OHIO DEPARTMENT OF TRANSPORTATION

DISTRICT 04
2088 SOUTH ARLINGTON RD. • AKRON, OH 44306 • 330-786-3100

Environmental Document

for

SUM IR 76/77/8 8.24/09.74/00.00 PID 102329

Environmental Document Level: C2

Approved: 8/20/2020

Prepared By: Libby Rushley

Lawhon AND Associates

E-mail: lrushley@lawhon-assoc.com

District Contact: Edward Deley

Phone: 330-786-4930

E-mail: Edward.Deley@dot.ohio.gov

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated June 6, 2018, and executed by FHWA and ODOT.

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C2

PIDs:	91902, 102329
Project Sponsor:	DISTRICT 4-PLANNING
ODOT District:	4
Funding Source:	Federal
Private Funding:	No

Project Description:

The Ohio Department of Transportation (ODOT) proposes various major highway repairs and improvements along Interstate Route (IR) 76, IR 77 and State Route (SR) 8 in the city of Akron, Summit County. Primary work activities proposed by this project include full depth pavement replacement, pavement resurfacing and bridge maintenance. The total project length is 7.55 miles.

The project will be constructed within the existing highway/roadway rights-of-way.

Both project design and project construction will be accomplished with a design-build contract based on the design-build scope established for these projects. Plan information is limited to preliminary plans and scope of services documents.

SUM-76/77-8.42/9.77; PID 102329; is the original project in project development. SUM-8-0.63; PID 91902; was later established for additional, independent work activities. Various environmental studies and planning documents were completed and coordinated under PID 102329 while other environmental studies were completed and coordinated under PID 91902. Some environmental studies address both PIDs.

Proposed improvements associated with each project are described in the following sections.

<u>SUM-8-0.63; PID 91902:</u>

Improvements proposed by the SUM-8-0.63; PID 91902; project comprise a total of approximately 3.26 miles of IR 76, IR 77 and SR 8. See project location mapping in the Project File/General/Project Information subsection.

The project limits along IR 76 are from the SUM-76-0824L bridge over Morse Street at Straight Line Mile (SLM) 8.24 to the SUM-76-1200 Hoban High School pedestrian bridge over IR 76 at SLM 12.00. Along IR 77, the project limits extend from SLM 15.18 at the IR 76/IR 77 west interchange to SLM 15.87 at the IR 77/Vernon Odom Boulevard interchange. The project limits along SR 8 are between SLM 0.63 and SLM 1.76 under the SR 59/Perkins Street bridge.

See the Preliminary Roadway Plans PIDs 102329 and 91902.pdf for the proposed pavement improvements along IR 76 and IR 77 and the Schematic Plan SR 8 Resurfacing PID 91902.pdf for the proposed resurfacing improvements along SR 8 in the Project File/General/Project Information subsection.

Full depth pavement replacement is proposed along the IR 76 mainline lanes and system/service interchange ramps from SLM 8.24 to SLM 9.96 and along the IR 77 mainline lanes and system/service interchange ramps from SLM 15.18 to SLM 15.87. All shoulders will be replaced with the same pavement composition and thickness as the mainline pavements. Pavement resurfacing is proposed along the SR 8 mainline lanes and service interchange ramps. The southbound SR 8 entrance ramp at the SR 8/Perkins Street interchange will be slightly reconfigured to improve geometrics. Additional improvements proposed by the project within the project limits include drainage replacement, lighting improvements, traffic sign replacement and pavement marking application.

Various maintenance activities are also proposed on twenty-seven (27) bridges along IR 76, IR 77 and SR 8 as part of this project. The table below (see continuation of the project description in the Project File/General/Project Information subsection as Project Description Continued.pdf) shows the general maintenance treatment type for each bridge. See the Design Build Scope for Bridges PIDs 102329 and 91902.pdf in the Project File/General/Project Information subsection for the specific maintenance activities proposed at each bridge.

See continuation of the project description in the Project File/General/Project Information subsection as Project Description Continued.pdf.

STIP Reference # 102329: 21-24 STIP

Select the appropriate project type:

(26) Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e) of this section. ***Examples include: Joint or limited use of right-of-way where the proposed use would have minimal or no adverse social (including highway safety), economic or environmental impacts; Installation of new noise walls and other new noise mitigation projects; Construction of highway safety and truck escape ramps; Construction of bicycle lanes and pedestrian walkways, sidewalks, shared-use paths, or facilities and trailhead parking that do not otherwise qualify for a C1 designation; Beautification or facility improvement projects (i.e. landscaping, curb and gutter installation and replacement, ADA ramps/curb ramps, installation of park benches, decorative lighting, etc.); Construction of alternative energy facilities (fuel tank farms, wind turbines, etc.)***

(28) Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the actions meet the constraints in 23 CFR 771.117(e). ***Examples include: Railroad projects that close or relocate at-grade crossings***

In accordance with 23 CFR 771.117(e), the proposed project cannot be processed as a C2 CE, if it involves - a. Acquisition of more than a minor amount of right-of-way b. Residential or non-residential displacements c. A Coast Guard, Individual Section 404 and/or a Section 10 permit d. A Section 106 finding of Adverse Effect e. A Section 4(f) Programmatic or Individual Evaluation f. A finding of May Affect, Likely to Adversely Affect to Threatened and Endangered Species g. Construction of temporary access, or the closure of existing road, bridge, or ramps, that would result in major traffic disruptions h. Changes in access control i. Floodplain encroachment other than functionally dependent uses (e.g., bridges, wetlands) or actions that facilitate open space use (e.g., recreational trails, bicycle and pedestrian paths) j. Construction activities in, across or adjacent to a river component designated or proposed for inclusion in the National System of Wild and Scenic Rivers k. No minor public or agency controversy on environmental grounds (no opposition from any

organized groups or agencies and no unresolved environmental coordination) l. If an EJ Analysis Report is required, the project must be processed as a D-level CE or higher level document For certification purposes, documentation is required to illustrate no significant impacts will occur to the following environmental resources and that no unusual circumstances exist that would warrant a higher level of NEPA document. Upload all supporting documentation to the project file.

Waterways:	Present; No Coast Guard, Individual 404, and/or Section 10 Permit required
Waterways Permit Type:	Permit Determination and/or Permit Application Approval Pending
Isolated Wetland Permit	No
Endangered Species:	Present; No finding of May Affect, Likely to Adversely Affect
Endangered Species - Coordination	May Affect, Not Likely to Adversely Affect
Endangered Species - Coordination Date	12/31/2019

Endangered Species - Critical Habitat Present/Impacted

Indiana bat

Northern long-eared bat

Endangered Species - Other Critical Habitat Present/Impacted:	No
100-Year Floodplain:	Encroachment Within the SFHA is a Functionally Dependent Use
EO 11988/NFIP Coordination and Documentation Completed:	Yes
NFIP Local Floodplain Coordinator Notification Date:	08/19/2020
Section 4(f):	Present; No Programmatic Evaluation or Individual Evaluation Required

Section 4(f) Determination:

Temporary No Use Exception - 774.13(d)

Section 4(f) Determination Date - 774.13(d)	08/17/2020
Section 6(f):	Not present
Cultural Resources:	Present; No Finding of Adverse Effect
Cultural Resources Coordination:	Minimum Potential to Cause Effect Appendix A
Cultural Resources Coordination - ODOT Approval/SHPO Concurrence Date	08/14/2020

Environmental Document Level: C2

PID 102329 SUM IR 76/77/8 8.24/09.74/00.00

Approved: 8/20/2020

Since no Tribe was interested in this project based on their customized preferences, no further Tribal consultation was conducted.

Projects that meet C2 criteria are not anticipated to have impacts to the following environmental resources. If resources are present, documentation is only required if there is a potential for impacts.

Air Quality:	Studies and Coordination Conducted; No Impacts
Air Quality - Agency Coordination:	Qualitative MSAT
Air Quality - OEPA Approval Date:	07/16/2020
Noise:	Studies Not Required
Noise Coordination - OES Approval Date:	
Hazardous Materials - ESA Screening Conducted	Yes
Hazardous Materials - OES Approval Date:	08/13/2020
Phase I ESA Warranted Based on Coordination with OES:	No Further Studies Warranted
Farmland:	Urbanized Area; No Impacts in Accordance With the Farmland MOU and 7 CFR 658
Scenic Rivers	No National Wild and Scenic River Within 1000 Feet of the Proposed Project Area

Projects that meet C2 criteria must be in accordance with ODOT's UP Guidance and activities conducted for Public Involvement are commensurate to the project's type and scope of work.

Underserved Populations	Does Not Exceed UP Guidance Criteria; No UP Analysis Report Required and No UP Issues Raised During Public Involvement
Public Involvement:	Minimum PI Requirements Met; No Minor Public or Agency Controversy on Environmental Grounds
Environmental Commitments	Yes

Environmental Commitments

C2

1) The design-build team shall incorporate the following note into the project construction plans: ENDANGERED SPECIES HABITAT - INDIANA BAT/NORTHERN LONG-EARED BAT: THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE,DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

2) The design-build team will incorporate the following note into the project construction plans: SUM-76-0954 BRIDGE INSPECTION FOR BATS - THE CONTRACTOR MUST INSPECT THE SUM-76-0954 BRIDGE OVER BOWERY STREET, THE OHIO CANAL AND THE TOWPATH TRAIL/BUCKEYE TRAIL FOR BATS IF CONSTRUCTION ACTIVITIES ON THE STRUCTURE WILL OCCUR BETWEEN APRIL 1 AND SEPTEMBER 30. THE CONTRACTOR SHALL PROVIDE WRITTEN CONFIRMATION OF THE INSPECTION, INCLUDING A STATEMENT REGARDING WHETHER OR NOT EVIDENCE OF BATS WAS FOUND, TO THE ODOT CONSTRUCTION ENGINEER 15 DAYS PRIOR TO THE START OF CONSTRUCTION. IF BATS OR EVIDENCE OF ROOSTING BATS IS FOUND ON THE UNDERSIDE OF THE BRIDGE STRUCTURE, BRIDGE CONSTRUCTION MAY NOT BE INITIATED BETWEEN APRIL 1 AND SEPTEMBER 30 UNTIL ODOT COORDINATES WITH THE U. S. FISH AND WILDLIFE SERVICE (USFWS). DO NOT REMOVE THE BATS AND DO NOT CONTINUE CONSTRUCTION ACTIVITIES THAT WOULD DISTURB THE BATS. CONTACT THE ODOT DISTRICT 4 ENVIRONMENTAL COORDINATOR AT 330-786-4930 IMMEDIATELY FOR FURTHER INSTRUCTION.

3) The design-build team will incorporate the following note into the project construction plans: SECTION 4(F) MEASURES TO MINIMIZE HARM TO THE TOWPATH TRAIL/BUCKEYE TRAIL - 1) ACCESS TO THE TOWPATH TRAIL/BUCKEYE TRAIL SHALL BE MAINTAINED VIA DETOUR WHEN UNSAFE CONSTRUCTION ACTIVITIES OCCUR. THE DURATION OF THE TEMPORARY CLOSURE SHALL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION AT THIS BRIDGE. 2) ODOT SHALL WORK WITH THE CITY OF AKRON ON FINAL DETAILS OF THE TOWPATH TRAIL/BUCKEYE TRAIL DETOUR. 3) CLOSURES OF THE TOWPATH TRAIL/BUCKEYE TRAIL SHALL BE LIMITED TO FOUR SEPARATE CLOSURES, EACH LASTING UP TO 60 DAYS. 4) TO PROTECT THE TOWPATH TRAIL/BUCKEYE TRAIL AND THE PUBLIC, THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CONSTRUCTION FENCING ALONG THE KNOWN BOUNDARIES OF THE TOWPATH TRAIL/BUCKEYE TRAIL WITHIN THE PROJECT CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE BRIDGE. 5) PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL SIGNAGE APPROVED BY THE PROJECT ENGINEER TO ALERT TOWPATH TRAIL/BUCKEYE TRAIL USERS OF CONSTRUCTION ACTIVITIES AND ACCESS RESTRICTIONS OR CLOSURES, AND TO DIRECT USERS TO THE DETOUR. 6) THE CONTRACTOR SHALL PROVIDE THE CONSTRUCTION SCHEDULE TO THE CITY OF AKRON PUBLIC SERVICE DEPARTMENT AND ODOT 30 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

4) The design-build team shall incorporate the following note into the project construction plans: WETLANDS AVOIDANCE: NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN WETLAND D DELINEATED BEYOND THE PROJECT CONSTRUCTION LIMITS AND DEPICTED IN THE PROJECT PLANS. TO PROTECT AND DELINEATE THE BOUNDARIES OF THE EXISTING RESOURCE, A FILTER FABRIC FENCE AND TEMPORARY CONSTRUCTION FENCE PER SUPPLEMENTAL SPECIFICATION 832, SHALL BE INSTALLED AT THE PROPOSED CONSTRUCTION LIMITS, MAINTAINING A ONE-FOOT BUFFER BETWEEN THE FENCE AND THE WETLAND BOUNDARIES, WHEN PRACTICABLE, PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, INCLUDING ANY NECESSARY CLEARING AND GRUBBING ACTIVITIES, AND BE MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS, ETC. ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS SECTION 107.10 (PROTECTION AND RESTORATION OF PROPERTY) PROHIBIT THE CONTRACTOR FROM CREATING STAGING AREAS NEAR STREAMS AND/OR WETLANDS.

5) The design-build team will incorporate a note into the project construction plans to maintain established pedestrian traffic through and along the IR 76, IR 77 and SR 8 construction corridors at all times during project construction, as appropriate.

Preparers and Approvals

Form Preparer:

Libby Rushley
Lawhon AND Associates
1441 King Avenue, Columbus OH 43212
lrushley@lawhon-assoc.com

Supporting Form Preparer(s):

Robert Lang
Thomas Powell

Approvals & Electronic Signatures

Approved & Electronically Signed By:	Approval Date:
Edward Deley (PROGRAM ADMIN 3)	8/20/2020

Appendix

Ecological

Coordination with ODNR and USFWS.pdf

Air

Coordination with OEPA-USEPA-FHWA - PM 2.5.pdf

Ecological

Ecological Review Form - Ecologically Exempt 102329 91902.pdf

ODOT Disposition of Agency Comments.pdf

Air

OEPA Approval - Qualitative MSAT.pdf

General

Project Description Continued.pdf

Ecological

USFWS Comments Consult Form SUM-76_77-8.42_9.77.pdf

General

USGS Quadrangle Topographical Map PIDs 102329 and 91902.pdf

Ecological

Wetland Finding.pdf

Underserved Populations

Census Mapping.pdf

Permits

Correspondence with Local Floodplain Administrator.pdf

Public Involvement

Correspondence with Stakeholders - Summit Lake 2018.pdf

Correspondence with Stakeholders - Summit Lake 2019.pdf

Permits

FEMA FIRM.pdf

Public Involvement

News Article Akron.com.pdf

News Article WKYC.com.pdf

Section 4(f)

OES Recreational 4(f) Determination.pdf

Public Involvement

Press Release.pdf

Stakeholder Contact List - Underserved Populations.pdf

Stakeholder Meeting Minutes or Notes - Summit Lake 2019.pdf

Stakeholder Notification - Underserved Populations.pdf

Underserved Populations

Underserved Populations Documentation Form.pdf

Lang, Robert

From: Mallas, Dayna
Sent: Wednesday, August 19, 2020 11:54 AM
To: BBeckert@AkronOhio.gov
Cc: Lang, Robert; Deley, Edward; Powell, Thomas; Rosen, Robert
Subject: SUM-IR76/77-8.42/9.77 (PID: 102329) Floodplain Coordination/ Letter of Notification of SFHA Exemption
Attachments: Akron LD 53 letter PID 102329.docx; Floodplain Mapping_updated.pdf

Dear Brad,

ODOT District 4 will start working on SUM-IR76/77-8.42/9.77(PID: 102329) in Spring 2021. The Ohio Department of Transportation project proposes to perform replacement of the superstructure and abutments for the SUM-76-0954 (SFN 7703457) over Ohio Canal. This structure is located within a Special Flood Hazard Area Zone AE in your community. As a courtesy, we are informing you of this project, see attached letter. The proposed maintenance work does not change the alignment, grade, or hydraulic capacity of the existing structure. Because of this, the project is exempt from the normal permit process required for work encroaching on a SFHA.

If you have any questions, please contact me at 330.786.4824.

Sincerely,

Dayna Mallas, P.E.
Project Manager/Hydraulic Engineer
District 4
2088 S. Arlington Rd., Akron, Ohio 44306
330.786.4824 (office)
Transportation.ohio.gov
OHIO DEPARTMENT OF TRANSPORTATION

OHIO DEPARTMENT OF TRANSPORTATION
Mike DeWine, *Governor*
Jack Marchbanks, Ph.D., *Director*

District 4
2088 S. Arlington Rd, Akron, OH 44306
330-786-3100
transportation.ohio.gov

August 19, 2020

Brad Beckert
Development Engineering Manager/ Floodplain Administrator
Akron - Summit County
166 S. High St. Suite 202
Akron, Ohio 44308

Re: SUM-IR76/77-8.42/9.77 PID: 102329
Letter of Notification of SFHA Exemption

Dear Brad Beckert:

The Ohio Department of Transportation project SUM-IR76/77-8.42/9.77 PID:102329 is located within a Special Flood Hazard Area Zone AE in your community.

The proposed project includes replacement of the superstructure and abutments for the SUM-76-0954 (SFN 7703457) over Ohio Canal in your community.

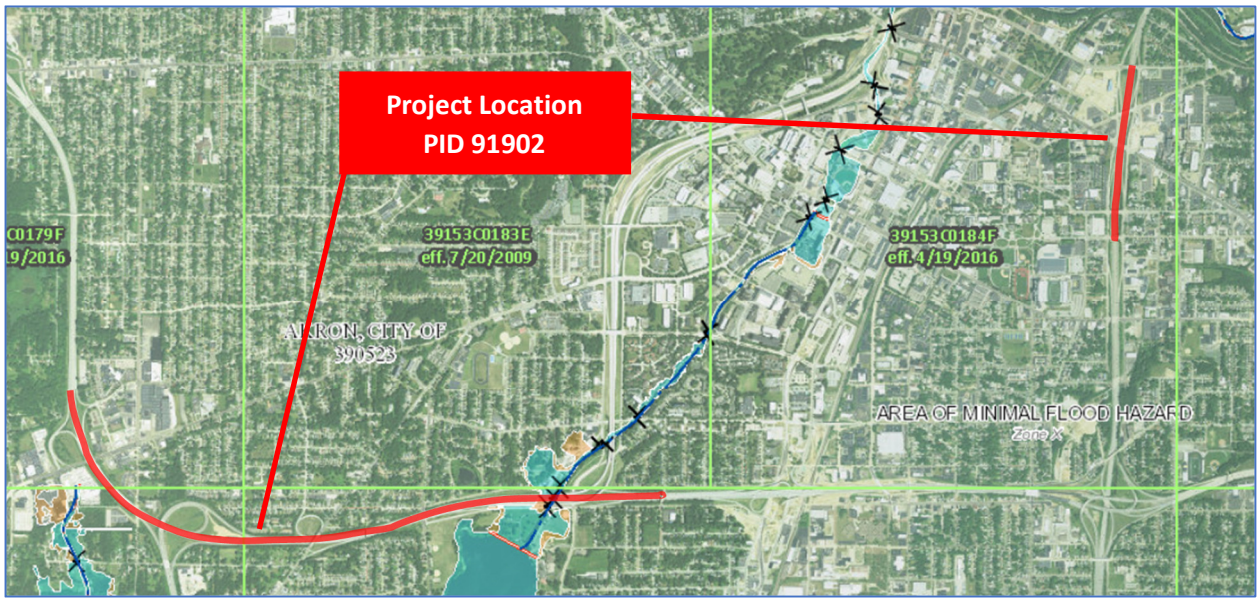
As a courtesy, we are informing you of this project. The above described work is considered maintenance that does not change the alignment, grade, or hydraulic capacity of the existing structure. Because of this, the project is exempt from the normal permit process required for work encroaching on a SFHA. No further correspondence will be forthcoming.

If you need additional information, please contact Dayna Mallas at 330.786.4824.

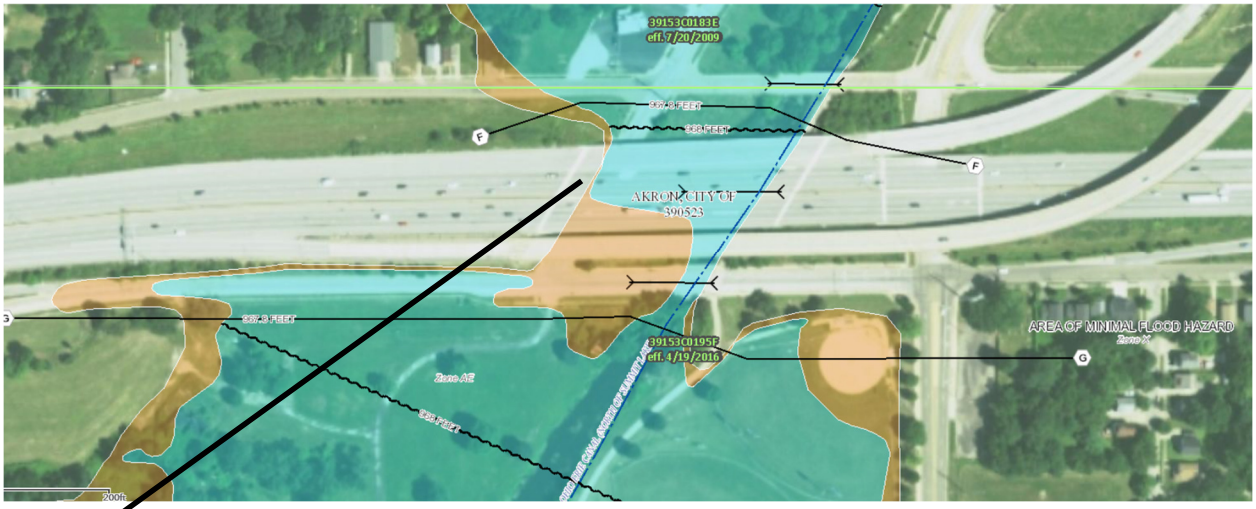
Respectfully,

Dayna Mallas, P.E.
Project Manager

Floodplain Mapping
SUM-8-0.63; PID 91902
SUM-IR76/77-8.42/9.77, PID 102329



Closer view of above:



SUM-76-0954 bridge over Bowery Street, Ohio Canal and Towpath Trail (SFN 7703457). Construction activities involves replacement of the superstructure and abutments.

Floodplain Mapping
SUM-8-0.63; PID 91902
SUM-IR76/77-8.42/9.77, PID 102329

Project Location
PID 102329

Ecologically Exempt Project Documentation Form (v 01-17)

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated [December 11, 2015], and executed by FHWA and ODOT.

