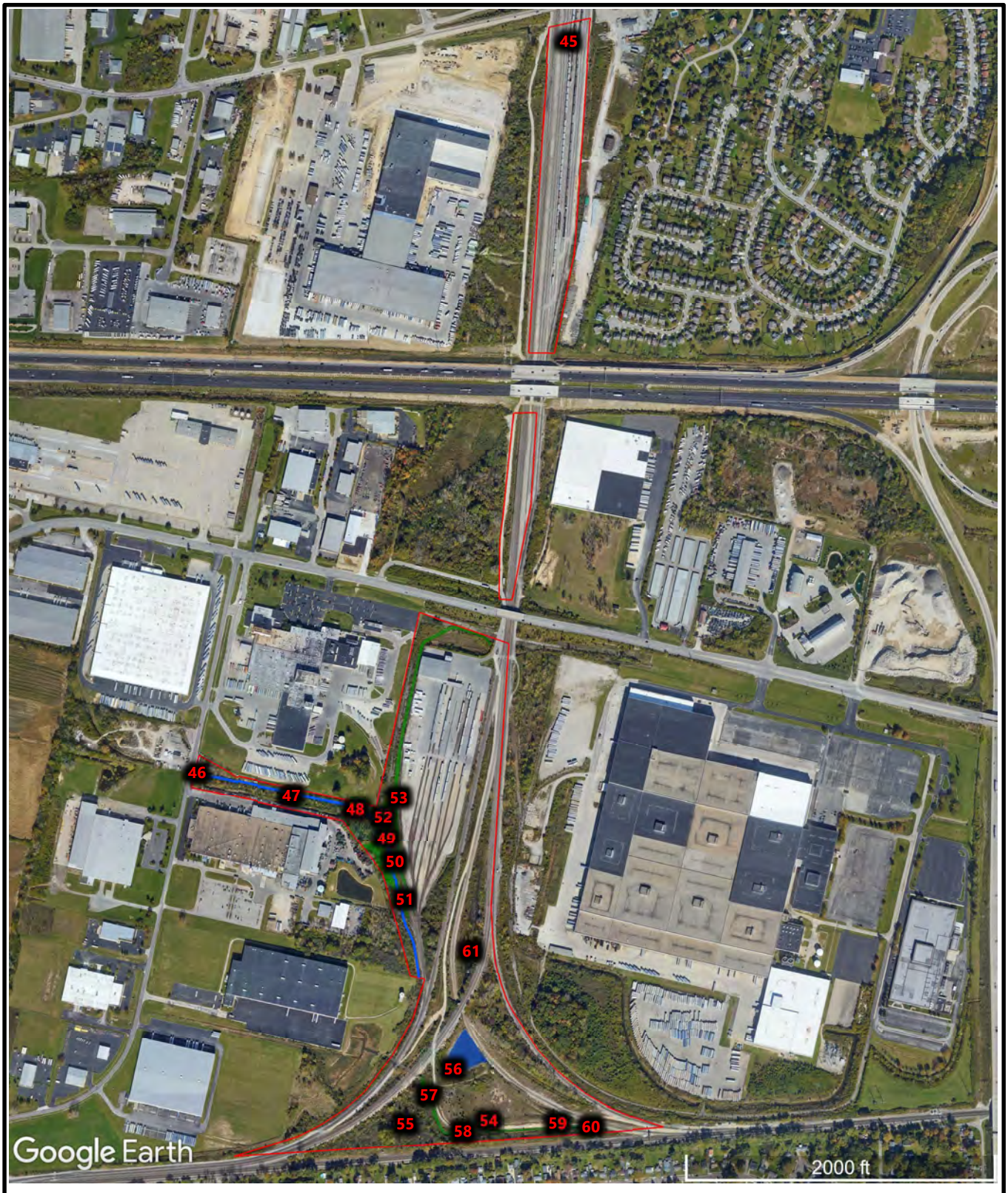
*PHOTO KEY (CENTRAL SECTION)*


NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*PHOTO KEY (SOUTH SECTION)*




NORTH

*BUCKEYE YARD*
*TRABUE, ROBERTS, AND SCIOTO-DARBY CREEK ROADS*
*COLUMBUS, FRANKLIN COUNTY, OHIO*
*COWC PROJECT #120120007*

*CENTRAL OHIO WETLAND CONSULTING, LLC*

*Field Reconnaissance Photos*

Photo 1 – Southerly view of former rail lines on the North Section of the evaluation area.

Photo 2 – Typical view of former rail lines and adjacent brushy areas on the North Section of the evaluation area.

Photo 3 – Southerly view across waste land areas on the southwest part of the North Section of the evaluation area.

Photo 4 – Northerly view of dense brushy areas on the northeast part of the North Section of the evaluation area.