Project C-R-S / Name:	SUM-76/77-8.42/9.77* SUM-8-0.63*	PID:	102329 91902	Date of Review:	8/13/2020

Evaluated By: Robert Lang, District 4 Environmental Specialist

General Project Description (include project scope details that would influence impact determinations):

ODOT District 4 is proposing various major repairs and improvements to I-76, I-77 and SR 8 in the heart of the Akron freeway system.

*This Ecologically Exempt Project Documentation Form only pertains to pavement resurfacing and bridge maintenance on SR 8 (SLM 0.00-1.75) and minor bridge maintenance on I-76/77 from SLM 10.35 to 10.42. Other locations in the project limits were coordinated with a Level 1 ESR under the Ecological MOA.

Construction activities are limited to existing pavement, bridges and right-of-way with no impacts to ecological resources.

☒ **Based on a consideration of the actions associated with this project type, this project does not have the potential to impact ecological resources regulated under the under Sections 404 or 401 of the Clean Water Act, Section 7 of the Endangered Species Act, or the Fish and Wildlife Coordination Act, and should not result in any activities that violate ORC Chapters 1518 and 1531, or Section 1533.324. This project is considered Ecologically Exempt under the Ecological MOA (Agreement 19394). This form will be included in the project file as documentation of compliance with the acts and regulations covered by the agreement.**

☐ **Based on the actions associated with this project type, this project requires an assessment of the following additional considerations to document the potential to impact ecological resources.**
Click Here if Applicable.

Additional Considerations:

- Projects located within flood plains must comply with necessary flood plain criteria.
- Projects that occur within 1,000 feet of any state designated wild, scenic or recreational river will be assessed and coordinated (if applicable) in accordance with *Memorandum of Agreement Between the Ohio Department of Transportation and the Ohio Department of Natural Resources (Division of Watercraft) For Project Coordination On Ohio's State Wild, Scenic and Recreational Rivers*.
- Impacts to publically owned recreation lands will be evaluated and coordinated in accordance with Section 4(f) of the Department of Transportation (DOT) Act of 1966 and Section 6(f) of the Land and Water Conservation Act when applicable.

Certification *(Must be acknowledged by a responsible party)*

☒ I certify that I have personally examined and am familiar with the information in this form, and that the data collection was supervised by an individual(s) prequalified to conduct ecological surveys for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained in the form, I believe that the determinations have been collected in accordance with the ODOT Ecological Manual current at the time of the form preparation, and is true, accurate, and complete.

Name: Robert Lang **Date: 8/13/2020**

Title: District 4 Environmental Specialist

LEVEL 1 ECOLOGICAL SURVEY REPORT (v.05-18)

OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
1980 WEST BROAD STREET, MAIL STOP 4170
COLUMBUS, OHIO 43223
(614) 466-7100

Project C-R-S / Name:	**SUM-76/77-8.42/9.77**
Project Identification Number (PID):	**102329**
Report Type:	**Level 1 ESR**
Report Author(s):	**A. Bradford**
Affiliation:	**Lawhon & Associates, Inc.**
Phone:	**614.481.8600**
Email:	**abradford@lawhon-assoc.com**
Date of Submission:	**December 9, 2019**

Certification *(Must be acknowledged by a responsible party)*

☒ I certify that I have personally examined and am familiar with the information in this report and all attachments, and that the data collection was supervised by an individual(s) prequalified to conduct ecological surveys for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained in the report, I believe that the information has been collected in accordance with the ODOT Ecological Manual current at the time of the report preparation, and is true, accurate, and complete.

Name: Jason Earley **Date: 12/6/2019**

Title: Senior Ecologist

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated [December 11, 2015], and executed by FHWA and ODOT.

GENERAL PROJECT INFORMATION					
ODOT District:	4	**County(ies):**	Summit	**Township(s):**	Coventry; City of Akron
Latitude (DD.dddd):	41.05995	**Study Area Size (ac):**	175.3	**Area of Construction Limits (ac):**	130.8
Longitude (-DD.dddd):	-81.55742				
Date(s) of Survey Work (mm/dd/yyyy):	06/04/2019; 08/06/2019	**USGS Quadrangle(s):**	Akron West	**HUC 12:**	050400010105; 041100020304
On the ODOT Major Program Projects list:	Yes (List Group): 02)MLR	**Impacting or Adjacent to ODNR Property:**	No	**Project Includes Federal Funding:**	YES
Within the Coastal Zone Management Area:		NO	**Within the Oak Openings Region:**		NO

Project Description (include a detailed description of the construction activities): This project, SUM-IR76/77-8.42/9.77 PID 102329, is a portion of the SUM-76/77 Akron Beltway Major Rehabilitation Project. The project is located in the City of Akron, Summit County, Ohio.

On IR-77 this project goes from Waterloo Road north to Lovers Lane. Activities in this segment include full pavement replacement on the mainline and ramps and maintenance work on various bridges.

On IR-76 this project goes from Princeton Street west to just north of Vernon Odom Boulevard on IR-77. Activities on this area include full pavement replacement from Princeton Street to the end of the existing concrete pavement in the Vernon Odom Boulevard Interchange and resurfacing and ramps at the Vernon Odom Boulevard Interchange and the ramps at the IR-76/IR-77 Interchange at the northwest corner of the Akron Beltway. There will be major work performed on three bridges: IR-76/77 over Manchester Road (SR-93), IR76/77 over Bowery Street/Ohio and Erie Canal, and IR76/77 over Lakeshore Boulevard. Minor bridge maintenance work will be done on other various bridges.

All work will take place within existing right-of-way. Activities for both sections include maintenance of traffic, drainage replacement, lighting, sign replacement and traffic control. The Ohio Canal, Wetland BB, Wetland C, and Wetland D may be impacted by construction activities associated with the major bridge work and/or equipment staging. As directed by ODOT District 4, some information contained in this report is from the Level 1 Ecological Survey Report prepared by MS Consultants for SUM-76-6.15 Akron Beltway, PID 100713 in 2019. Any applicable documents or data from the previous Level 1 Ecological Survey Report contained in the study area overlap were included in this report. Data were collected by Lawhon & Associates, Inc. for any areas located outside of the SUM-76-6.15 Akron Beltway project area.

Weather conditions: seasonal, high of 74 degrees Fahrenheit

VEGETATIVE COMMUNITIES AND LAND COVER			
Vegetative Communities and Land Cover found within the Construction Limits:	**Degree of Man Induced Ecological Disturbance**	**Unique, Rare, or High Quality?**	**Within Project Impact Area** (total should equate to area of construction limits)
Developed, High Intensity (DH) - Includes highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80 to100 % of the total cover.	High Disturbance (dominated by widespread taxa not typical of a particular community)	NO	99.32
Marsh - MA - (wetland dominated by submergent, floating, and/or emergent vegetation)	High Disturbance (dominated by widespread taxa not typical of a particular community)	NO	0.08
Scrub/Shrub - SS - (true shrubs, and young trees in an early successional stage)	High Disturbance (dominated by widespread taxa not typical of a particular community)	NO	7.85
Upland Forest - UF - (uplands dominated by trees)	Intermediate Disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance)	NO	8.81
Developed Open Space - DS - (mown right-of-way, large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes)	High Disturbance (dominated by widespread taxa not typical of a particular community)	NO	14.74
Additional Information: The upland forest impacts are greater than the suitable wooded habitat (SWH) impacts since all upland forest is not considered SWH.			

STREAMS	**Present?** YES			**Impacts?** YES			**Total Impact to all Streams:** 360						
Stream ID	**Photograph #(s):**	**Drainage Area (mi²)**	**OEPA River Mile** (if applicable)	***Stream Hydrology Type:** ⓘ	**ˢ USACE Flow Characteristics:** ⓘ	**Habitat Assessment** ⓘ **pH Value**	**Aquatic Macro-inverts Observed: (Required for Class III PHWH Only)** ⓘ	**Ohio EPA Aquatic Life Use Designation:** ⓘ	**Antidegradation Designation:** ⓘ	**401 WQC for Nationwide Permit Eligibility**	**Scenic River:**	**Designation for Potential In-water Work Restriction:** ⓘ	**Length In Study Area (ft.)**	**Impact Length (ft.)**
Name: Ohio Canal	7-9	1.67	3.4	P	RPW-Perennial	QHEI	Not Surveyed	** LRW	LQW	Eligible	No	None Applicable	**Total:** 360	**Total:** 360
Lat: 41.06198						25							**Open:** 360	**Permanent:** 360
Lon: -81.54162						**pH:** 7.8							**Culverted:** 0	**Temporary:** TBD
How the stream connects to a TNW: Ohio Canal → Little Cuyahoga River → Cuyahoga River (TNW)														
Details on stream impact (if known) and any additional information:														
Name: Stream 1	65	0.19	N/A	P	RPW-Perennial	HHEI	Not Surveyed	**Mod Class II	GHQW	Eligible	No	None Applicable	**Total:** 17	**Total:** 0
Lat: 41.0606						59							**Open:** 17	**Permanent:** 0
Lon: -81.5692						**pH:** N/A							**Culverted:** 0	**Temporary:** 0
How the stream connects to a TNW: Ohio Canal → Little Cuyahoga River → Cuyahoga River (TNW)														
Details on stream impact (if known) and any additional information: Data for Stream 1 were obtained from SUM-76-6.15 L1 ESR (MS Consultants 2019).														

***P = Perennial, I= Intermittent, E = Ephemeral**
ˢSubject to verification by the USACE (TNW=Traditional Navigable Water, RPW=Relatively Permanent Water)
**** Indicates Provisional designations based on habitat assessment forms and/or HMFEI.**

WETLANDS		Present? YES		Impacts? YES			Total Impact: 0.08	
Wetland ID	Photo #	Hydrologic Connection:	ORAM Score	Wetland Category (1)	Wetland Type (Cowardin)	Est. Total Size (ac.)	Est. Size In Study Area (ac.)	Impact Area (ac.)
Name: Wetland A **Lat:** 41.0639 **Lon:** -81.5723	64	Adjacent	-4	Category 1	Palustrine - Emergent Wetland Persistent (Choose Additional)	0.04	0.04	**Total:** 0 **Permanent:** 0 **Temporary:** 0
How the wetland connects to Traditional Navigable Water (TNW): Wetland A → Storm Sewer System → Mud Run → Tuscarawas River (TNW)								
Details on wetland impact (if known) and any additional information: Data for Wetland A were obtained from SUM-76-6.15 L1 ESR (MS Consultants 2019).								
Name: Wetland B **Lat:** 41.0609 **Lon:** -81.5661	66	Abutting	25	Category 1	Palustrine - Emergent Wetland Persistent (Choose Additional)	1.41	0.31	**Total:** 0 **Permanent:** 0 **Temporary:** 0
How the wetland connects to Traditional Navigable Water (TNW): Wetland B → Ditch 1 → Storm Sewer System → Mud Run → Tuscarawas River (TNW)								
Details on wetland impact (if known) and any additional information: Data for Wetland B were obtained from SUM-76-6.15 L1 ESR (MS Consultants 2019).								
Name: Wetland BB **Lat:** 41.06233 **Lon:** -81.54294	2	Adjacent	7	Category 1	Palustrine - Emergent Wetland Persistent (Choose Additional)	0.002	0.002	**Total:** 0.002 **Permanent:** 0.002 **Temporary:** 0
How the wetland connects to Traditional Navigable Water (TNW): Wetland B → roadside ditch → Ohio Canal → Little Cuyahoga River → Cuyahoga River (TNW)								
Details on wetland impact (if known) and any additional information: Wetland B drains into a roadside ditch. Wetland B is connected to the Little Cuyahoga River via interstate drainage system.								
Name: Wetland C **Lat:** 41.062373 **Lon:** -81.541583	3-4	Abutting	13	Category 1	Palustrine - Emergent Wetland Persistent (Choose Additional)	0.074	0.074	**Total:** 0.074 **Permanent:** 0.074 **Temporary:** 0
How the wetland connects to Traditional Navigable Water (TNW): Wetland C→ Ohio Canal →Little Cuyahoga River → Cuyahoga River (TNW)								
Details on wetland impact (if known) and any additional information:								
Name: Wetland D **Lat:** 41.04497 **Lon:** -81.50505	5-6	Adjacent	10	Category 1	Palustrine - Emergent Wetland Persistent (Choose Additional)	0.004	0.004	**Total:** 0.004 **Permanent:** 0.004 **Temporary:** 0
How the wetland connects to Traditional Navigable Water (TNW): Wetland D→ roadside ditch → Tuscarawas River → Muskingum River (TNW)								
Details on wetland impact (if known) and any additional information: Wetland D drains into a roadside ditch. Wetland D is connected to the Tuscarawas River via interstate drainage system.								

DITCHES		Present? YES			Impacts? No			Total Impact: 0	
Ditch ID	Photo #	*USACE Flow Characteristics (1)	OHWM Present?	Constructed in or Drains a wetland?	Constructed Through Hydric Soils?	Flows between two or more potential waters of the US?	Wetted Width (ft.)	Length within project area (ft.)	Impact Area (ac.)
Name: Ditch 1 **Lat:** 41.0607 **Lon:** -81.5667	67	RPW-Seasonal	YES	YES	NO	YES	2.16	560	**Total:** 0 **Permanent:** 0 **Temporary:** 0
Additional Information: How the ditch connects to a TNW: Ditch 1 → Storm Sewer System → Mud Run → Tuscarawas River (TNW) **Details on impact type (if known, and any additional information): Data for Stream 1 were obtained from SUM-76-6.15 L1 ESR (MS Consultants 2019).**									
***Subject to verification by the USACE (TNW=Traditional Navigable Water, RPW=Relatively Permanent Water)**									

PONDS, LAKES, RESERVOIRS, RETENTION/DETENTION BASINS	Present? NO	Impacts? NO	Total Impact: 0
Additional Information: No ponds, lakes, reservoirs, retention/detention basins were identified within the study area during the ecological field survey.			

MUSSELS	**Streams ≥ 10 mi²?** Yes - Stream(s) listed as Group 1, 3, or not listed in the Ohio Mussel Survey Protocol. Complete a reconnaissance survey. Complete table and include (in Appendix 4) an Ohio Mussel Habitat Assessment Form for each stream surveyed.			
Stream Name: Ohio Canal	Group Listing: Group 1	Evidence of Mussels: None	Level of Effort: See Below*	Documentation Attached: OMHAF

Summary of Results: *The Ohio Canal at the location of the study area was too deep to wade. Access to the canal was only available along a steep artificial bank that proposed a safety hazard. Due to the potential risks of entering the canal no entrance into the water was made, but a visual inspection for mussels in the canal was made from the banks as well as from above along a bridge crossing. The water carried a lower level of turbidity allowing for an **adequate visual inspection to be made.**

FEDERALLY LISTED SPECIES ⓘ

Species Name: Indiana Bat (*Myotis sodalist*) and Northern Long-eared Bat (*Myotis septentrionalis*)	**Listing Status**: Endangered/Threatened	**Effect Determination** (Completed by ODOT-OES): May Affect, Not Likely To Adversely Affect
Consultation Category (Completed by ODOT-OES):	CC1	

Suitable Habitat:
The 2016 PBO defines suitable wooded habitat (SWH) for these species as any tree covered area that is 0.5 ac or larger, containing any potential roosts (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities) greater than 13 ft tall and at least 3 in dbh, or any patch of trees with these characteristics that is less than ½ acre in size but is within 1,000 feet of or connected by a travel corridor to a PMRT, ½-acre or larger stand of SWH, or any patch of wooded riparian buffer. Additionally, these species may use bridges over streams as summer roosting habitat. During the winter months these species inhabit hibernacula during the winter months (typically caves, or abandoned mines that provide cool, humid, stable conditions for hibernation).

Complete Indiana Bat and Northern Long-eared Bat Field Habitat Assessment Checklist and the ODOT Bridge Bat Inspection Form (if applicable) and provide a brief discussion including impacts to suitable habitats or evidence of bats roosting on a bridge structure:
Approximately 5.15 acres of SWH are located within the construction limits and may be impacted. Impacted SWH consists of small (0.5-0.75 acre) woodlots located along IR 76 and IR 77. Impacted SWH may provide low quality habitat for the Indiana bat and northern long-eared bat. No trees with roosting characteristics were observed; woodlots are considered SWH based on size only. SWH contained young trees and a dense shrub understory. Some woodlots within the right-of-way are not considered SWH due to the absence of trees with roosting characteristics, small acreage (<0.50 acre), or widely scattered tree arrangement. All impacted SWH is located within 100' from edge of pavement. All tree removal will occur between October 1 and March 31. This project meets CC1 and may affect, but is not likely to adversely affect these species.

The study area is located within a YELLOW (Acoustic IBAT detection) bat buffer.

Species Name: Bald Eagle (*Haliaeetus leucocephalus*)	**Listing Status**: Species of Concern	**Effect Determination** (Completed by ODOT-OES): No Effect	
Is a known nest (based on NHDB or other source) located within 0.5 mile of the project?:	NO	**Will the project require blasting?:**	NO
Based on field surveys and/or a NHDB record search, is a nest within 660 ft. and/or visible from the project or activity area? If yes, indicate proximity to construction limits:	NO		

Suitable Habitat: The bald eagle is protected under the Bald and Golden Eagle Protection Act which prohibits taking bald eagles, including disturbance. The preferred habitat includes mature forests adjacent to open water for nesting and foraging.
Discussion Including Impacts to Suitable Habitat: No bald eagle habitat was observed within the study area, including mature forest. Impacts to bald eagle habitat are not expected.

Species Name: Northern Monkshood (*Aconitum noveboracense*)	**Listing Status**: Threatened	**Effect Determination** (Completed by ODOT-OES): No Effect

Suitable Habitat Description: Northern monkshood is typically found on shaded to partially shaded cliffs, algific talus slopes, or on cool, streamside sties. The areas have cool soil conditions, cold air drainage, or cold groundwater flowage. On algific slopes, these conditions are caused by the outflow of air and water from ice contained in underground fissures (USFWS, 2018).

Discussion Including Impacts to Suitable Habitat: No northern monkshood habitat was observed within the study area. The study area is located entirely within the right-of-way. Impacts to northern monkshood habitat are not expected.

Species Name: Eastern Massasauga (*Sistrurus catenatus*)	**Listing Status**: Threatened	**Effect Determination** (Completed by ODOT-OES): No Effect

Suitable Habitat Description: Eastern massasaugas typically live in wet areas, including wet prairies, marshes, and low areas along rivers and lakes. In many areas, massasaugas also use adjacent uplands during part of the year. They often hibernate in crayfish burrows, but may also be found under logs or in small mammal burrows (USFWS, 2018).

Discussion Including Impacts to Suitable Habitat: No eastern massasauga habitat was observed within the study area. The wetlands located within the study area do not contain suitable habitat for the eastern massasauga due to the sloped nature of the wetlands and/or lack of suitable adjacent upland habitat. Impacts to eastern massasauga habitat are not expected. The study area is not located within an eastern massasauga range polygon.

Additional Information:

STATE LISTED SPECIES

List all of the endangered, threatened, and potentially threatened species records from the Ohio Natural Heritage Database for any animal species located within 1 mile of the project, and any plant species records within 0.5 mile of the project.
Note the date of the ONHDB check: 02/21/2019

- Eastern box turtle (*Terrapene carolina*)
- Iowa darter (*Etheostoma exile*)
- Spotted turtle (ODOT OES noted that in addition to the records found during the ODNR NHDB check, the project is located within 1 mile of a spotted turtle polygon border).

No plant records were located within 0.5 mile of the project area; however, the following records exist approximately 1 mile southwest of the project area:

- Carolina catchfly (*Silene caroliniana ssp. Pensylvanica*)
- American reed grass (*Phragmites australis ssp. Americanus*)
- Bebb's sedge (*Carex bebbii*)
- Autumn willow (*Salix serissima*)
- Canada frostweed (*Crocanthemum canadense*)
- Blue-leaved willow (*Salix myricoides*)

List all of the state endangered and threatened species of animals that are of concern to the Ohio Division of Wildlife that are known or suspected of being within the county. Do not include species that have already been included in the Federally Listed Species Table.

- Spotted turtle (*Clemmys guttata*)
- American bittern (*Botaurus lentiginosus*)

List the state listed species that are noted above for which there is no suitable habitat within construction limits of the project area. ⓘ

- Iowa darter
- American bittern
- Spotted turtle
- Eastern box turtle

In the table below discuss any state listed species that are listed above for which there is suitable habitat within construction limits of the project area. Make an impact determination for each species based on anticipated impacts to the species and/or suitable habitats.

Additional Information: Portage Lakes SP is located within 1 mile of the project but will not be impacted.

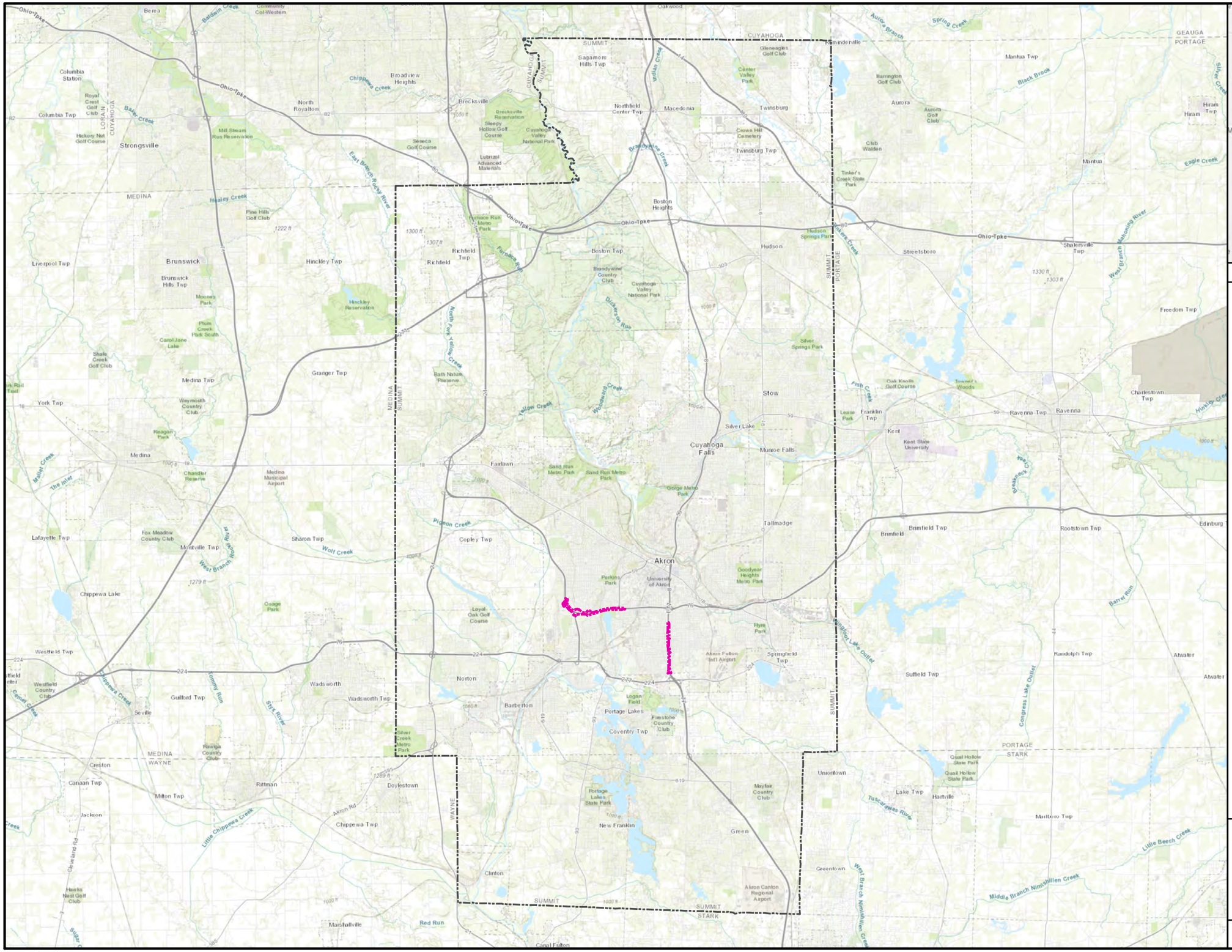
BIRDS NESTING ON BRIDGES OR CULVERTS	**Note any colony nesting birds or any peregrine falcon sightings on bridges or culverts. If evidence colony nesting birds or peregrine falcon are observed, note the structure's C-R-S and discuss the observation, including the number of nests, their locations, the species present (if known), and whether the nests will be impacted by the project activities.**
No evidence of colony nesting birds or peregrine falcons was observed.	

APPENDICES			
Appendix 1: Mapping	**Appendix 2: Photo Log**	**Appendix 3: Plans**	**Appendix 4: Forms**
☒ Topographic Map*	☒ Photo Location Map*	☒ Plan and Profile	☒ QHEI*
☒ County Map	☒ Project Photos*	☐ Bridge Detail	☒ HHEI*
☒ Aerial Photo*	☒ Bat Habitat Photos*	☐ Other	☐ HMFEI (required on all streams assessed as Class III)*
☒ Water Resource Map*	☐ Other		☒ Wetland Delineation*
☒ SWH (only required for SWH impacts beyond 100 ft. from EOP)*			☒ ORAM*
☒ Other- ODNR Map			☒ NHDB Review*
			☒ Ohio Mussel Habitat Assessment Form*
			☒ Bat Habitat Worksheets*

* Required (if applicable resource is present).

Appendix 1

Mapping



Overview of Ohio

Legend

- Study Area
- Summit County

N

0 1 2 4 6 Miles

SUM-IR76 / IR77
PID: 102329

Summit County Map
with an Overview of Ohio

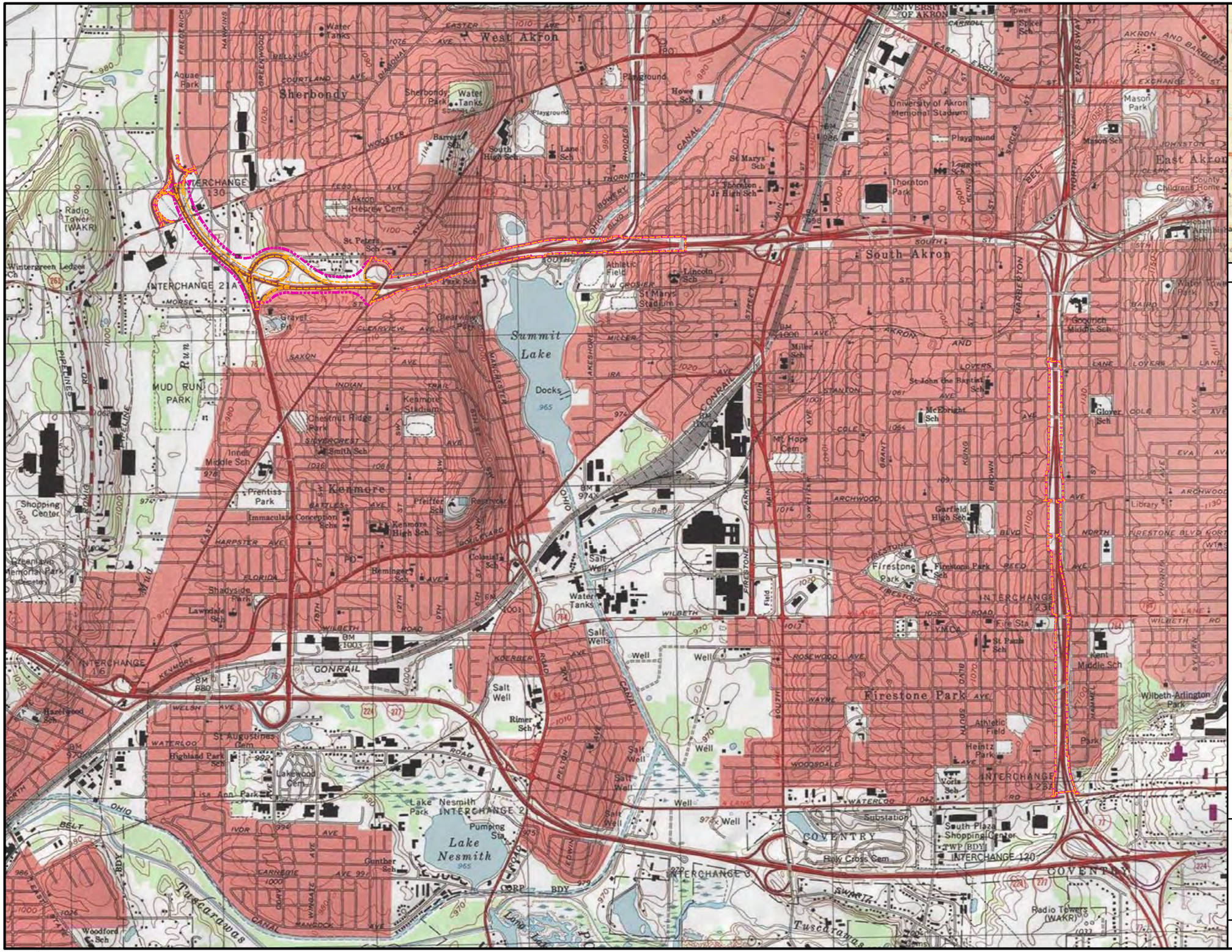
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	1

Source: Esri World Topo

File Name: 01-County.mxd

Edited: 11/25/2019 By: dwilliams



SUM-IR76 / IR77
PID: 102329

USGS Topographic Map
Akron West Quad

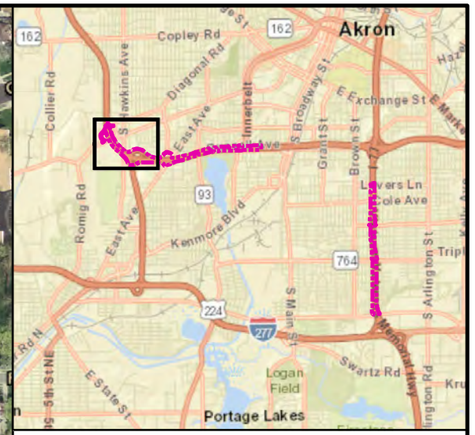
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	2

Source: Esri USA Topo

File Name: 02-Topo.mxd

Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

N

- Study Area
- Construction Limits
- Stream
- Ditch
- Wetland
- Sample Point

Bat Suitable Wooded Habitat

- within 100' EOP
- outside 100' EOP

0 100 200 400 600 Feet

SUM-IR76 / IR77
PID: 102329

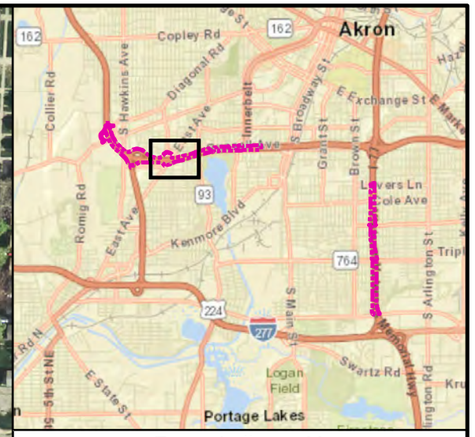
Ecological Resources Map

Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-a

Source: OSIP

File Name: 03-Eco.mxd Edited: 11/25/2019 By: dwilliams



Legend

N

- Study Area
- Construction Limits
- Sample Point

Bat Suitable Wooded Habitat

- within 100' EOP
- outside 100' EOP

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

Ecological Resources Map

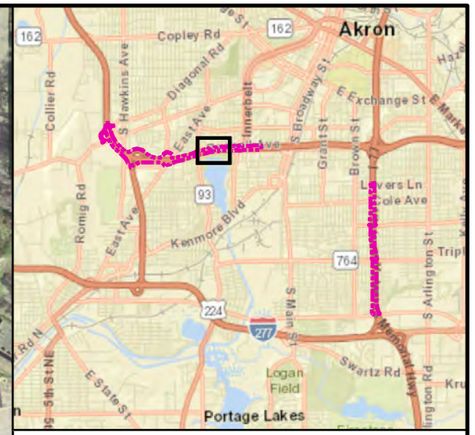
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-b

Source: OSIP

File Name: 03-Eco.mxd

Edited: 11/25/2019 By: dwilliams



Legend

N

- Study Area
- Construction Limits
- Stream
- Wetland
- Sample Point

0 100 200 Feet

SUM-IR76 / IR77
PID: 102329

Ecological Resources Map

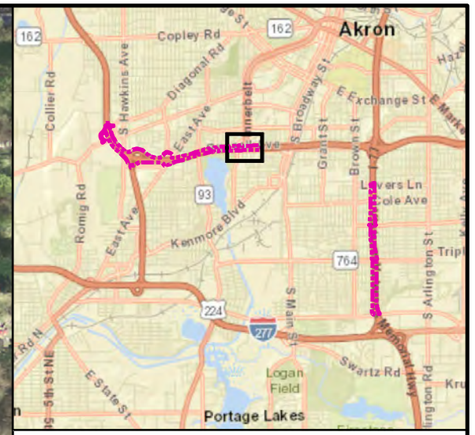
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-c

Source: OSIP

File Name: 03-Eco.mxd

Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

N

- Study Area
- Construction Limits
- Stream
- Wetland
- Sample Point

Bat Suitable Wooded Habitat

- within 100' EOP

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

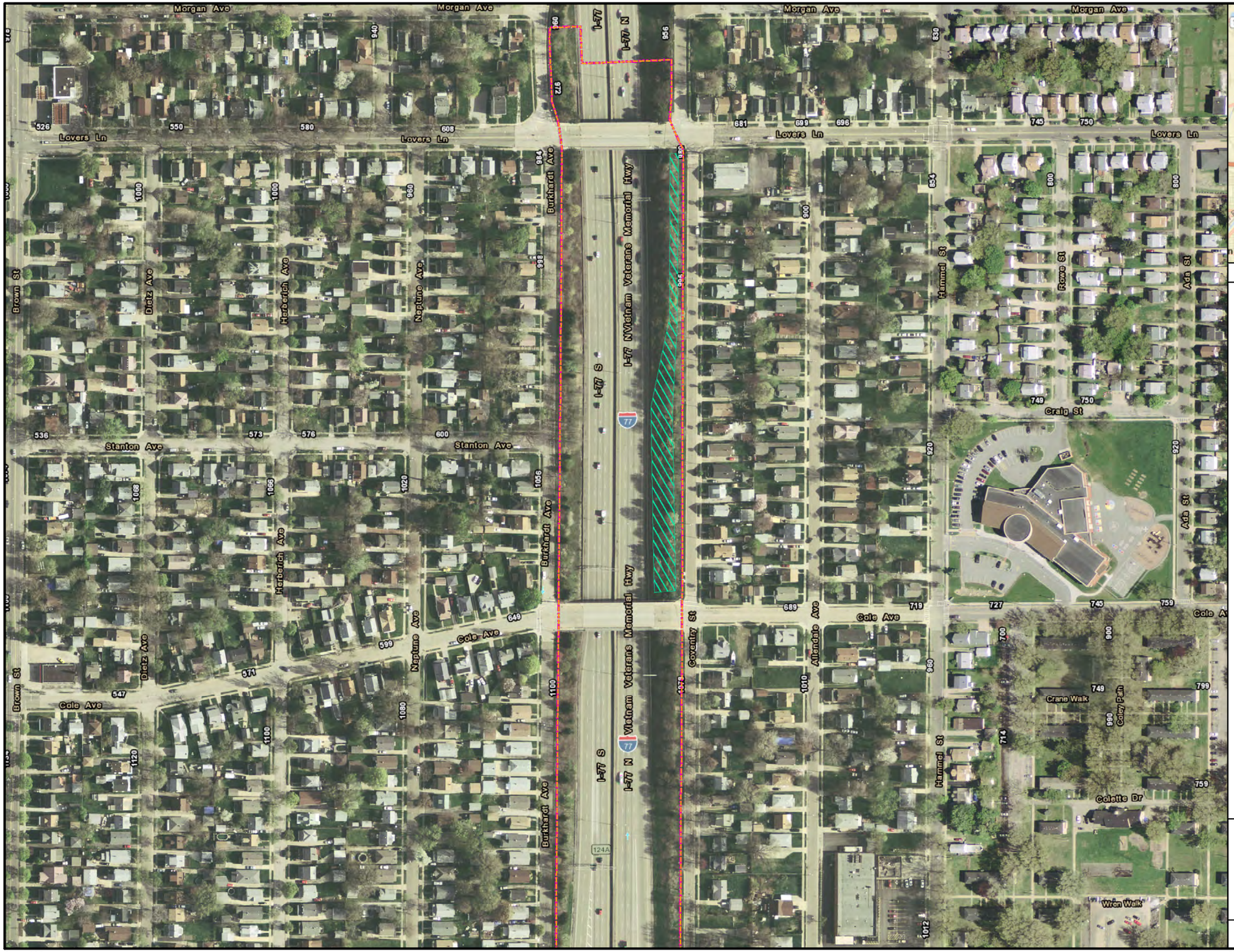
Ecological Resources Map

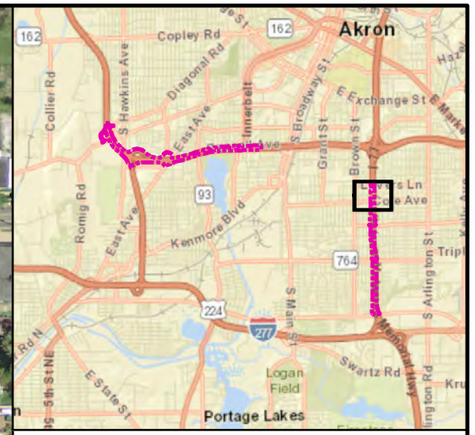
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-d

Source: OSIP

File Name: 03-Eco.mxd Edited: 11/25/2019 By: dwilliams





Extent Indicator Map

Legend

N

- Study Area
- Construction Limits

Bat Suitable Wooded Habitat

- within 100' EOP

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

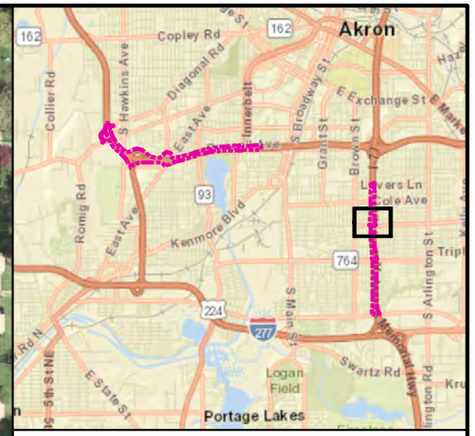
Ecological Resources Map

Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-e

Source: OSIP

File Name: 03-Eco.mxd Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

N

- Study Area
- Construction Limits
- Wetland
- Sample Point

Bat Suitable Wooded Habitat

- within 100' EOP

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

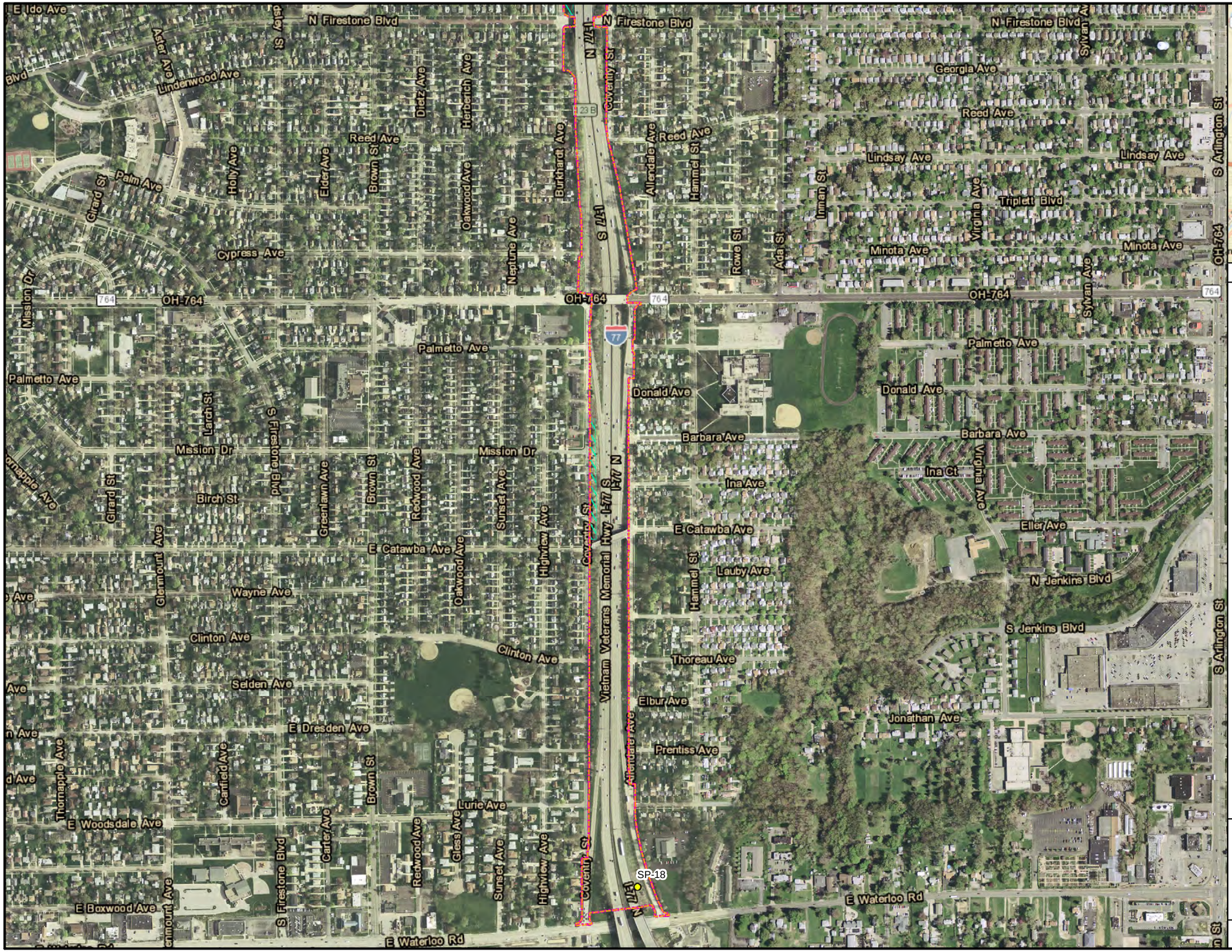
Ecological Resources Map

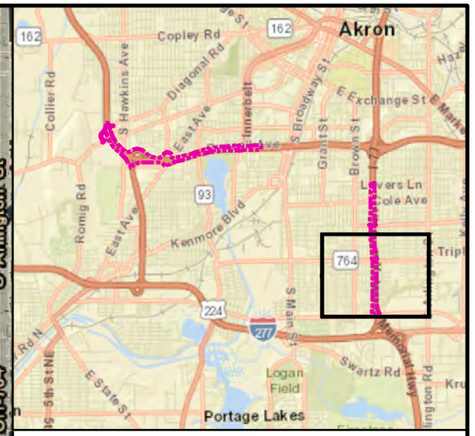
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-f

Source: OSIP

File Name: 03-Eco.mxd Edited: 11/25/2019 By: dwilliams





Extent Indicator Map

Legend

N

- Study Area
- Construction Limits
- Sample Point

Bat Suitable Wooded Habitat

- within 100' EOP

0 100 200 400 600 800 1,000 1,200 Feet

SUM-IR76 / IR77
PID: 102329

Ecological Resources Map

Lawhon & Associates, Inc

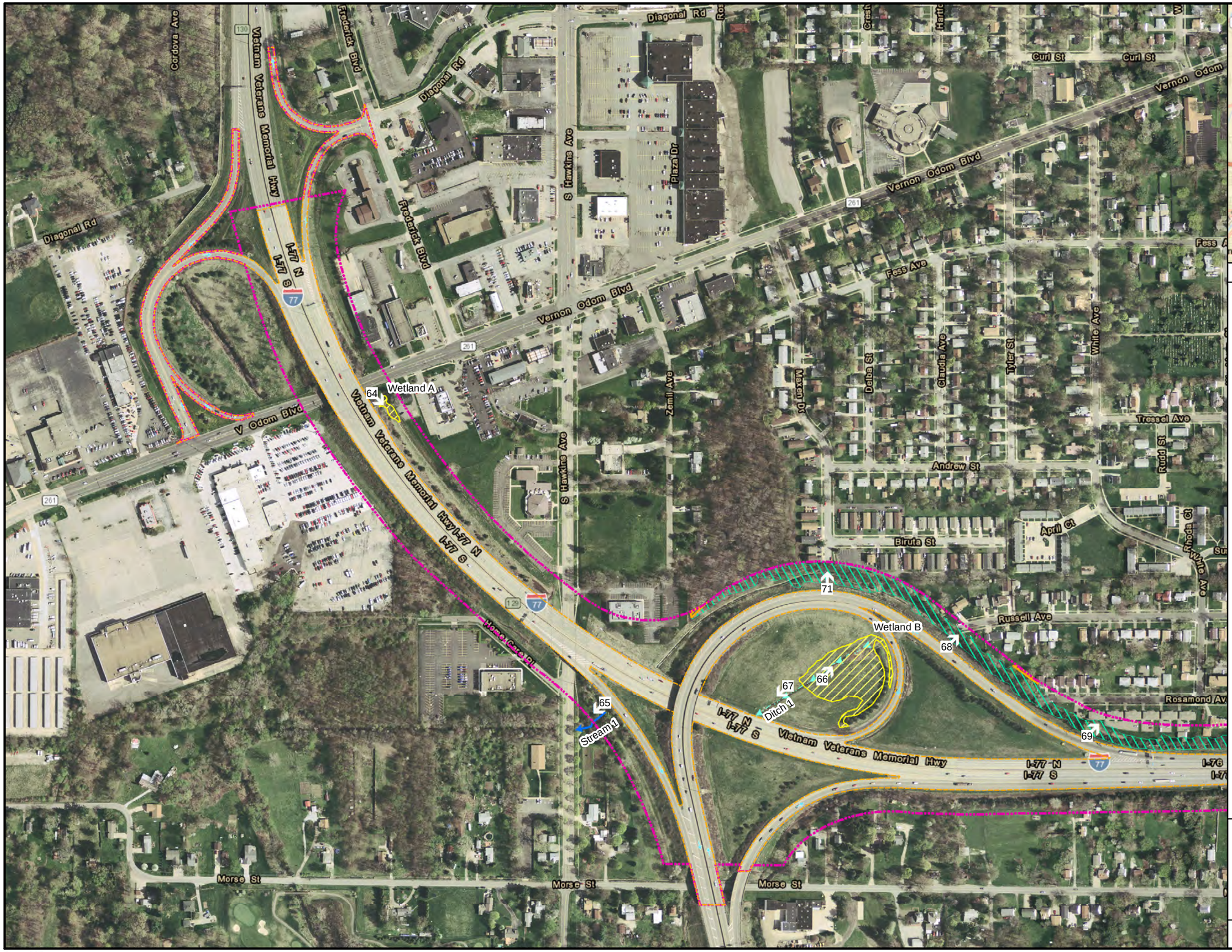
Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	3-g