Photo 5 – Southerly view of Wetland 1 on the North Section of the evaluation area.

Photo 6 – Southwesterly view of Wetland 2 on the North Section of the evaluation area.

Photo 7 – Northwesterly view across Wetland 3 on the North Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 8 – Northerly view along Wetland 3 on the North Section of the evaluation area.

Photo 9 – Northerly view of Wetland 4 on the North Section of the evaluation area.

Photo 10 – Southerly view of Wetland 4 on the North Section of the evaluation area.

Photo 11 – Easterly view across Wetland 5 on the North Section of the evaluation area.

Photo 12 – Westerly view across the southern part of Wetland 5 on the North Section of the evaluation area.

Photo 13 – Northerly view of Stream 7 and Stream 8 on the North Section of the evaluation area. These ephemeral streams appear to partially drain Wetland 5.

Photo 14 – Southerly view across Wetland 5 on the North Section of the evaluation area.

Photo 15 – Northerly view across Wetland 6 on the North Section of the evaluation area.

Photo 16 – Easterly view along Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 17 – Northeasterly view of two existing culvert pipes directing surface water from Stream 1 (Roberts Millikin Ditch) beneath elevated railroad lines.

Photo 18 – Westerly view at the continuation of Stream 1 (Roberts Millikin Ditch) upon exiting the culvert pipes depicted in Photo 17.

Photo 19 – Westerly view of Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 20 – Westerly view of Stream 1 (Roberts Millikin Ditch) on the North Section of the evaluation area.

Photo 21 – Southerly view of former railroad lines on the Central Section of the evaluation area.

Photo 22 – Northeasterly view of former railroad lines and waste areas between tracks on the Central Section of the evaluation area.

Photo 23 – Northerly view of former railroad lines on the Central Section of the evaluation area.

Photo 24 – Southerly view of former railroad lines and brushy land on the southern part of the Central Section of the evaluation area.

Photo 25 – Southerly view along a cleared utility corridor on the west central part of the Central Section of the evaluation area.

Photo 26 – Typical view of dense vegetation comprising the wooded western portions of the Central Section of the evaluation area.

Photo 27 – Typical view of dense vegetation comprising the wooded western portions of the Central Section of the evaluation area.

Photo 28 – Westerly view along Stream 9 on the Central Section of the evaluation area.

Photo 29 – Westerly view at the origination of Stream 9. This culvert pipe discharges surface water from a west adjoining storm water management pond.

Photo 30 – Southwesterly view at the west adjoining storm water management pond directing surface water to Stream 9.

Photo 31 – Westerly view at the beginning of Stream 10 on the Central Section of the evaluation area.

Photo 32 – Northeasterly view across Pond 1 on Central Section of the evaluation area. This pond impounds Stream 10.

Photo 33 – Southwesterly view across Pond 1 on Central Section of the evaluation area. This pond impounds Stream 10.

Photo 34 – Southerly (upstream) view along Stream 10 on Central Section of the evaluation area.

Photo 35 – Northerly (downstream) view along Stream 10 on Central Section of the evaluation area.

Photo 36 – Northeasterly view of the confluence of Stream 9 with Stream 10 on the northwest part of the Central Section of the evaluation area.

Photo 37 – Southerly view of Wetland 7 on the Central Section of the evaluation area.

Photo 38 – Easterly view of Wetland 7 on the Central Section of the evaluation area.

Photo 39 – Typical view of wooded areas to the north, south, and west of Wetland 7 on the Central Section of the evaluation area.

Photo 40 – Southwesterly view of Wetland 8 on the Central Section of the evaluation area.

Photo 41 – Northeasterly view of Wetland 8 on the Central Section of the evaluation area.

Photo 42 – Easterly view of Stream 11 as it enters the Central Section of the evaluation area from the west.

Photo 43 – Northwesterly view of Stream 11 on the Central Section of the evaluation area.

Photo 44 – Southeasterly view of Stream 11 as it crosses the southwest part of the Central Section of the evaluation area.

Photo 45 – Southerly view along former rail lines comprising the north part of the South Section of the evaluation area.

Photo 46 – Easterly view along Stream 13 as it enters the South Section of the evaluation from the west, beneath Manor Park Drive.

Photo 47 – Westerly view along Stream 13 on the South Section of the evaluation area.

Photo 48 – Southeasterly view along Stream 13 on the South Section of the evaluation area.

Photo 49 – Southwesterly view of Wetland 11 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within Stream 13.

Photo 50 – Northwesterly view of Wetland 11 on the South Section of the evaluation area.

Photo 51 – Westerly view of Wetland 11 on the South Section of the evaluation area.

Photo 52 – Northerly view of Wetland 10 on the South Section of the evaluation area.