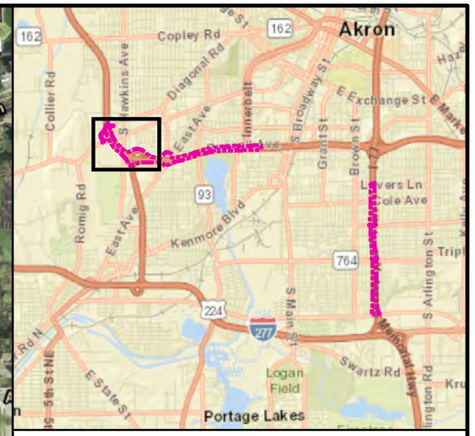
Source: OSIP

File Name: 03-Eco.mxd Edited: 11/25/2019 By: dwilliams

Appendix 2

Photo Log





Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location
- Stream
- Ditch
- Wetland

Bat Suitable Wooded Habitat

- within 100' EOP
- outside 100' EOP

N

0 100 200 400 600 800 Feet

SUM-IR76 / IR77
PID: 102329

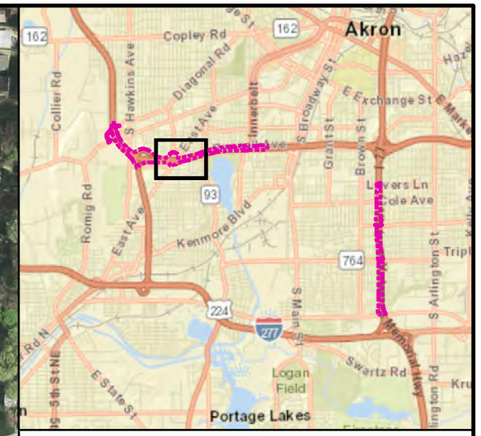
Photograph Location Map

Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-a

Source: OSIP

File Name: 04-Photos.mxd Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location (#)

Bat Suitable Wooded Habitat

- within 100' EOP
- outside 100' EOP

N

0 100 200 400 600 Feet

SUM-IR76 / IR77
PID: 102329

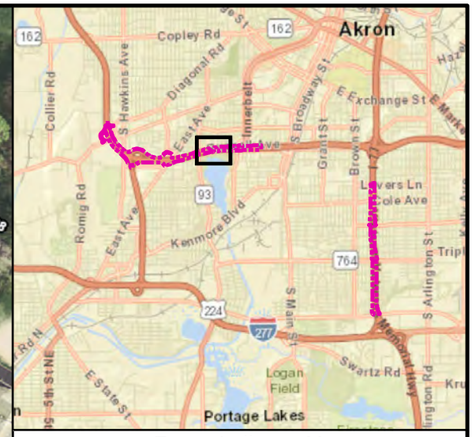
Photograph Location Map

Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-b

Source: OSIP

File Name: 04-Photos.mxd Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location (#)
- Stream
- Wetland

N

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

Photograph Location Map

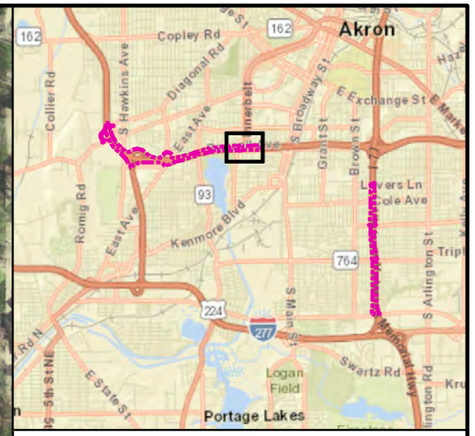
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-c

Source: OSIP

File Name: 04-Photos.mxd

Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location (#)
- Stream
- Wetland

Bat Suitable Wooded Habitat

- within 100' EOP

N

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

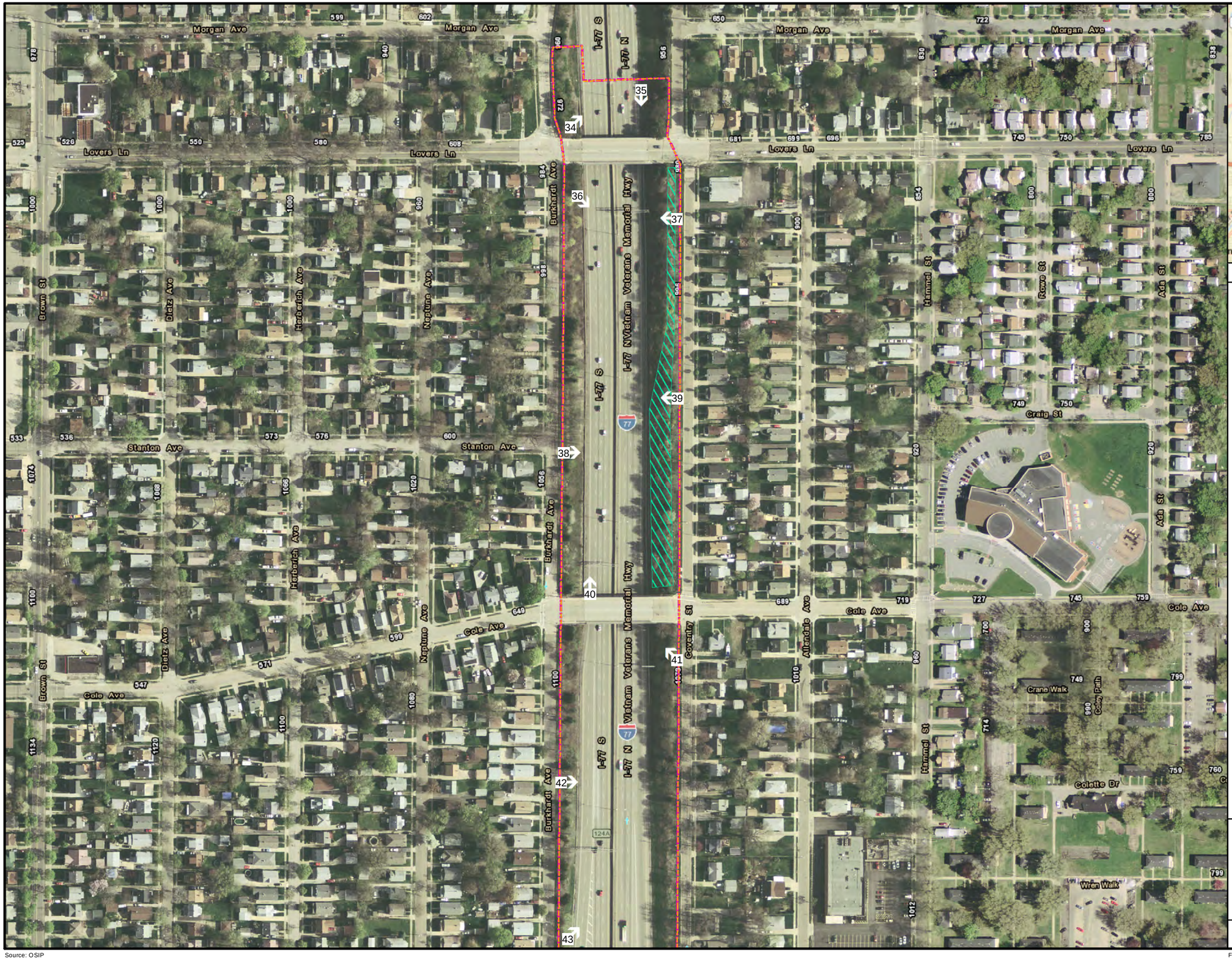
Photograph Location Map

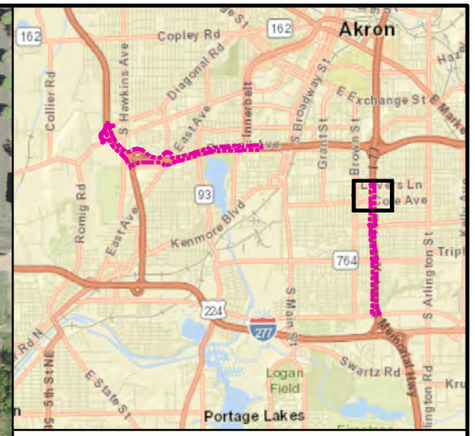
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-d

Source: OSIP

File Name: 04-Photos.mxd Edited: 11/25/2019 By: dwilliams





Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location (#)

Bat Suitable Wooded Habitat

- within 100' EOP

N

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

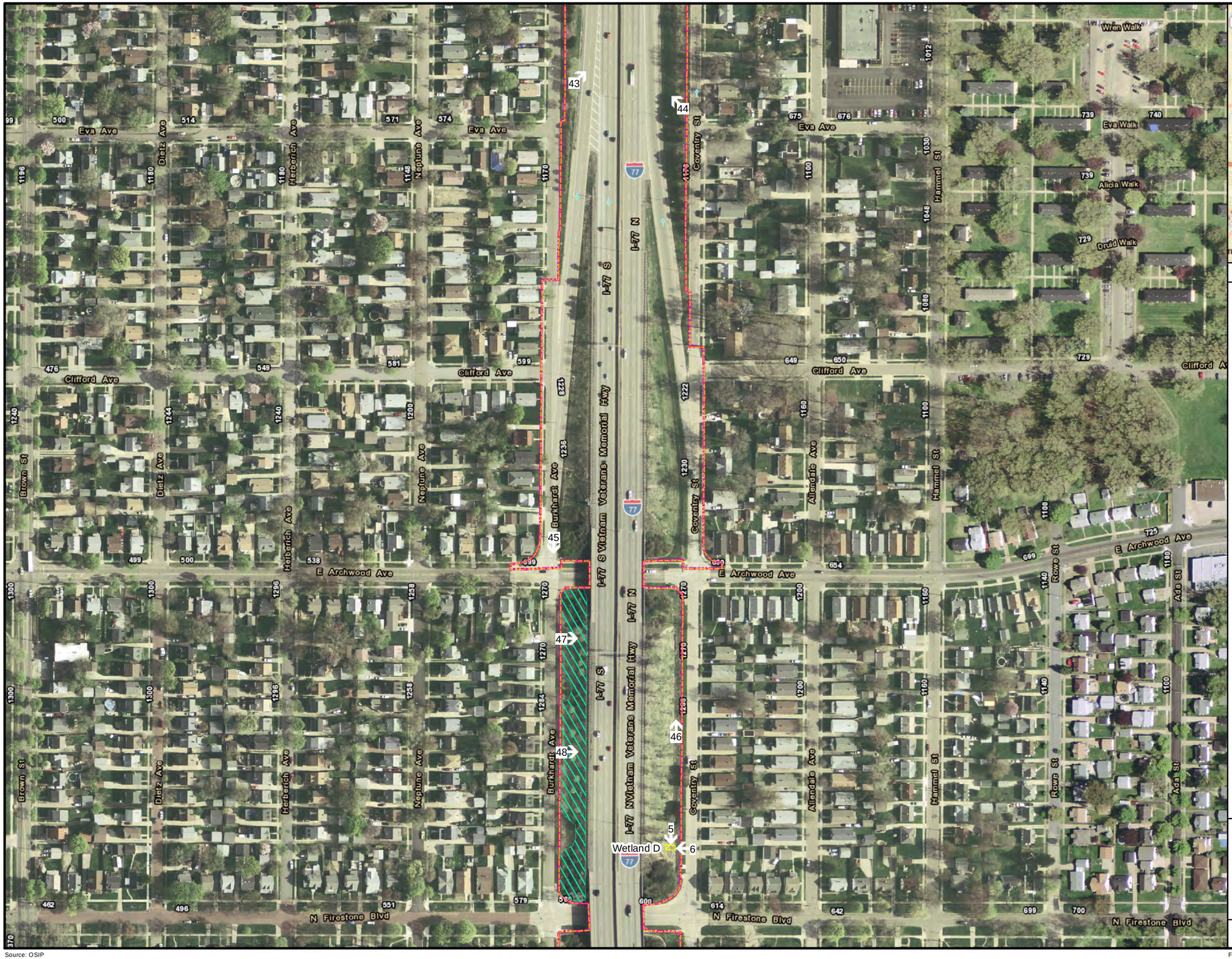
Photograph Location Map

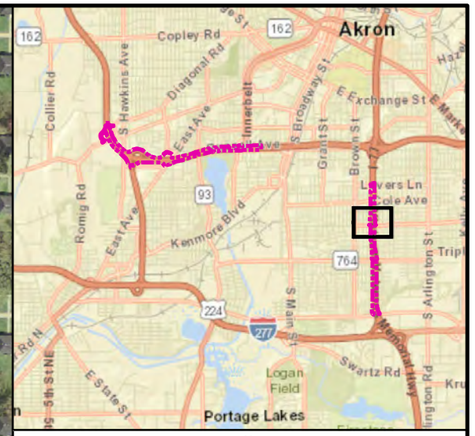
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-e

Source: OSIP

File Name: 04-Photos.mxd Edited: 11/25/2019 By: dwilliams





Legend

- Study Area
- Construction Limits
- Photo Location
- Wetland

Bat Suitable Wooded Habitat

- within 100' EOP

N

0 100 200 400 Feet

SUM-IR76 / IR77
PID: 102329

Photograph Location Map

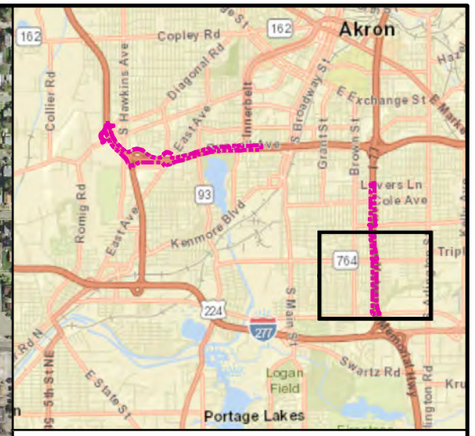
Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-f

Source: OSIP

File Name: 04-Photos.mxd

Edited: 11/25/2019 By: dwilliams



Extent Indicator Map

Legend

- Study Area
- Construction Limits
- Photo Location (#)
- Wetland

Bat Suitable Wooded Habitat

- within 100' EOP

N

0 100 200 400 600 800 1,000 1,200 Feet

SUM-IR76 / IR77
PID: 102329

Photograph Location Map

Lawhon & Associates, Inc

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	4-g

Source: OSIP

File Name: 04-Photos.mxd

Edited: 11/25/2019 By: dwilliams

Photograph 1:

View of in-fied.

Direction:

West

Photograph 2:

View of Wetland BB.

Direction:

North

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 3:

View of Wetland C.

Direction:

East

Photograph 4:

View of Wetland C.

Direction:

South

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 5

View of Wetland D.

Direction:

South

Photograph 6:

View of Wetland D.

Direction:

West

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 7:

Upstream view of Ohio and Erie Canal from within the study area.

Direction:

Southwest

Photograph 8:

Downstream view of Ohio and Erie Canal from within the study area.

Direction:

Northeast

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 9:

Upstream view of Ohio and Erie Canal from the bank located within the study area.

Direction:

South

Photograph 10:

Off-ramp of IR 76 WB.

Direction:

West

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 11:

View of in-field.

Direction:

South

Photograph 12:

View of East Avenue bridge crossing IR 76.

Direction:

Southwest

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 13:

View of on-ramp to IR 76 EB.

Direction:

Northeast

Photograph 14:

View of on-ramp to IR 76 EB from East Avenue.

Direction:

Southwest

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 15:

View of IR 76.

Direction:

North

Photograph 16:

View of IR 76 from the south side of the road.

Direction:

West

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 17:

View of East Avenue Bridge from north side of IR 76.

Direction:

Southwest

Photograph 18:

View of shrub/scrub community adjacent to IR 76 roadway.

Direction:

North

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 19:

View of suitable wooded habitat (SWH).

Direction:

North

Photograph 20:

View of shrub/scrub community.

Direction:

Northeast

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 21:

View of pedestrian bridge.

Direction:

Northwest

Photograph 22

View of IR 77.

Direction:

Northeast

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 23:

View of shrub /scrub community.

Direction:

North

Photograph 24:

View of SWH.

Direction:

East

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 25

View of SWH along IR 76.

Direction:

South

Photograph 26:

View of developed open space (DS) vegetative community.

Direction:

East

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 27:

View of DS vegetative community.

Direction:

West

Photograph 28:

View of trail along the Ohio Canal.

Direction:

Northeast

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 29:

View of IR 76 on-ramp.

Direction:

East

Photograph 30:

View of Princeton Street bridge over IR 76 and surrounding SWH.

Direction:

Northeast

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 31:

View of SWH south of IR 76.

Direction:

Southwest

Photograph 32:

View of SWH.

Direction:

West

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 33:

View of IR 76.

Direction:

Northeast

Photograph 34:

View of IR 77.

Direction:

Northeast

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 35:

View of Lovers Lane bridge over IR 77.

Direction:

South

Photograph 36:

View of IR 77.

Direction:

Southeast

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 37:

View of SWH.

Direction:

West

Photograph 38:

View of upland forest (UF) community.

Direction:

East

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 39:

View of SWH.

Direction:

West

Photograph 40:

View of IR 77 from overpass.

Direction:

North

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 41:

View of UF community

Direction:

Northwest

Photograph 42:

View of UF community.

Direction:

East

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 43:

View of IR 77.

Direction:

Northeast

Photograph 44:

View of UF community.

Direction:

Northwest

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 45:

View of Burkhardt Avenue at Archwood Avenue.

Direction:

South

Photograph 46:

View of DS community.

Direction:

North

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Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 47:

View of clearing in UF community containing SWH.

Direction:

East

Photograph 48:

View of SWH.

Direction:

East

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 49:

View of DS community.

Direction:

Northeast

Photograph 50:

View of IR 77 off-ramp.

Direction:

Southeast

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 51:

View of IR 77.

Direction:

Northeast

Photograph 52:

View of DS community.

Direction:

North

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 53:

View of ROW.

Direction:

North

Photograph 54:

View of IR 77 from median.

Direction:

North

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 55:

View of ROW.

Direction:

North

Photograph 56:

View of IR 77.

Direction:

East

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SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 57:

View of UF community.

Direction:

Northeast

Photograph 58:

View of UF community.

Direction:

North

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 59:

View of ROW.

Direction:

Northeast

Photograph 60:

View of ROW.

Direction:

North

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 61:

View of IR 77.

Direction:

West

Photograph 62:

View of DS community.

Direction:

South

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 63:

View of IR 77.

Direction:

Southwest

Lawhon & Associates, Inc.

SUM-76/77-8.42/9.77 PID: 102329
Summit County, Ohio
L&A Project Number 18-0568

Photographs taken by Lawhon & Associates, Inc.
June 2019

Photograph 64. View showing Wetland A.

Photograph 65. View facing downstream towards the lower reach of Stream 1.

Photograph 66. View showing Wetland B.

Photograhp 67. View facing downstream towards Ditch 1.

Photo 68 – Suitable Wooded Habitat looking northeast

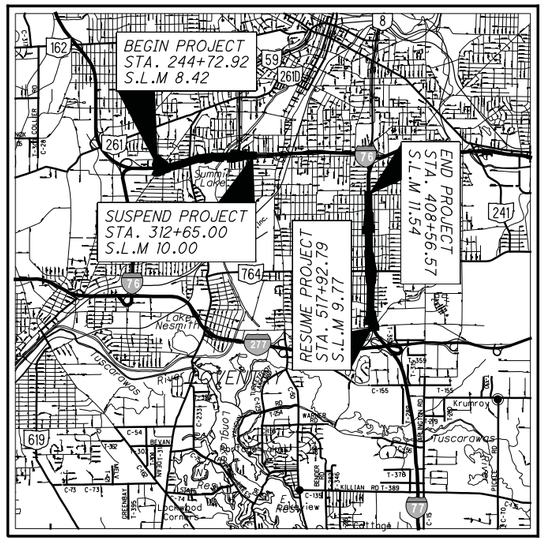
Photo 69 – Suitable Wooded Habitat looking northeast

Photo 70 – Suitable Wooded Habitat looking northeast

Photo 71– Suitable Wooded Habitat looking north

Appendix 3

Plans



LOCATION MAP

LATITUDE: 41° 03′ 43″ LONGITUDE: 81° 30′ 17″

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

FEDERAL ROUTES

STATE ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

DESIGN DESIGNATION

SEE SHEET 2

NHS PROJECT ..... *YES*

DESIGN EXCEPTIONS

INSIDE SHOULDER WIDTH

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

SUM-76-8.42
SUM-77-9.77

CITY OF AKRON

SUMMIT COUNTY

INDEX OF SHEETS:

TITLE SHEET	*1*
DESIGN DESIGNATIONS	*2*
SCHEMATIC PLAN - I.R. 76	*3-5*
SCHEMATIC PLAN - I.R. 77	*6-9*
STATION EQUATIONS	*10*
TYPICAL SECTIONS - I.R. 76	*11-14*
TYPICAL SECTIONS - I.R. 77	*15-18*
TYPICAL SECTION DETAILS	*19*
GENERAL NOTES	*20*
PLAN - I.R. 76	*21-38*
PLAN - I.R. 77	*39-59*
I.R. 76 - CROSS SECTIONS	

PROJECT DESCRIPTION

PAVEMENT REPLACEMENT OVER SUM - I.R. 76 FROM S.L.M. 8.42 TO 10.00 AND SUM - 77 FROM S.L.M. 9.77 TO 11.54. COVERS THE "SOUTH LEG" AND "WEST LEG", INCLUDES REHABILITATION OF SEVERAL STRUCTURES IN THE CITY OF AKRON, SUMMIT COUNTY, OHIO.