Photo 53 – Northerly view of Wetland 9 on the South Section of the evaluation area

Photo 54 – Northerly view across vacant waste land on the southern part of the South Section of the evaluation area.

Photo 55 – Typical view of densely vegetated areas on the southwest part of the South Section of the evaluation area.

Photo 56 – Easterly view of Pond 2 on the South Section of the evaluation area.

Photo 57 – Northwesterly view of Wetland 12 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 58 – Easterly view of Wetland 12 on the South Section of the evaluation area. This wetland appears to have established due to beaver impoundments within a drainage ditch.

Photo 59 – Westerly view of eastern part of Wetland 12 on the South Section of the evaluation area.

Photo 60 – Easterly view at the termination point of Wetland 12 on the South Section of the evaluation area.

Photo 61 – Northerly view of vacant waste land on the South Section of the evaluation area.

ATTACHMENT C

MITIGATION CREDITS LETTER

253 North State Street, Suite 101 Westerville, Ohio 43081 (614) 818-9156 Fax (614) 818-9157 www.madscientistassociates.net

Stream and Wetlands FOUNDATION

123 South Broad Street, Suite 238
P.O. Box 369
Lancaster, Ohio 43130
T: (740) 654-4016
F: (740) 689-0890

November 4, 2022

Mr. Burak Gursel
Simson Strong-Tie Co., Inc.
5956 W. Positas Blvd.
Pleasanton, CA 94588

**RE: Wetlands Mitigation for the Buckeye Yard Expansion site located at 2600 International Street, Columbus Ohio 43228**
**ACCT NO. SCIO-179**

Dear Mr. Gursel:

The Stream + Wetlands Foundation received on November 4, 2022, an amended purchase agreement for the Buckeye Yard Expansion site. As per the terms of the updated purchase agreement, the previously paid deposit payment of $32,175 (Check #749648) reserves 4.2 acres of non-forested wetland mitigation credits, from our Huntington In-Lieu Fee Program.

The remaining balance of $198,825 is due within 30 days of the permit issuance date. If you do not receive your permit within the 6-month reservation period, an additional deposit payment will be required as per the terms of our agreement.

Thank you very much for allowing Stream + Wetlands Foundation to assist you with the wetlands mitigation needs of this project. Should you need further assistance, please feel free to call anytime.

*Sincerely,*

Vincent E. Messerly, P.E.
President

Cc: Lindsay Hanna, MAD Scientist & Associates, via email

ATTACHMENT D

AGENCY LETTERS

**Office of Real Estate**
*John Kessler, Chief*
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
*Phone: (614) 265-6621*
*Fax: (614) 267-4764*

June 14, 2022

Lindsay Hanna
MAD Scientist Associates, LLC
253 N. State St, Suite 101
Westerville, OH 43081-2560

**Re:** 22-0545; Buckeye Yard Expansion

**Project:** The proposed project involves permitting services for the SST facility expansion at the Buckeye Yard.

**Location:** The proposed project is located in Norwich Township, Franklin County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the

leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "*OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING*". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*Range-wide Indiana Bat Survey Guidelines*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.

Federally Endangered
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)
northern riffleshell (*Epioblasma torulosa rangiana*)
snuffbox (*Epioblasma triquetra*)
purple cat's paw (*Epioblasma o. obliquata*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered
elephant-ear (*Elliptio crassidens crassidens*)
pocketbook (*Lampsilis ovata*)
long solid (*Fusconaia maculata maculate*)
washboard (*Megalonaias nervosa*)
Ohio pigtoe (*Pleurobema cordatum*)

State Threatened
black sandshell (*Ligumia recta*)
pondhorn (*Uniomerus tetralasmus*)
fawnsfoot (*Truncilla donaciformis*)
threehorn wartyback (*Obliquaria reflexa*)

Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the following listed fish species.

State Endangered

goldeye (*Hiodon alosoides*)
shortnose gar (*Lepisosteus platostomus*)
Iowa darter (*Etheostoma exile*)
spotted darter (*Etheostoma maculatum*)
northern brook lamprey (*Ichthyomyzon fossor*)
tonguetied minnow (*Exoglossum laurae*)
popeye shiner (*Notropis ariommus*)

State Threatened

lake chubsucker (*Erimyzon sucetta*)
Tippecanoe darter (*Etheostoma tippecanoe*)
paddlefish (*Polyodon spathula*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the black-crowned night-heron *(Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through august 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

**Water Resources:** The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

November 4, 2022

Re: Buckeye Yard Project Code: 2023-0001366

Dear Ms. Hanna:

The U.S. Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*), we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield
Field Office Supervisor

# APPENDIX F

## Historic Aerials


MAD
SCIENTIST
ASSOCIATES LLC