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS **BEFORE YOU DIG.**

OHIO Utilities Protection Service

Call Before You Dig **1-800-362-2764**

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE **1-800-925-0988**

PLAN PREPARED BY:

E.L. ROBINSON ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215

www.elrobinsonengineering.com

ENGINEERS SEAL:

SIGNED:

DATE:

ENGINEERS SEAL:

SIGNED:

DATE:

STANDARD CONSTRUCTION DRAWINGS					*SUPPLEMENTAL SPECIFICATIONS*	*SPECIAL PROVISIONS*

APPROVED _____

DATE _____ *DISTRICT DEPUTY DIRECTOR*

APPROVED _____

DATE _____ *DIRECTOR, DEPARTMENT OF TRANSPORTATION*

FEDERAL PROJECT NO. **E180(428)**

PID NO. **102329**

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT **NONE**

SUM-76-8.42
SUM-77-9.77

P:\102329_SUM-76_77\Design\Roadway\Sheets\102329_GT001.dgn Sheet 3/22/2019 10:31:17 AM mlutes

CURVE 1 - I.R. 76
P.I.Sta. 252+03.64
Δ = 17° 36′ 26″ (LT)
Dc = 1° 15′ 00″
R = 4,583.66′
T = 709.88′
L = 1,408.57′
E = 54.64′
C = 1,403.03′
C.B. = N 80° 49′ 06″ E
emax = 0.032

CURVE 2 - I.R. 76
P.I.Sta. 276+45.92
Δ = 16° 06′ 37″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 810.86′
L = 1,611.02′
E = 57.09′
C = 1,605.72′
C.B. = N 80° 04′ 11″ E
emax = 0.027

CURVE 3 - RAMP L
P.I.Sta. 1+07.18
Δ = 30° 00′ 00″ (RT)
Dc = 14° 19′ 26″
R = 400.00′
T = 107.18′
L = 209.44′
E = 14.11′
C = 207.06′
C.B. = N 50° 46′ 43″ E
emax = MATCH EX.

CURVE 4 - RAMP L
P.I.Sta. 6+33.27
Δ = 8° 45′ 55″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 175.65′
L = 350.61′
E = 6.72′
C = 350.27′
C.B. = N 70° 09′ 40″ E
emax = 0.035

CURVE 5 - RAMP K
P.I.Sta. 1+02.30
Δ = 55° 56′ 20″ (LT)
Dc = 57° 17′ 45″
R = 100.00′
T = 53.10′
L = 97.63′
E = 13.22′
C = 93.80′
C.B. = S 82° 11′ 28″ E
emax = RC

CURVE 6 - RAMP J
P.I.Sta. 1+32.57
Δ = 13° 11′ 54″ (RT)
Dc = 5° 00′ 00″
R = 1,145.92′
T = 132.57′
L = 263.97′
E = 7.64′
C = 263.38′
C.B. = N 87° 09′ 35″ W
emax = 0.06

CURVE 7 - RAMP J
P.I.Sta. 5+54.77
Δ = 86° 22′ 42″ (RT)
Dc = 38° 11′ 50″
R = 150.00′
T = 140.81′
L = 226.14′
E = 55.73′
C = 205.32′
C.B. = N 4° 58′ 25″ W
emax = 0.06

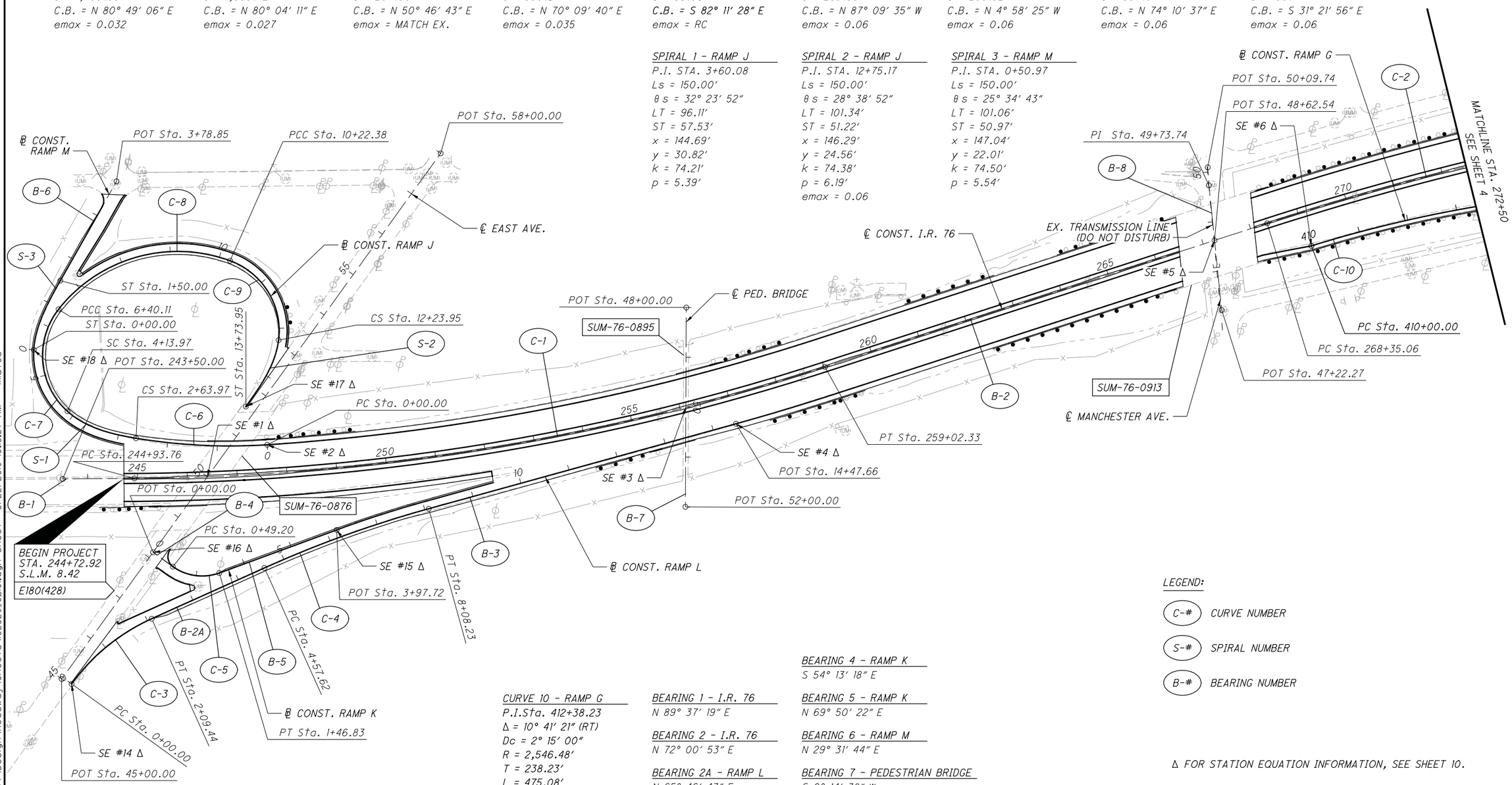
CURVE 8 - RAMP J
P.I.Sta. 8+61.05
Δ = 71° 55′ 22″ (RT)
Dc = 18° 48′ 51″
R = 304.53′
T = 220.94′
L = 382.28′
E = 71.71′
C = 357.67′
C.B. = N 74° 10′ 37″ E
emax = 0.06

CURVE 9 - RAMP J
P.I.Sta. 11+41.68
Δ = 76° 59′ 32″ (RT)
Dc = 38° 11′ 50″
R = 150.00′
T = 119.30′
L = 201.57′
E = 41.66′
C = 186.74′
C.B. = S 31° 21′ 56″ E
emax = 0.06

SPIRAL 1 - RAMP J
P.I. STA. 3+60.08
Ls = 150.00′
θ s = 32° 23′ 52″
LT = 96.11′
ST = 57.53′
x = 144.69′
y = 30.82′
k = 74.21′
p = 5.39′

SPIRAL 2 - RAMP J
P.I. STA. 12+75.17
Ls = 150.00′
θ s = 28° 38′ 52″
LT = 101.34′
ST = 51.22′
x = 146.29′
y = 24.56′
k = 74.38′
p = 6.19′
emax = 0.06

SPIRAL 3 - RAMP M
P.I. STA. 0+50.97
Ls = 150.00′
θ s = 25° 34′ 43″
LT = 101.06′
ST = 50.97′
x = 147.04′
y = 22.01′
k = 74.50′
p = 5.54′



CURVE 10 - RAMP G
P.I.Sta. 412+38.23
Δ = 10° 41′ 21″ (RT)
Dc = 2° 15′ 00″
R = 2,546.48′
T = 238.23′
L = 475.08′
E = 11.12′
C = 474.39′
C.B. = N 78° 04′ 18″ E

BEARING 1 - I.R. 76
N 89° 37′ 19″ E

BEARING 2 - I.R. 76
N 72° 00′ 53″ E

BEARING 2A - RAMP L
N 65° 46′ 43″ E

BEARING 3 - RAMP L
N 74° 32′ 39″ E

BEARING 4 - RAMP K
S 54° 13′ 18″ E

BEARING 5 - RAMP K
N 69° 50′ 22″ E

BEARING 6 - RAMP M
N 29° 31′ 44″ E

BEARING 7 - PEDESTRIAN BRIDGE
S 0° 14′ 38″ W

BEARING 8 - MANCHESTER ROAD
N 5° 51′ 52″ W

LEGEND:

C-# CURVE NUMBER

S-# SPIRAL NUMBER

B-# BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 76
BEGIN PROJECT TO STA. 272+50

SUM-76-8.42
SUM-77-9.77

3
59

P:\102329_SUM-76_77\Design\Roadway\Sheets\102329_GB101.dgn Sheet 3/22/2019 10:13:27 AM minutes

2019-03-22.PID 102329_Preliminary Plans_Not For Construction

CURVE 11 - RAMP EN
P.I.Sta. 104+13.81
Δ = 12° 21′ 58″ (RT)
Dc = 1° 30′ 00″
R = 3,819.72′
T = 413.81′
L = 824.41′
E = 22.35′
C = 822.81′
C.B. = N 84° 46′ 50″ E
emax = 0.037

CURVE 12 - RAMP EN
P.I.Sta. 110+85.56
Δ = 2° 50′ 29″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 142.10′
L = 284.14′
E = 1.76′
C = 284.11′
C.B. = N 89° 32′ 35″ E
emax = 0.027

CURVE 13 - RAMP W11
P.I.Sta. 1+00.10
Δ = 6° 00′ 02″ (LT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 100.10′
L = 200.01′
E = 2.62′
C = 199.92′
C.B. = N 85° 35′ 54″ E
emax = MATCH EX.

SPIRAL 4 - RAMP EN
P.I. STA. 121+21.45
Ls = 450.00′
θs = 18° 00′ 00″
LT = 301.57′
ST = 151.42′
x = 445.58′
y = 46.79′
k = 224.26′
p = 11.74′

SPIRAL 5 - RAMP SW
P.I. STA. 153+35.49
Ls = 500.00′
θs = 20° 00′ 00″
LT = 335.49′
ST = 168.63′
x = 493.94′
y = 57.67′
k = 248.99′
p = 14.48′

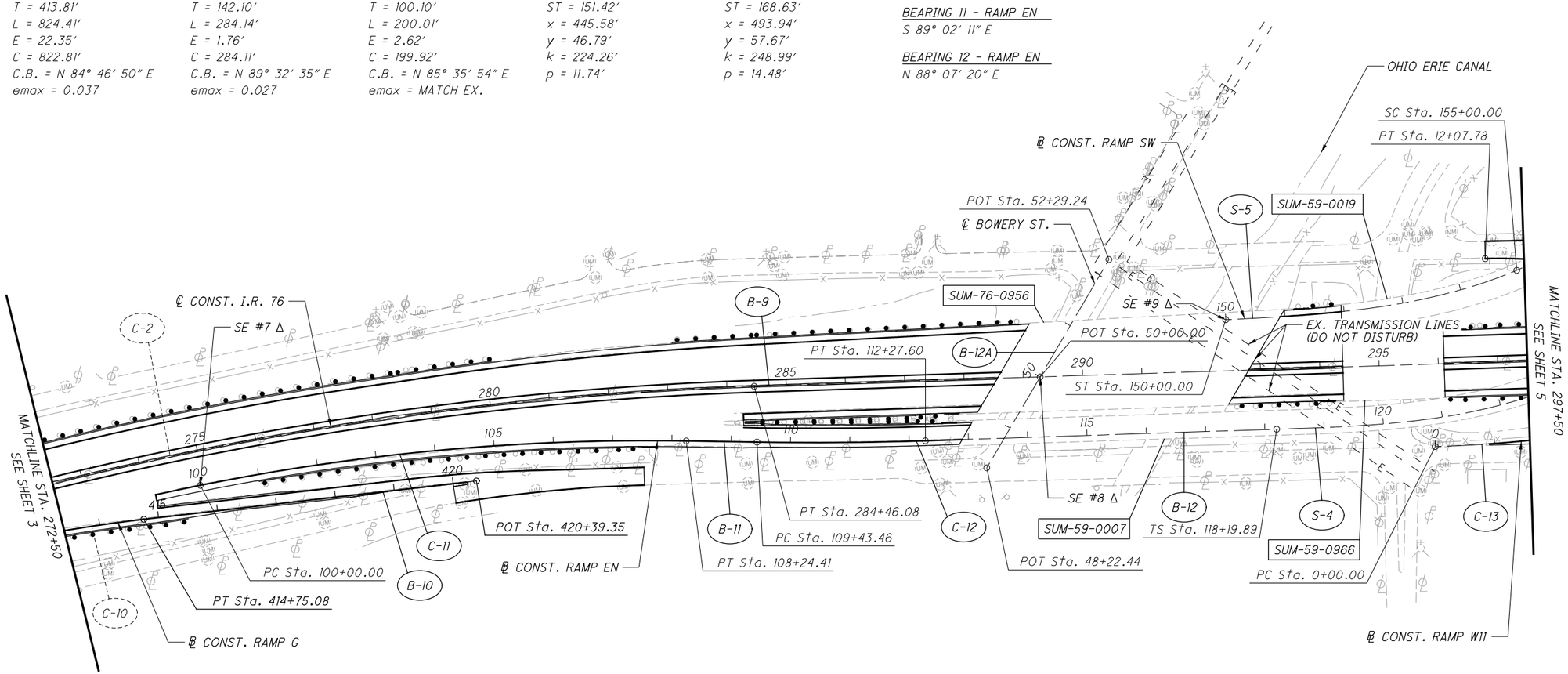
BEARING 9 - I.R. 76
N 88° 07′ 30″ E

BEARING 10 - RAMP G
N 83° 24′ 58″ E

BEARING 11 - RAMP EN
S 89° 02′ 11″ E

BEARING 12 - RAMP EN
N 88° 07′ 20″ E

BEARING 12A - BOWERY STREET
N 30° 24′ 55″ E



LEGEND:

C-# CURVE NUMBER

S-# SPIRAL NUMBER

B-# BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

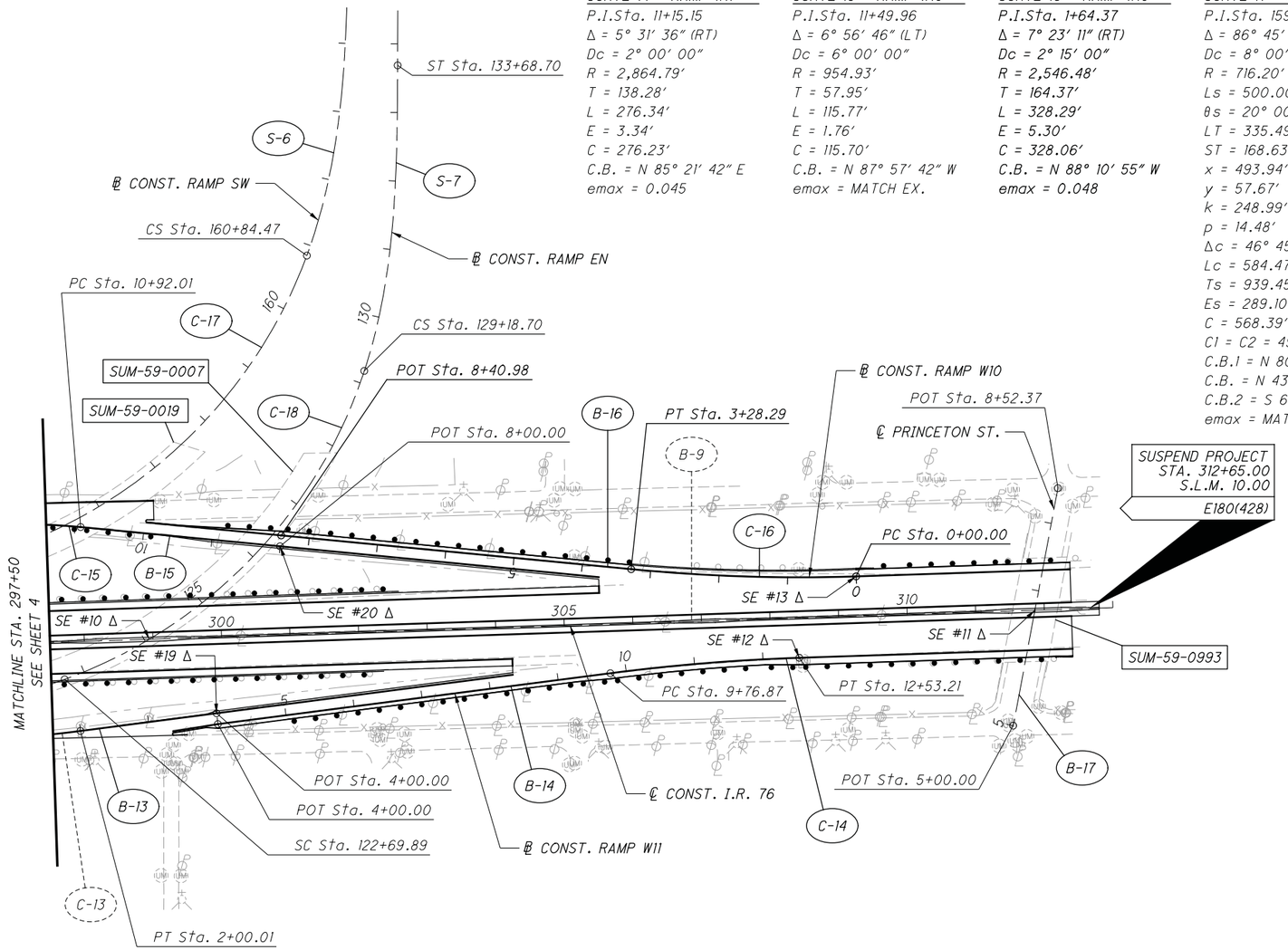
HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 76
STA. 272+50 TO STA. 297+50

SUM-76-8.42
SUM-77-9.77

P:\102329_SUM-76_77\Design\Roadway\Sheets\102329_GB02.dgn Sheet 3/22/2019 10:13:28 AM mlutes



CURVE 14 - RAMP W11
P.I.Sta. 11+15.15
Δ = 5° 31′ 36″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 138.28′
L = 276.34′
E = 3.34′
C = 276.23′
C.B. = N 85° 21′ 42″ E
emax = 0.045

CURVE 15 - RAMP W10
P.I.Sta. 11+49.96
Δ = 6° 56′ 46″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
T = 57.95′
L = 115.77′
E = 1.76′
C = 115.70′
C.B. = N 87° 57′ 42″ W
emax = MATCH EX.

CURVE 16 - RAMP W10
P.I.Sta. 1+64.37
Δ = 7° 23′ 11″ (RT)
Dc = 2° 15′ 00″
R = 2,546.48′
T = 164.37′
L = 328.29′
E = 5.30′
C = 328.06′
C.B. = N 88° 10′ 55″ W
emax = 0.048

CURVE 17 - RAMP SW
P.I.Sta. 159+39.45
Δ = 86° 45′ 28″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 500.00′
θs = 20° 00′ 00″
LT = 335.49′
ST = 168.63′
x = 493.94′
y = 57.67′
k = 248.99′
p = 14.48′
Δc = 46° 45′ 28″ (LT)
Lc = 584.47′
Ts = 939.45′
Es = 289.10′
C = 568.39′
C1 = C2 = 497.30′
C.B.1 = N 80° 21′ 17″ E
C.B. = N 43° 38′ 08″ E
C.B.2 = S 6° 54′ 59″ W
emax = MATCH EX.

CURVE 18 - RAMP EN
P.I.Sta. 127+45.94
Δ = 87° 54′ 18″ (LT)
Dc = 8° 00′ 00″
R = 716.20′
Ls = 450.00′
θs = 18° 00′ 00″
LT = 301.57′
ST = 151.42′
x = 445.58′
y = 46.79′
k = 224.26′
p = 11.74′
Δc = 51° 54′ 18″ (LT)
Lc = 648.81′
Ts = 926.06′
Es = 294.94′
C = 626.85′
C1 = C2 = 448.03′
C.B.1 = N 82° 07′ 38″ E
C.B. = N 44° 10′ 11″ E
C.B.2 = S 6° 12′ 44″ W
emax = MATCH EX.

SPIRAL 6 - RAMP SW
P.I. STA. 162+53.10
Ls = 500.00′
θs = 20° 00′ 00″
LT = 335.49′
ST = 168.63′
x = 493.94′
y = 57.67′
k = 248.99′
p = 14.48′

SPIRAL 7 - RAMP EN
P.I. STA. 130+70.12
Ls = 450.00′
θs = 18° 00′ 00″
LT = 301.57′
ST = 151.42′
x = 445.58′
y = 46.79′
k = 224.26′
p = 11.74′

BEARING 13 - RAMP W11
N 82° 35′ 53″ E

BEARING 14 - RAMP W11
N 82° 35′ 53″ E

BEARING 15 - RAMP W10
N 84° 29′ 19″ W

BEARING 16 - RAMP W10
N 84° 29′ 19″ W

BEARING 17 - PRINCETON STREET
N 10° 39′ 11″ E

LEGEND:

C-# CURVE NUMBER

S-# SPIRAL NUMBER

B-# BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

N

0 50 100 200
HORIZONTAL SCALE IN FEET

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 76
STA. 297+50 TO SUSPEND PROJECT

SUM-76-8.42
SUM-77-9.77

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CURVE 19 - I.R. 77 (NB)
P.I.Sta. 517+44.70
Δ = 41° 57′ 59″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 878.98′
L = 1,678.66′
E = 162.78′
C = 1,641.39′
C.B. = N 20° 44′ 44″ W
emax = 0.081 (MATCH EX.)

CURVE 20 - I.R. 77 (SB)
P.I.Sta. 515+02.25
Δ = 41° 57′ 59″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 1,098.73′
L = 2,098.32′
E = 203.47′
C = 2,051.73′
C.B. = N 20° 44′ 44″ W
emax = 0.064 (MATCH EX.)

CURVE 21 - RAMP S11
P.I.Sta. 4+54.84
Δ = 16° 48′ 40″ (RT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 338.66′
L = 672.45′
E = 24.89′
C = 670.04′
C.B. = N 14° 22′ 02″ W
emax = MATCH EX.

CURVE 22 - RAMP S11
P.I.Sta. 13+32.91
Δ = 6° 11′ 58″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 155.14′
L = 309.97′
E = 4.20′
C = 309.82′
C.B. = N 2° 51′ 43″ W
emax = 0.045

CURVE 23 - RAMP S12
P.I.Sta. 1+12.20
Δ = 4° 29′ 09″ (RT)
Dc = 2° 00′ 00″
R = 2,864.79′
T = 112.20′
L = 224.29′
E = 2.20′
C = 224.23′
C.B. = S 2° 28′ 51″ W
emax = 0.045

BEARING 18 - I.R. 77 (SB)
N 0° 25′ 40″ W

BEARING 19 - I.R. 77 (NB)
N 0° 35′ 43″ W

BEARING 20 - I.R. 77
N 0° 14′ 16″ E

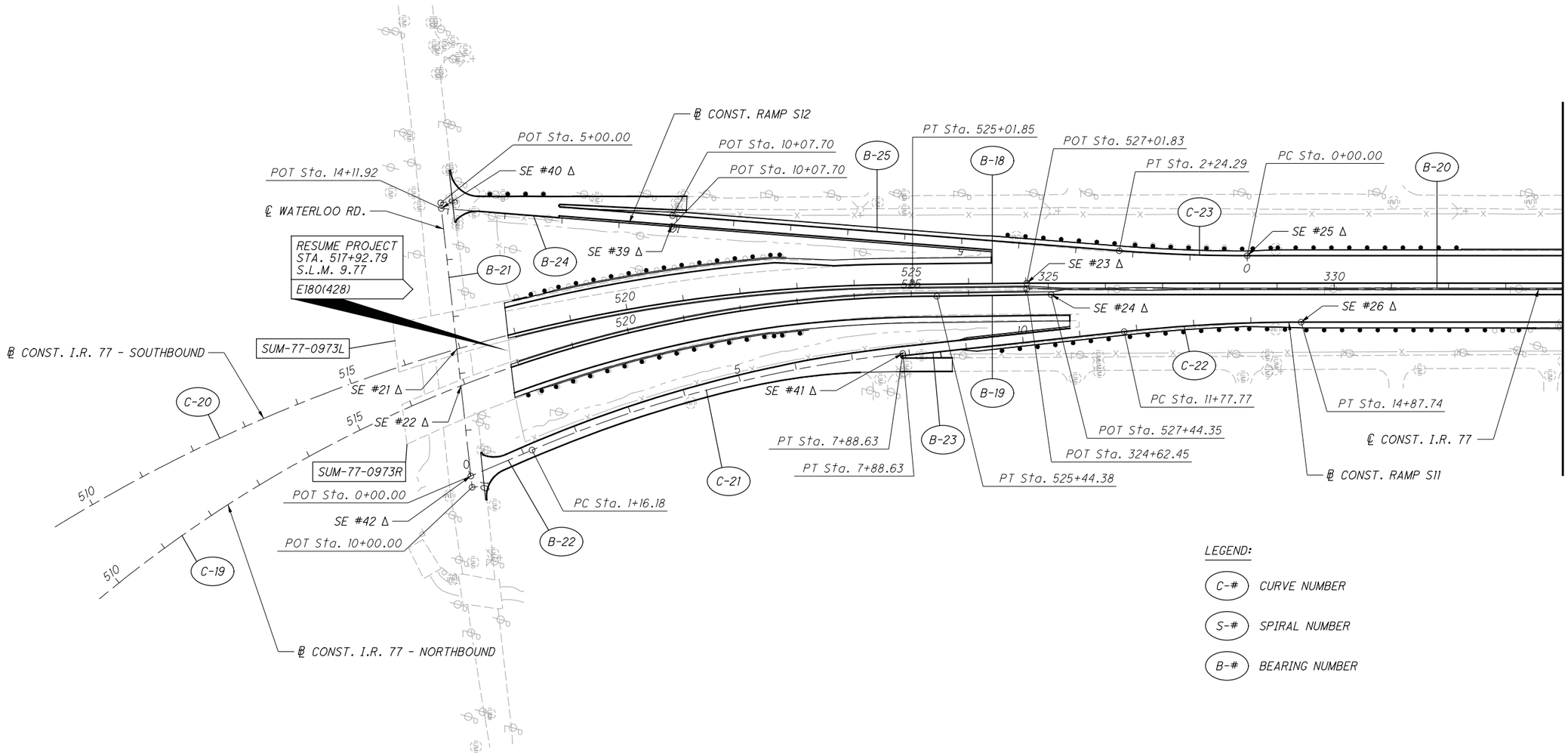
BEARING 21 - WATERLOO ROAD
N 83° 56′ 01″ E

BEARING 22 - RAMP S11
N 22° 46′ 22″ W

BEARING 23 - RAMP S11
N 5° 57′ 42″ W

BEARING 24 - RAMP W10
S 4° 43′ 25″ W

BEARING 25 - RAMP W10
S 4° 43′ 25″ W



LEGEND:

C-# CURVE NUMBER

S-# SPIRAL NUMBER

B-# BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 77
RESUME PROJECT TO STA. 334+00

SUM-76-8.42
SUM-77-9.77

CURVE 24 - I.R. 77
P.I.Sta. 355+29.94
Δ = 7° 43′ 16″ (LT)
Dc = 1° 28′ 15″
R = 3,895.54′
T = 262.88′
L = 524.96′
E = 8.86′
C = 524.56′
C.B. = N 3° 37′ 34″ W
emax = 0.037

CURVE 25 - RAMP S9
P.I.Sta. 0+70.10
Δ = 3° 09′ 13″ (RT)
Dc = 2° 15′ 00″
R = 2,546.48′
T = 70.10′
L = 140.17′
E = 0.96′
C = 140.15′
C.B. = N 1° 48′ 53″ E
emax = 0.048

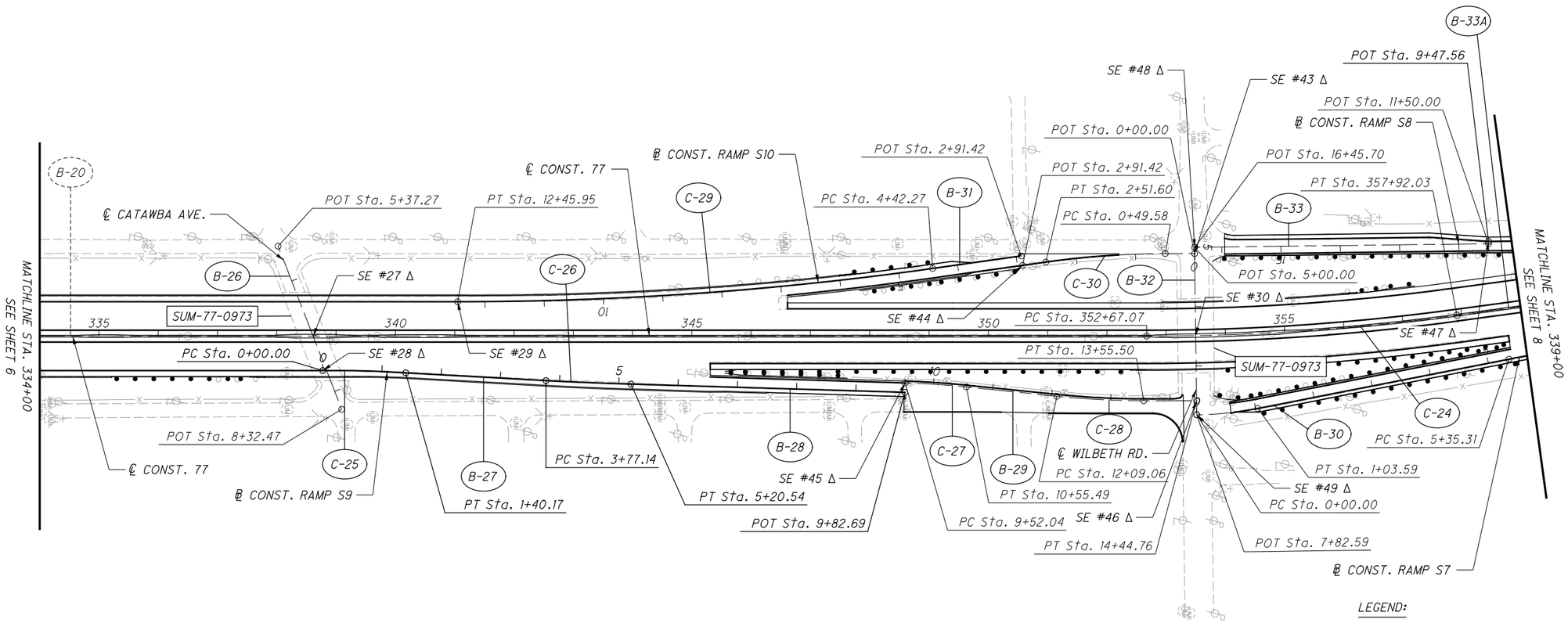
CURVE 26 - RAMP S9
P.I.Sta. 4+48.84
Δ = 1° 26′ 03″ (LT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 71.71′
L = 143.41′
E = 0.45′
C = 143.40′
C.B. = N 2° 40′ 28″ E
emax = 0.027

CURVE 27 - RAMP S9
P.I.Sta. 10+03.79
Δ = 4° 08′ 17″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 51.75′
L = 103.45′
E = 0.93′
C = 103.43′
C.B. = N 4° 01′ 35″ E
emax = MATCH EX.

CURVE 28 - RAMP S9
P.I.Sta. 12+82.34
Δ = 5° 51′ 27″ (LT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 73.28′
L = 146.44′
E = 1.87′
C = 146.38′
C.B. = N 3° 10′ 00″ E
emax = MATCH EX.

CURVE 29 - RAMP S10
P.I.Sta. 8+44.77
Δ = 8° 02′ 12″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 402.50′
L = 803.68′
E = 14.12′
C = 803.02′
C.B. = S 3° 46′ 50″ E
emax = 0.027

CURVE 30 - RAMP S10
P.I.Sta. 1+50.76
Δ = 8° 04′ 51″ (LT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 101.18′
L = 202.02′
E = 3.57′
C = 201.85′
C.B. = S 3° 45′ 31″ E
emax = MATCH EX.



LEGEND:

C-# CURVE NUMBER

S-# SPIRAL NUMBER

B-# BEARING NUMBER

BEARING 26 - CATAWBA AVENUE
N 68° 57′ 55″ E

BEARING 27 - RAMP S9
N 3° 23′ 30″ E

BEARING 28 - RAMP S9
N 1° 57′ 27″ E

BEARING 29 - RAMP S9
N 6° 05′ 44″ E

BEARING 30 - RAMP S7
N 10° 51′ 51″ W

BEARING 31 - RAMP S10
S 7° 47′ 56″ E

BEARING 32 - WILBETH ROAD
N 89° 29′ 06″ E

BEARING 33 - RAMP S8
S 0° 27′ 05″ E

BEARING 33A - I.R. 77
N 7° 29′ 12″ W

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 77
STA. 334+00 TO STA. 359+00

SUM-76-8.42
SUM-77-9.77

7
59

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CURVE 31 - I.R. 77
P.I.Sta. 369+05.21
Δ = 7° 52′ 08″ (RT)
Dc = 0° 59′ 43″
R = 5,756.02′
T = 395.88′
L = 790.52′
E = 13.60′
C = 789.90′
C.B. = N 3° 33′ 08″ W
emax = 0.027

CURVE 32 - RAMP S5
P.I.Sta. 2+38.35
Δ = 7° 45′ 51″ (LT)
Dc = 2° 30′ 00″
R = 2,291.83′
T = 155.52′
L = 310.56′
E = 5.27′
C = 310.33′
C.B. = N 3° 36′ 08″ W
emax = MATCH EX.

CURVE 33 - RAMP S8
P.I.Sta. 7+03.24
Δ = 4° 06′ 34″ (RT)
Dc = 2° 15′ 00″
R = 2,546.48′
T = 91.36′
L = 182.64′
E = 1.64′
C = 182.60′
C.B. = S 2° 30′ 22″ E
emax = 0.048

CURVE 34 - RAMP S6
P.I.Sta. 16+78.42
Δ = 4° 40′ 36″ (LT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 58.49′
L = 116.91′
E = 1.19′
C = 116.88′
C.B. = S 2° 35′ 54″ W
emax = MATCH EX.

CURVE 34A - RAMP S7
P.I.Sta. 6+94.06
Δ = 1° 35′ 15″ (RT)
Dc = 0° 30′ 00″
R = 11,459.16′
T = 158.76′
L = 317.49′
E = 1.10′
C = 317.48′
C.B. = N 10° 04′ 13″ W
emax = NC

BEARING 34 - I.R. 77
N 0° 22′ 56″ E

BEARING 35 - RAMP S5
N 0° 16′ 48″ E

BEARING 36 - RAMP S5
N 7° 29′ 03″ W

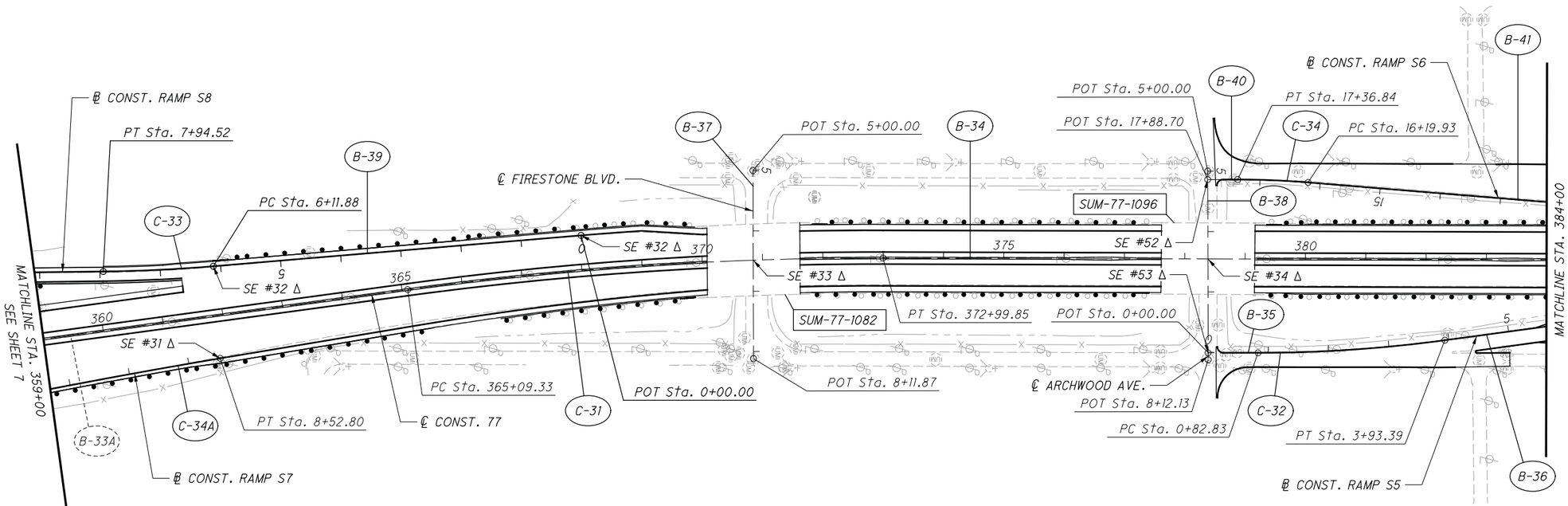
BEARING 37 - FIRESTONE BOULEVARD
S 89° 54′ 24″ E

BEARING 38 - ARCHWOOD AVENUE
S 89° 53′ 36″ E

BEARING 39 - RAMP S8
S 4° 33′ 39″ E

BEARING 40 - RAMP S6
S 0° 15′ 36″ W

BEARING 41 - RAMP S6
S 4° 56′ 12″ W



LEGEND:

- C-# CURVE NUMBER
- S-# SPIRAL NUMBER
- B-# BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED MLL
CHECKED JTW

SCHEMATIC PLAN - I.R. 77 STA. 359+00 TO STA. 384+00

SUM-76-8.42
SUM-77-9.77

8
59

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CURVE 35 - I.R. 77
P.I.Sta. 404+16.07
Δ = 2° 34′ 26″ (LT)
Dc = 0° 27′ 02″
R = 12,713.82′
T = 285.62′
L = 571.15′
E = 3.21′
C = 571.10′
C.B. = N 0° 54′ 17″ W
emax = NC

CURVE 36 - RAMP S5
P.I.Sta. 9+18.73
Δ = 6° 26′ 03″ (RT)
Dc = 3° 00′ 00″
R = 1,909.86′
T = 107.35′
L = 214.47′
E = 3.01′
C = 214.36′
C.B. = N 4° 16′ 01″ W
emax = 0.055

CURVE 37 - RAMP S6
P.I.Sta. 5+48.38
Δ = 4° 33′ 16″ (RT)
Dc = 1° 00′ 00″
R = 5,729.58′
T = 227.84′
L = 455.43′
E = 4.53′
C = 455.31′
C.B. = S 2° 39′ 34″ W
emax = 0.027

BEARING 41 - RAMP S5
N 7° 29′ 03″ W

BEARING 42 - RAMP S5
N 1° 03′ 00″ W

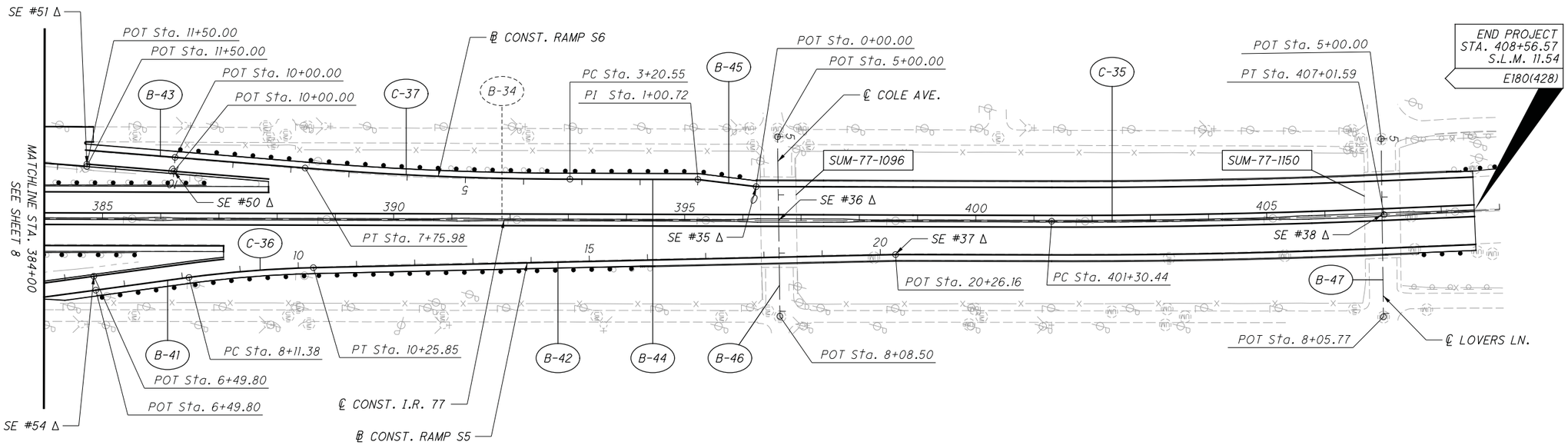
BEARING 43 - RAMP S6
S 4° 56′ 12″ W

BEARING 44 - RAMP S6
S 0° 22′ 56″ W

BEARING 45 - RAMP S6
S 7° 13′ 30″ W

BEARING 46 - COLE AVENUE
N 89° 28′ 08″ E

BEARING 47 - LOVERS LANE
N 89° 29′ 18″ E



LEGEND:

- C-# — CURVE NUMBER
- S-# — SPIRAL NUMBER
- B-# — BEARING NUMBER

Δ FOR STATION EQUATION INFORMATION, SEE SHEET 10.

*THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE PROJECT LIMITS

N

0 50 100 200 HORIZONTAL SCALE IN FEET

CALCULATED MLL CHECKED JTW

SCHEMATIC PLAN - I.R. 77
STA. 384+00 TO END PROJECT

SUM-76-8.42
SUM-77-9.77

9
59

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

TRAFFIC ENGINEERING DIVISION - CITY OF AKRON
1420 TRIPLETT BLVD., BLDG #2
AKRON, OH 44306
PHONE: (330) 375-2851
EMAIL: TRAFFIC@AKRONOHIO.GOV

AKRON SEWER - CITY OF AKRON
2460 AKRON PENINSULA RD
AKRON, OH 44313
ATTN: SCOTT DAVENPORT
PHONE: (330) 375-2769
EMAIL: SDAVENPORT@AKRONOHIO.GOV

AKRON WATER - CITY OF AKRON
146 SOUTH HIGH STREET, ROOM 211
AKRON, OH 44308
ATTN: JOE OKOLISH
PHONE: (330) 375-2690
EMAIL: JOKOLISH@AKRONOHIO.GOV

AT&T OHIO
50 W. BOWERY ST, 6TH FLOOR
AKRON, OH 44308
ATTN: LUCIE HINSHAW
PHONE: (330) 384-3048

CHARTER COMMUNICATIONS
1200 BROWNSTONE AVE
AKRON, OH 44310
ATTN: JIM LONG
PHONE: (330) 622-4106
EMAIL: JAMES.LONG@CHARTER.COM

CROWN CASTLE
15565 NEO PKWY.,
GARFIELD HEIGHTS, OH 44128
ATTN: EDWARD DALY
PHONE: (585) 397-5988
EMAIL: ED.DALY@CROWNCASTLE.COM

DOMINION ENERGY OHIO
320 SPRINGSDALE DR, SUITE 320
AKRON, OH 44333
ATTN: KEVIN BIRT
PHONE: (330) 664-2409
EMAIL: RELOCATION@DOMINIONENERGY.COM

G&O RESOURCES, LTD
96 EAST CROSIER ST
AKRON, OH 44311
PHONE: (330) 253-2525

VERIZON
120 RAVINE ST.
AKRON, OH 44303
ATTN: AL GUEST
PHONE: (330) 253-8267
EMAIL: ALLAN.GUEST@VERIZON.COM

ODOT DISTRICT 4
2088 SOUTH ARLINGTON RD
AKRON, OH 44306
ATTN: THOMAS POWELL
PHONE: (330) 786-4834
EMAIL: THOMAS.POWELL2@DOT.OHIO.GOV

OHIO EDISON/FIRST ENERGY
1910 WEST MARKET STREET, BUILDING #1
AKRON, OH 44313
ATTN: MICHAEL JANSON
PHONE: (330) 830-7092
EMAIL: JANSONM@FIRSTENERGYCORP.COM

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

CALCULATED MLL
CHECKED JTW

GENERAL NOTES

SUM-76-8.42
SUM-77-9.77

MATCHLINE STA. 5+00
SEE SHEET 36

SC Sta. 4+13.97

RAMP J

℄ CONST. RAMP J

CS Sta. 2+63.97

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

6.0'

16.0'

EX. 12" VP

3.0'

10.0'

23.0'

PC Sta. 244+93.76

EX. 12" WATER
(TO REMAIN)

ITEM 622 - CONCRETE BARRIER,
SINGLE SLOPE, TYPE B1 OR C1

36.0'

I.R. 76 (WESTBOUND)

POT Sta. 243+50.00

242 243 244 245 246

8.6'

7.1'

20.0'

50

MATCHLINE STA. 246+50
SEE SHEET 22

I.R. 76 (EASTBOUND)

℄ CONST. I.R. 76

BEGIN PROJECT
STA. 244+72.92
S.L.M. 8.42

E180(428)

36.0'

8.6'

10.0' (TYP.)

7.1'

EAST AVENUE

PT. A

10.0'

EX. 8" GAS
(TO REMAIN)

49

ITEM 606 - GUARDRAIL, TYPE MGS

℄ EAST AVENUE

EX. ELECTRIC
(TO REMAIN)

SUM-76-0876

PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 14.72'

EX. 3" GAS
(TO REMAIN)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
BEGIN PROJECT TO STA. 246+50

SUM-76-8.42
SUM-77-9.77

21
59

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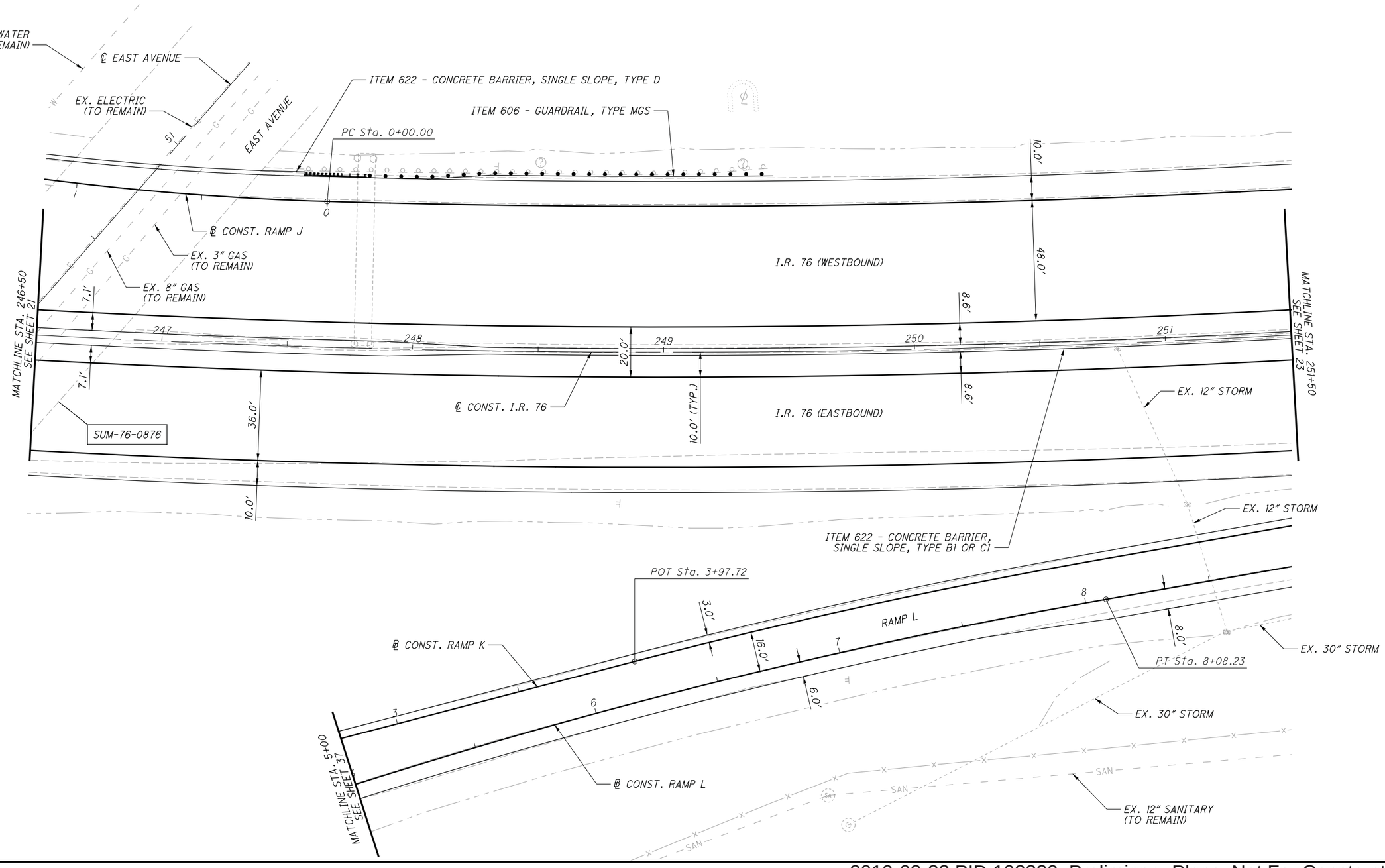

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 246+50 TO STA. 251+50

SUM-76-8.42
SUM-77-9.77

22
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 6" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. 6" WATER (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 15" V.P. (TO REMAIN)

PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 14.98'

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

PT. A

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

I.R. 76 (WESTBOUND)

MATCHLINE STA. 251+50 SEE SHEET 22

MATCHLINE STA. 256+50 SEE SHEET 24

℄ CONST. I.R. 76

I.R. 76 (EASTBOUND)

EX. 12" STORM

SUM-76-0895

RAMP L

℄ CONST. RAMP L

EX. 30" STORM

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 30" R.C.P.

EX. 30" R.C.P.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

EX. STORM

EX. 12" WATER (TO REMAIN)

EX. 12" SANITARY (TO REMAIN)

℄ PEDESTRIAN BRIDGE

EX. 12" SANITARY (TO REMAIN)

POT Sta. 52+00.00

10.0'

48.0'

8.6'

20.0'

10.0' (TYP.)

8.6'

36.0'

3.0'

10.0'

23.0'

16.0'

8.0'

6.4'

7.1'

5.0'

7.1'

5.1'

6.2'

252 253 254 255 256

9 10 11 12 13

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 76

STA. 251+50 TO STA. 256+50

SUM-76-8.42

SUM-77-9.77

23

59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. ELECTRIC (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. GAS (TO REMAIN)

SCHOOL ST.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

EX. 15" V.P.

ITEM 606 - GUARDRAIL, TYPE MGS

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 33" V.P.

EX. 6" WATER (TO REMAIN)

EX. 12" WATER (TO REMAIN)

I.R. 76 (WESTBOUND)

PT Sta. 259+02.33

EX. 8" SANITARY (TO REMAIN)

MATCHLINE STA. 256+50 SEE SHEET 23

MATCHLINE STA. 261+50 SEE SHEET 25

257 258 259 260 261

20.0'

10.0' (TYP.)

8.6'

48.0'

7.9'

10.0'

I.R. 76 (EASTBOUND)

℄ CONST. I.R. 76

POT Sta. 14+47.66

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

EX. 12" V.P.

℄ CONST. RAMP L

EX. 30" R.C.P.

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 30" R.C.P.

EX. 15" V.P.

EX. 12" SANITARY (TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 256+50 TO STA. 261+50

SUM-76-8.42
SUM-77-9.77

24
59

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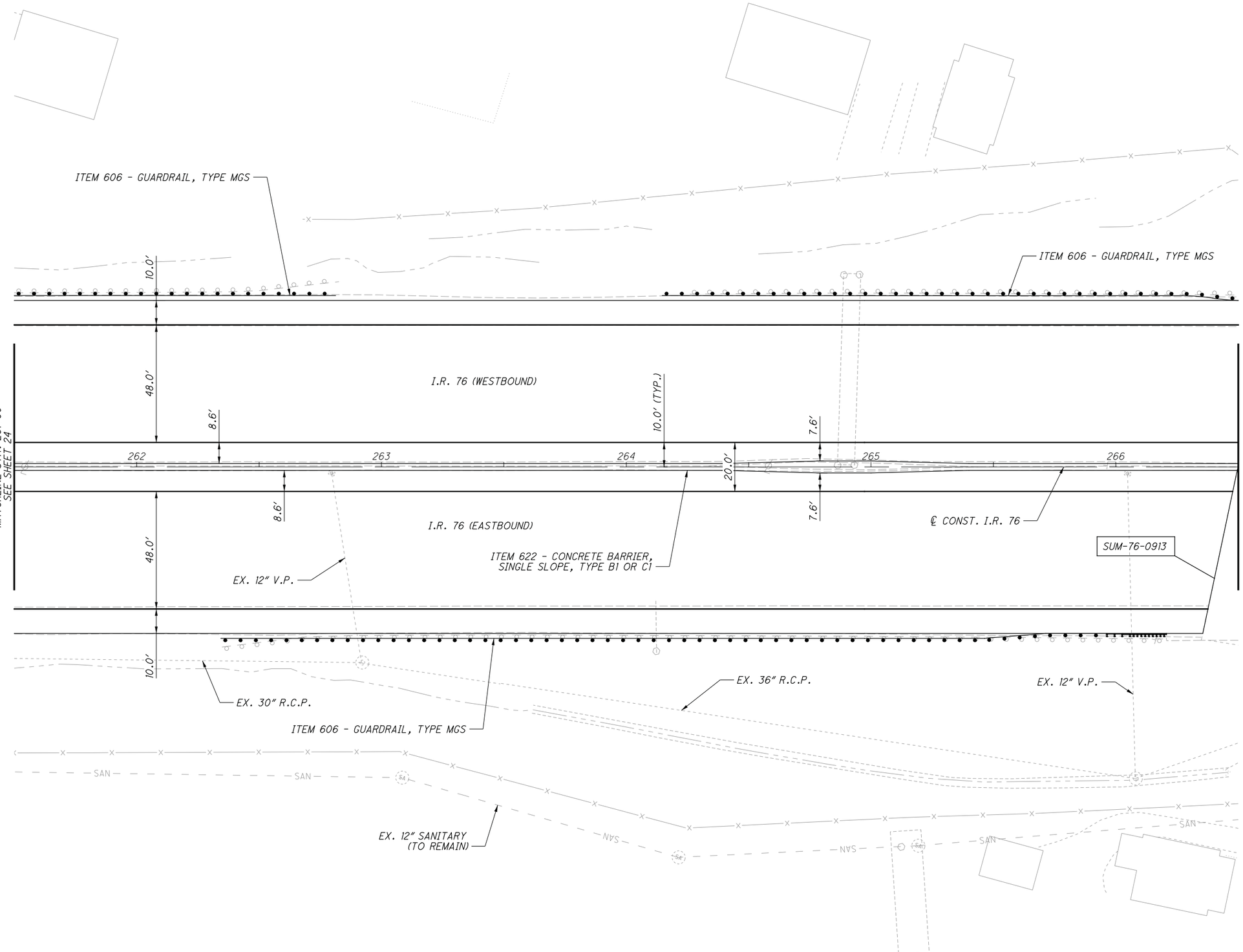

N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 261+50 TO STA. 266+50

SUM-76-8.42
SUM-77-9.77

25
59

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SLOPE REPAIR AREA

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 8" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. 24" V.P.

RUSSELL AVENUE

POT Sta. 50+09.74

PI Sta. 49+73.74

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 18" SANITARY (TO REMAIN)

EX. TRANSMISSION LINE (DO NOT DISTURB)

EX. 4" GAS (TO REMAIN)

EX. 42" STORM

EX. 10" WATER (TO REMAIN)

EX. 8" GAS (TO REMAIN)

℄ MANCHESTER ROAD

I.R. 76 (WESTBOUND)

PC Sta. 268+35.06

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

MATCHLINE STA. 266+50 SEE SHEET 25

MATCHLINE STA. 271+50 SEE SHEET 27

POT Sta. 48+62.54

MANCHESTER ROAD

I.R. 76 (EASTBOUND)

℄ CONST. I.R. 76

10.0' (TYP.)

SUM-76-0913

PC Sta. 410+00.00

℄ CONST. RAMP G

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 12" V.P.

POT Sta. 47+22.27

EX. 20" WATER (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

SOUTH STREET

10.0'

48.0'

8.6'

60.0'

8.0'

10.0'

48.0'

8.6'

10.0'

267 268 269 270 271

410 411 412

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 76
STA. 266+50 TO STA. 271+50

SUM-76-8.42
SUM-77-9.77

26
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 8" WATER (TO REMAIN)
EX. ELECTRIC (TO REMAIN)
EX. GAS (TO REMAIN)
EX. ELECTRIC (TO REMAIN)
RUSSELL AVENUE
EX. 24" V.P.
ITEM 606 - GUARDRAIL, TYPE MGS
10.0'
48.0'
EX. 12" V.P.
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1
I.R. 76 (WESTBOUND)
MATCHLINE STA. 271+50 SEE SHEET 26
MATCHLINE STA. 276+50 SEE SHEET 28
7.9'
8.6'
7.6'
8.6'
20.0'
10.0' (TYP.)
272
273
274
275
276
℄ CONST. I.R. 76
EX. 8" SANITARY (TO REMAIN)
I.R. 76 (EASTBOUND)
PC Sta. 100+00.00
℄ CONST. RAMP EN
100
101
PT Sta. 414+75.08
23.0'
3.0'
10.0'
ITEM 606 - GUARDRAIL, TYPE MGS
413
414
415
416
417
8.0'
16.0'
RAMP G
3.0'
℄ CONST. RAMP G
ITEM 606 - GUARDRAIL, TYPE MGS
EX. 12" V.P.
EX. SANITARY (TO REMAIN)
SOUTH STREET
EX. 18" V.P.
EX. 20" WATER (TO REMAIN)
EX. ELECTRIC (TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 271+50 TO STA. 276+50

SUM-76-8.42
SUM-77-9.77

27
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. ELECTRIC (TO REMAIN)
EX. GAS (TO REMAIN)
EX. 8" WATER (TO REMAIN)
RUSSELL AVENUE
EX. 30" V.P.
EX. 8" SANITARY (TO REMAIN)
EX. 12" V.P.
EX. ELECTRIC (TO REMAIN)
EX. 24" V.P.
EX. 24" V.P.
ITEM 606 - GUARDRAIL, TYPE MGS
10.0'
EX. 12" V.P.
48.0'
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1
I.R. 76 (WESTBOUND)
8.6'
7.9'
7.6'
MATCHLINE STA. 276+50 SEE SHEET 27
MATCHLINE STA. 281+50 SEE SHEET 29
276+50
277
278
279
280
281
20.0'
10.0' (TYP.)
8.8'
7.9'
7.6'
℄ CONST. I.R. 76
I.R. 76 (EASTBOUND)
℄ CONST. RAMP EN
ITEM 609 - CURB, TYPE 4-A
ITEM 606 - GUARDRAIL, TYPE MGS
102
103
104
105
106
10.0'
ITEM 609 - 4" CONCRETE MEDIAN
POT Sta. 420+39.35
16.0'
RAMP G
418
419
420
MATCH PROPOSED RAMP BUILD-UP
3.0'
EX. 18" V.P.
℄ CONST. RAMP G
28.01'
SAW CUT LINE
EX. 30" COMBINED (TO REMAIN)
SOUTH STREET
ITEM 609 - CURB, TYPE 4-A
EX. ELECTRIC (TO REMAIN)
EX. 15" SANITARY (TO REMAIN)
ITEM 609 - CURB, TYPE 4-A
EX. 20" WATER (TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 276+50 TO STA. 281+50

SUM-76-8.42
SUM-77-9.77

28
59

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RUSSELL AVENUE

EX. ELECTRIC (TO REMAIN)

EX. 30" V.P.

EX. 12" V.P. (TO REMAIN)

ITEM 606 - GUARDRAIL, TYPE MGS

10.0'

EX. 8" GAS (TO REMAIN)

I.R. 76 (WESTBOUND)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

PT Sta. 284+46.08

MATCHLINE STA. 281+50 SEE SHEET 28

MATCHLINE STA. 286+50 SEE SHEET 30

8.6'

20.0'

10.0' (TYP.)

282 283 284 285 286

℄ CONST. I.R. 76

EX. 12" V.P.

36.0'

10.0'

8.6'

I.R. 76 (EASTBOUND)

ITEM 606 - IMPACT ATTENUATOR, TYPE 1

ITEM 606 - GUARDRAIL, TYPE MGS

23.0'

℄ CONST. RAMP EN

PT Sta. 108+24.41

107 108 109 110 111

24.0'

RAMP EN

4.0'

10.0'

ITEM 609 - CURB, TYPE 4-A

EX. 30" COMBINED (TO REMAIN)

SAW CUT LINE

EX. ELCTRIC (TO REMAIN)

ITEM 606 - GUARDRAIL, TYPE MGS

30.0'±

SOUTH STREET

DO NOT DISTURB EXISTING MOMENT SLAB & RETAINING WALL

PC Sta. 109+43.46

8.0'

MATCH PROPOSED RAMP BUILD-UP

ITEM 609 - CURB, TYPE 4-A

EX. 8" GAS (TO REMAIN)

EX. 20" WATER (TO REMAIN)

EX. ELCTRIC (TO REMAIN)

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 281+50 TO STA. 286+50

SUM-76-8.42
SUM-77-9.77

29
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

RUSSELL AVENUE

POT Sta. 52+29.24

EX. 12" V.P.

EX. ELECTRIC (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

BOWERY STREET

EX. TRANSMISSION LINES (DO NOT DISTURB)

ITEM 606 - GUARDRAIL, TYPE MGS

SUM-76-0956

EX. 12" V.P.

EX. 63" COMBINED (TO REMAIN)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

EX. SANITARY (TO REMAIN)

℄ BOWERY STREET

EX. 36" SANITARY (TO REMAIN)

I.R. 76 (WESTBOUND)

MATCHLINE STA. 286+50
SEE SHEET 29

MATCHLINE STA. 291+50
SEE SHEET 31

POT Sta. 50+00.00

℄ CONST. I.R. 76

I.R. 76 (EASTBOUND)

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 12" V.P.

PT Sta. 112+27.60

℄ CONST. RAMP EN

EX. 60" COMBINED (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. GAS (TO REMAIN)

DO NOT DISTURB EXISTING MOMENT SLAB & RETAINING WALL

POT Sta. 48+22.44

SUM-59-0007

EX. 20" SANITARY (TO REMAIN)

SOUTH STREET

EX. 12" WATER (TO REMAIN)

EX. 20" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

HORIZONTAL SCALE IN FEET

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 286+50 TO STA. 291+50

SUM-76-8.42
SUM-77-9.77

30
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

RUSSELL AVENUE

LAKE SHORE BOULEVARD

OHIO ERIE CANAL

EX. 30" R.C.P.

EX. 15" STORM

SUM-59-0019

SUM-76-0956

ST Sta. 150+00.00

RAMP SW

EX. 24" STORM

EX. 12" STORM

℄ CONST. RAMP SW

ITEM 606 - GUARDRAIL, TYPE MGS

EX. TRANSMISSION LINES (DO NOT DISTURB)

EX. ELECTRIC (TO REMAIN)

EX. 20" WATER (TO REMAIN)

I.R. 76 (WESTBOUND)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

MATCHLINE STA. 291+50 SEE SHEET 30

MATCHLINE STA. 296+50 SEE SHEET 32

I.R. 76 (EASTBOUND)

℄ CONST. I.R. 76

SUM-76-0966

EX. 12" STORM

RAMP EN

℄ CONST. RAMP EN

EX. 36" R.C.P.

TS Sta. 118+19.89

SUM-59-0007

PC Sta. 0+00.00

℄ CONST. RAMP W11

EX. ELECTRIC (TO REMAIN)

EX. 12" WATER (TO REMAIN)

SOUTH STREET

EX. 12" SANITARY (TO REMAIN)

EX. GAS (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

HORIZONTAL SCALE IN FEET

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 76
STA. 291+50 TO STA. 296+50

SUM-76-8.42
SUM-77-9.77

31
59

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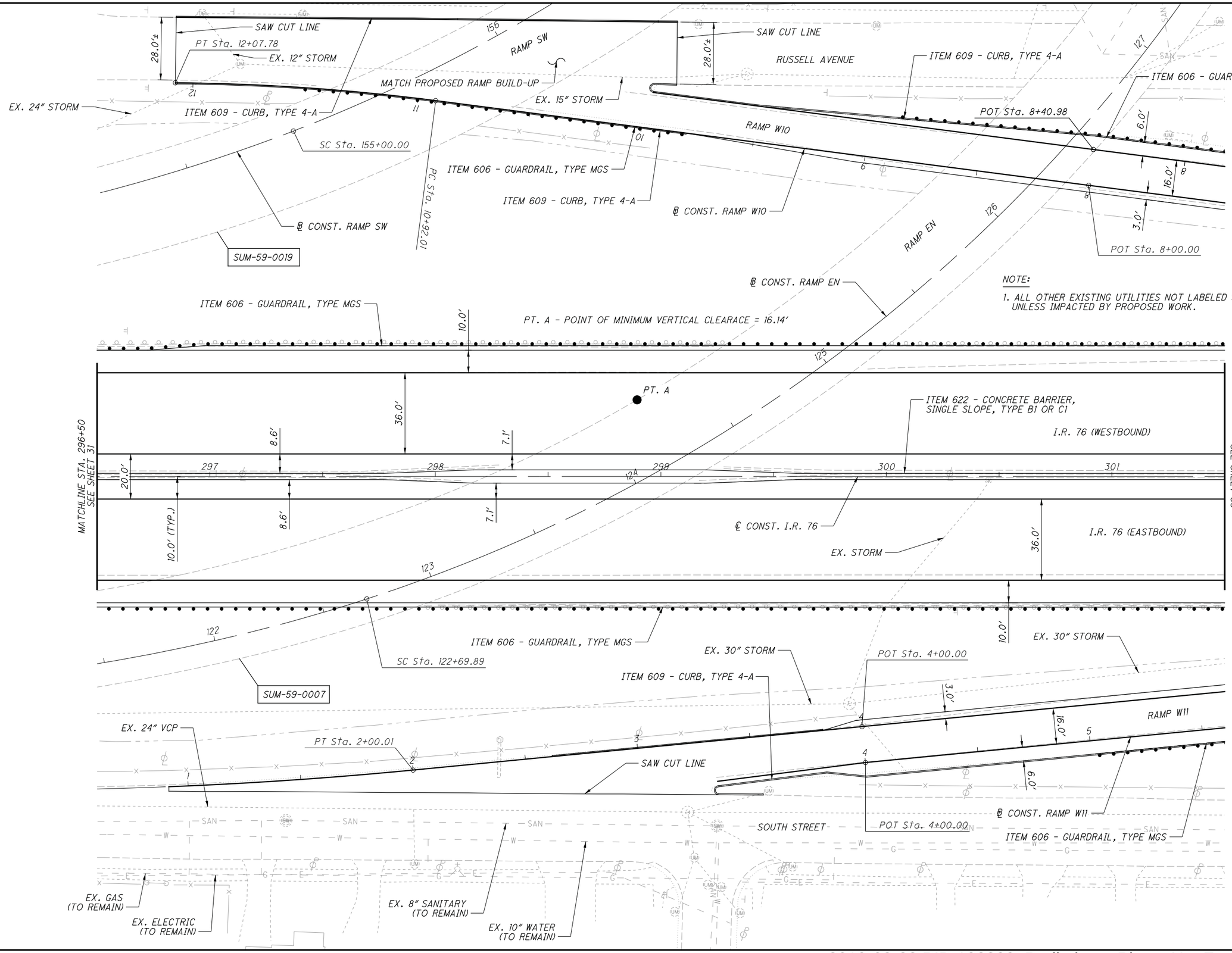

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 296+50 TO STA. 301+50

SUM-76-8.42
SUM-77-9.77

32
59

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RUSSELL AVENUE

EX. 15" STORM

EX. 8" SANITARY (TO REMAIN)

ITEM 609 - CURB, TYPE 4-A

EX. 6" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

℄ CONST. RAMP W10

ITEM 606 - GUARDRAIL, TYPE MGS

PT Sta. 3+28.29

RAMP W10

6.0'

16.0'

3.0'

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

ITEM 606 - GUARDRAIL, TYPE MGS

10.0'

36.0'

8.6'

I.R. 76 (WESTBOUND)

EX. 12" STORM

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

MATCHLINE STA. 301+50 SEE SHEET 32

MATCHLINE STA. 306+50 SEE SHEET 34

20.0'

302 303 304 305 306

10.0' (TYP.)

8.6'

36.0'

℄ CONST. I.R. 76

EX. 16" WATER (TO REMAIN)

EX. 8" STORM

I.R. 76 (EASTBOUND)

EX. 30" STORM

ITEM 606 - GUARDRAIL, TYPE MGS

10.0'

3.0'

16.0'

6.0'

RAMP W11

EX. 30" STORM

EX. 12" STORM

℄ CONST. RAMP W11

ITEM 609 - CURB, TYPE 4-A

ITEM 606 - GUARDRAIL, TYPE MGS

PC Sta. 9+76.87

8.0'

ITEM 609 - CURB, TYPE 4-A OR 4-C

SOUTH STREET

EX. GAS (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 16" WATER (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 76

STA. 301+50 TO STA. 306+50

SUM-76-8.42

SUM-77-9.77

33

59

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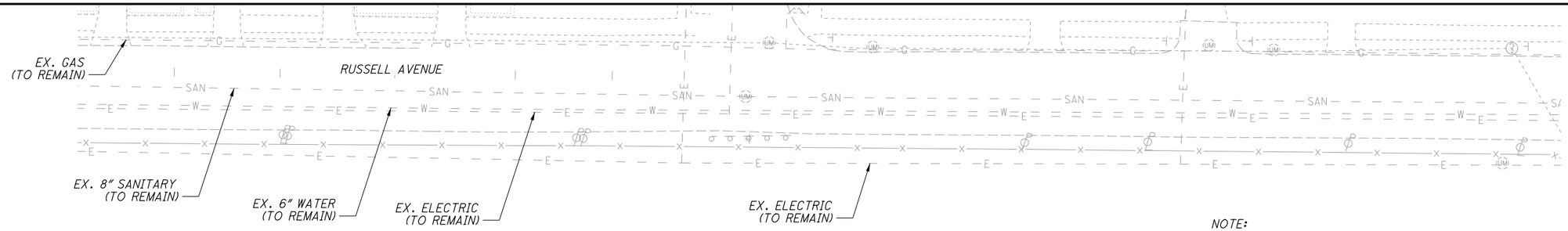
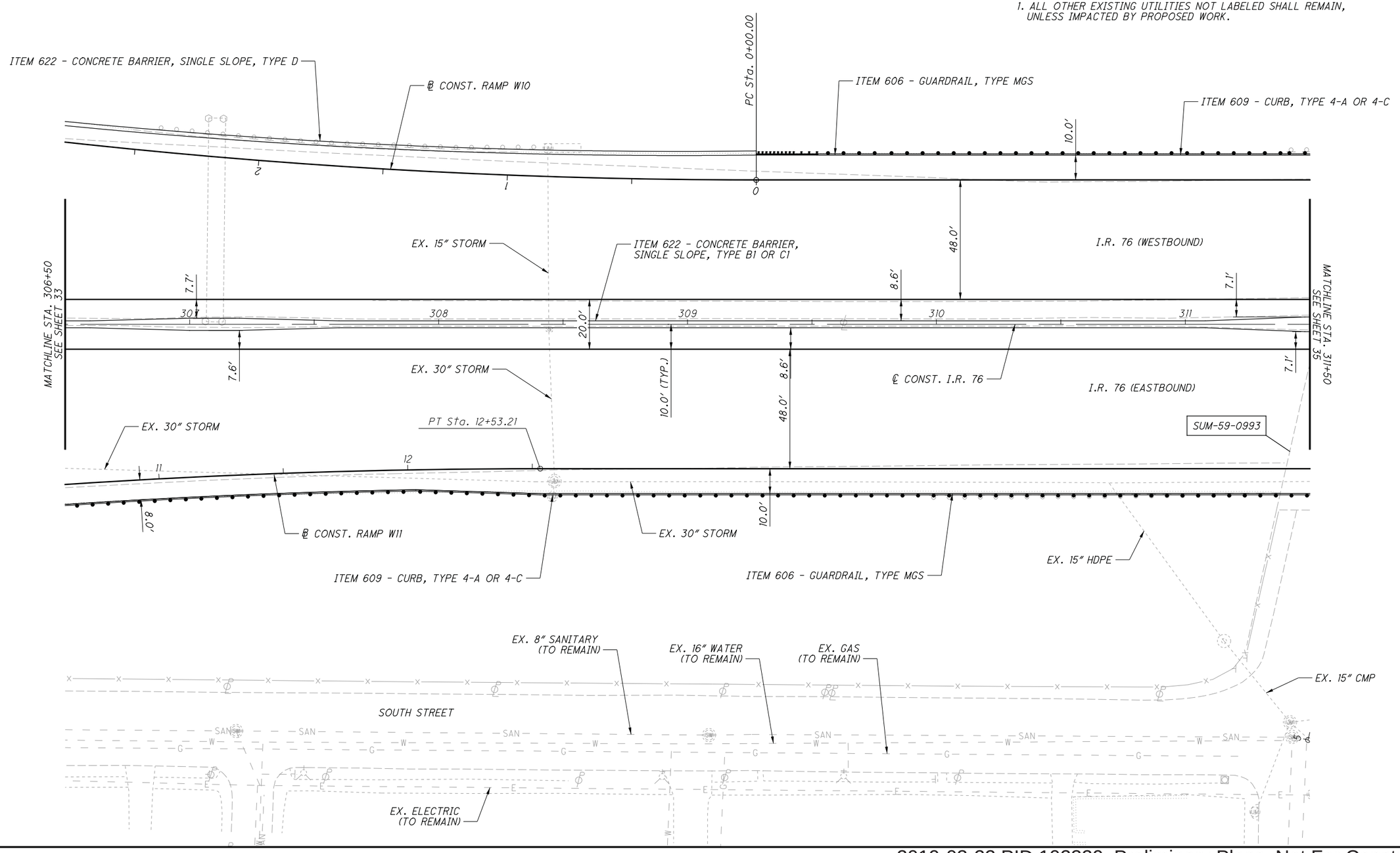


NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 306+50 TO STA. 311+50

SUM-76-8.42
SUM-77-9.77

34
59

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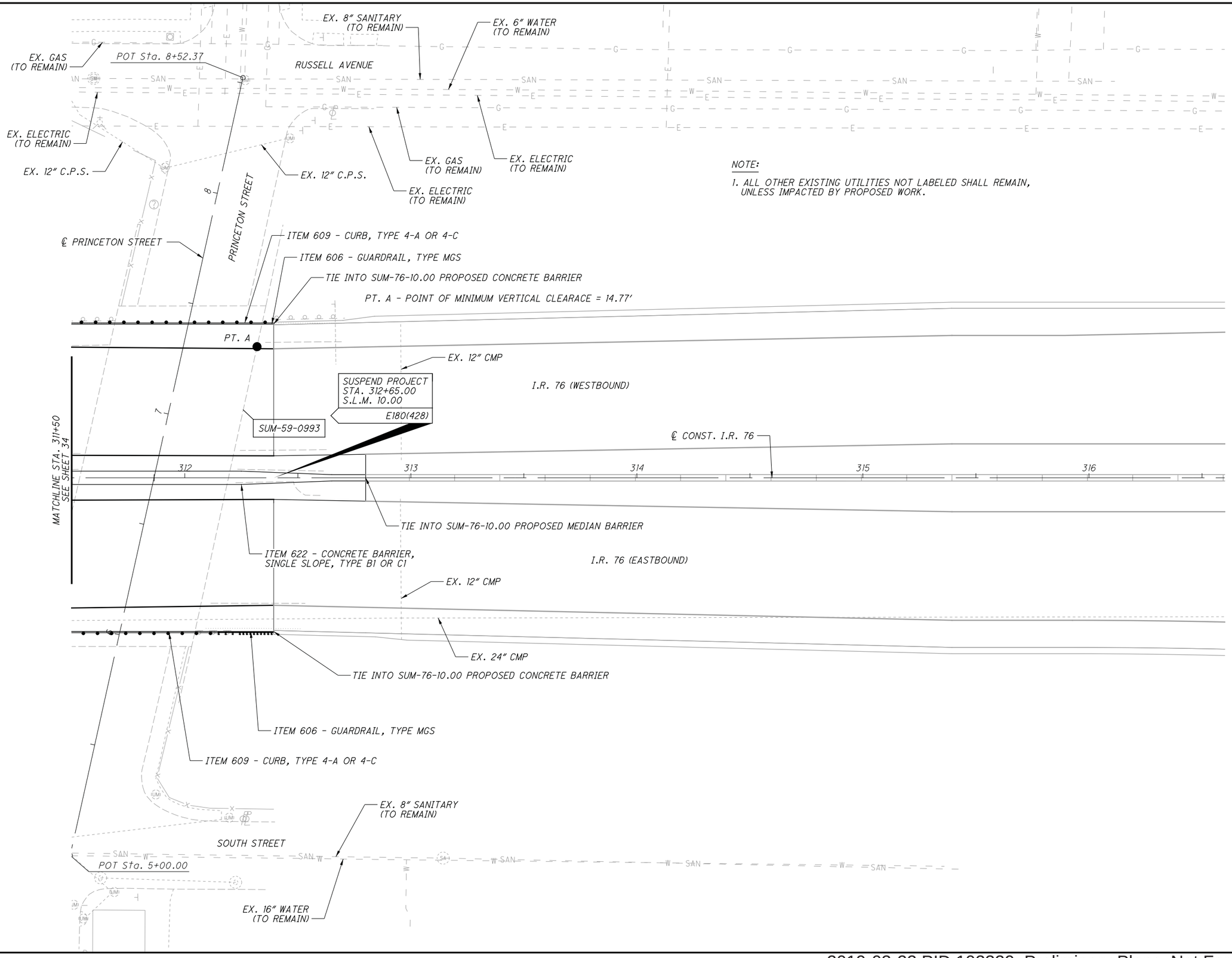

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 76
STA. 311+50 TO SUSPEND PROJECT

SUM-76-8.42
SUM-77-9.77

35
59

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POT Sta. 3+78.85

SAW CUT LINE

RUSSELL AVENUE

3.0'

26.0'

RAMP M

ITEM 609 - CURB, TYPE 4-A

℄ CONST. RAMP M

3.0'

RAMP J

9

16.0'

6.0'

8

10

22.0'

ITEM 609 - 4" CONCRETE MEDIAN

16.0'

ITEM 609 - CURB, TYPE 4-A

℄ CONST. RAMP J

7

EX. 18" VP

ST Sta. 1+50.00

PCC Sta. 10+22.38

MATCHLINE STA. 11+00
SEE SHEET 37

6

PCC Sta. 6+40.11

3.0'

6.0'

18.0'

ST Sta. 0+00.00

MATCHLINE STA. 5+00
SEE SHEET 21

℄

N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED MLL
CHECKED JTW

PLAN - RAMP J
STA. 5+00 TO STA. 11+00

SUM-76-8.42
SUM-77-9.77

36
59

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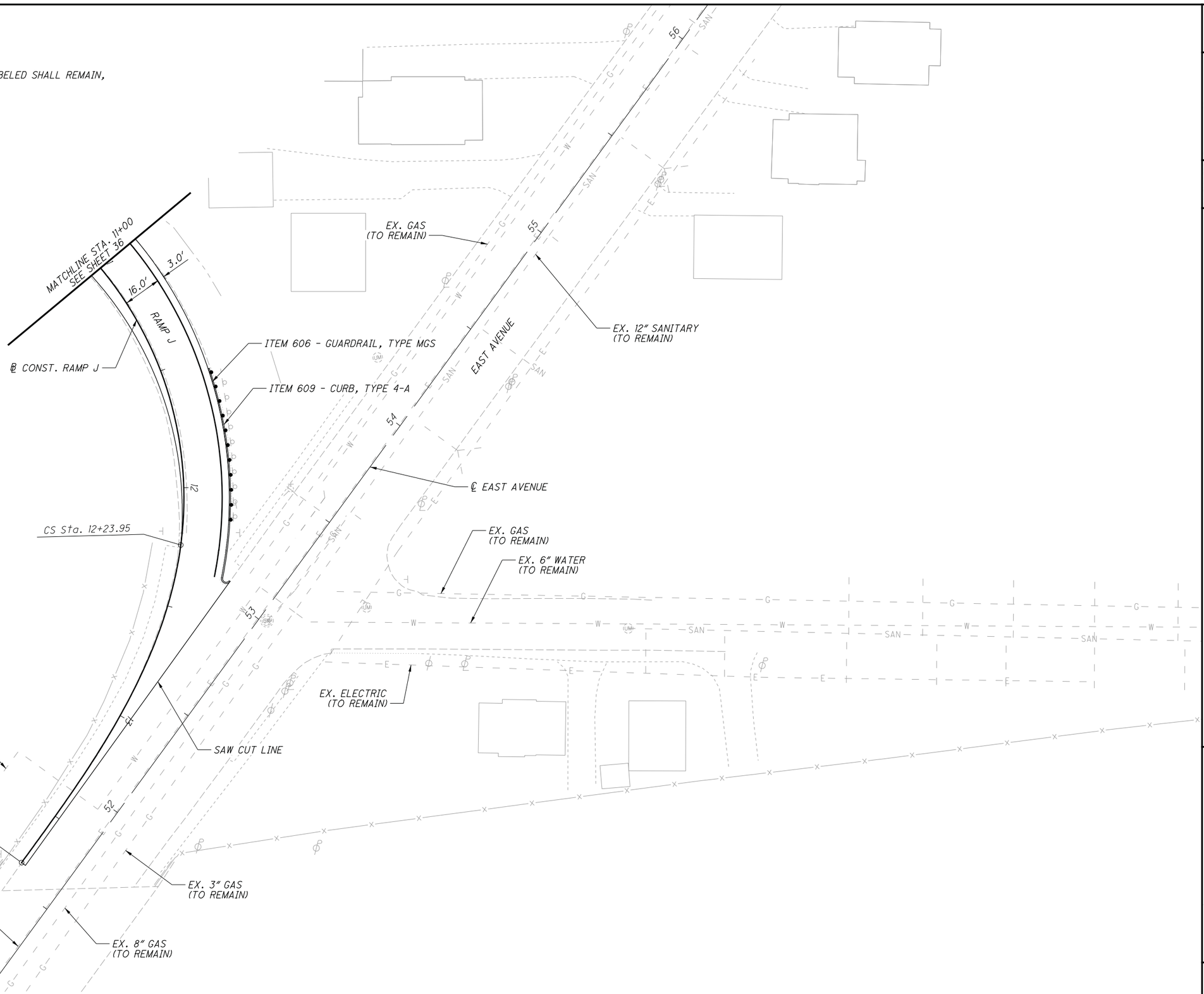
NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - RAMP J
STA. 11+00 TO END WORK

SUM-76-8.42
SUM-77-9.77

37
59

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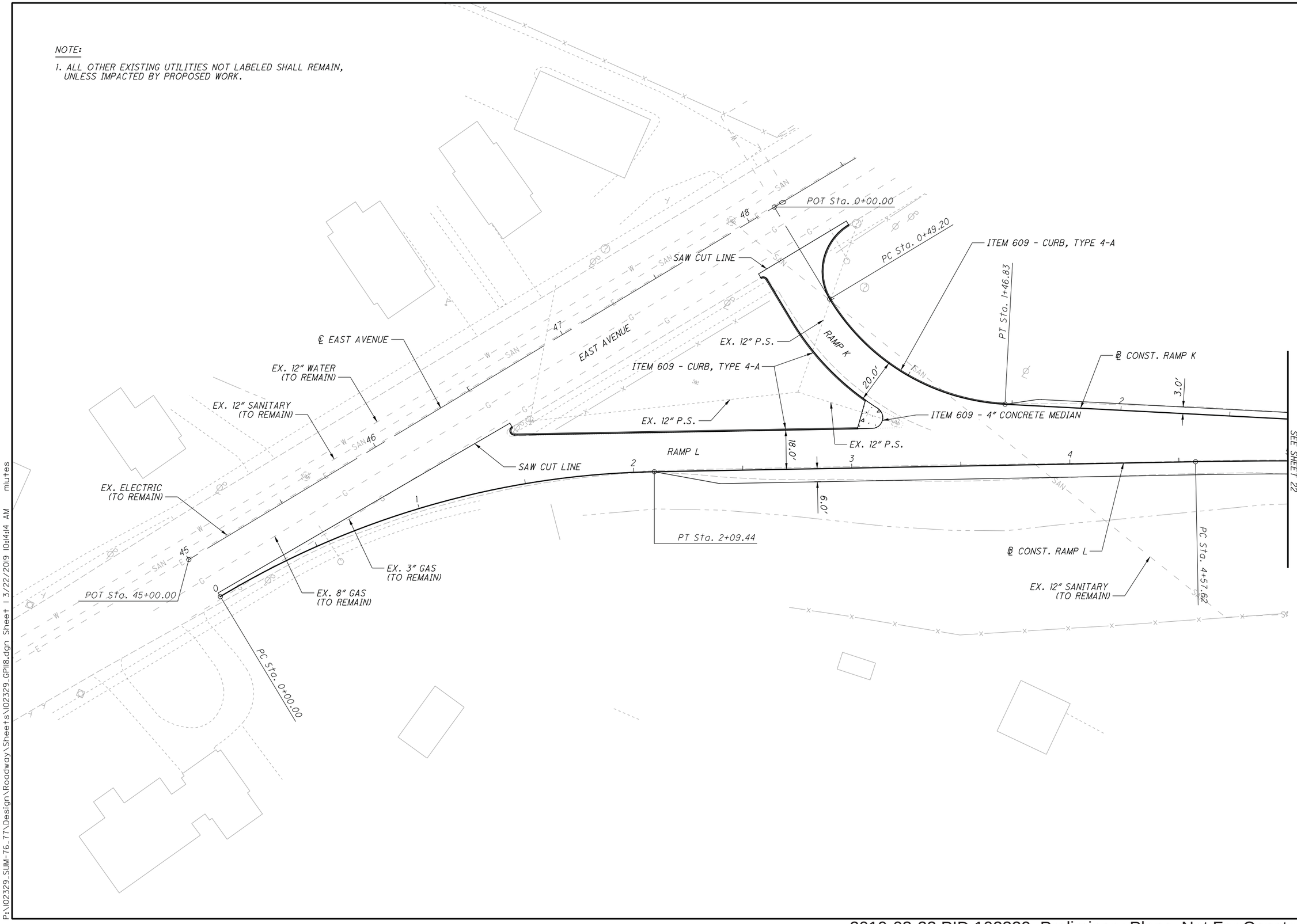
NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - RAMP L
BEGIN WORK TO STA. 5+00

SUM-76-8.42
SUM-77-9.77

SAW CUT LINE

EX. ELECTRIC (TO REMAIN)

ITEM 609 - CURB, TYPE 4-A

EX. WATER (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. GAS (TO REMAIN)

POT Sta. 5+00.00

MATCH PROPOSED RAMP BUILD-UP

ITEM 606 - GUARDRAIL, TYPE MGS

COVENTRY STREET

POT Sta. 10+07.70

24.0'±

ITEM 609 - CURB, TYPE 4-A

7.0'

ITEM 609 - 4" CONCRETE MEDIAN

POT Sta. 14+11.92

EX. WATER (TO REMAIN)

RAMP S12

16.0'

6

3.0'

ITEM 609 - CURB, TYPE 4-A

℄ CONST. RAMP S12

POT Sta. 10+07.70

EX. 8" GAS (TO REMAIN)

EX. STORM (TO REMAIN)

EX. ELECTRIC (TO REMAIN)

EX. 12" GAS (TO REMAIN)

EX. 12" GAS (TO REMAIN)

WATERLOO ROAD

SUM-77-0973L

ITEM 606 - GUARDRAIL, TYPE MGS

8.0'

48.0'

I.R. 77 (SOUTHBOUND)

℄ CONST. I.R. 77 - SOUTHBOUND

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

5.0'

5.0'

℄ WATERLOO

I.R. 77 (NORTHBOUND)

ITEM 606 - GUARDRAIL, TYPE MGS

8.0'

℄ CONST. I.R. 77 - NORTHBOUND

RESUME PROJECT
STA. 517+92.79
S.L.M. 9.77
E180(428)

SUM-77-0973R

MATCHLINE STA. 522+00
SEE SHEET 39

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
RESUME PROJECT TO STA. 522+00

SUM-76-8.42
SUM-77-9.77

39
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 8" SANITARY (TO REMAIN)
EX. GAS (TO REMAIN)
EX. ELECTRIC (TO REMAIN)
EX. 8" WATER (TO REMAIN)
COVENTRY STREET
ITEM 606 - GUARDRAIL, TYPE MGS
ITEM 609 - CURB, TYPE 4-A
ITEM 609 - CURB, TYPE 4-A OR 4-C
EX. STORM (TO REMAIN)
℄ CONST. RAMP W12
RAMP W12
℄ CONST. I.R. 77 - SOUTHBOUND
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
I.R. 77 (SOUTHBOUND)
PT Sta. 525+01.85
MATCHLINE STA. 527+00 SEE SHEET 41
MATCHLINE STA. 522+00 SEE SHEET 38
I.R. 77 (NORTHBOUND)
PT Sta. 525+44.38
POT Sta. 7+88.63
RAMP W11
EX. 42" STORM (TO REMAIN)
PT Sta. 7+88.63
SAW CUT LINE
ALLENDALE AVENUE
℄ CONST. RAMP W11
EX. 12" WATER (TO REMAIN)
MATCHLINE STA. 5+50 SEE SHEET 58
℄ CONST. RAMP W11/ALLENDALE AVENUE
EX. SANITARY (TO REMAIN)
EX. GAS (TO REMAIN)
EX. ELECTRIC (TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 522+00 TO STA. 527+00

SUM-76-8.42
SUM-77-9.77

40
59

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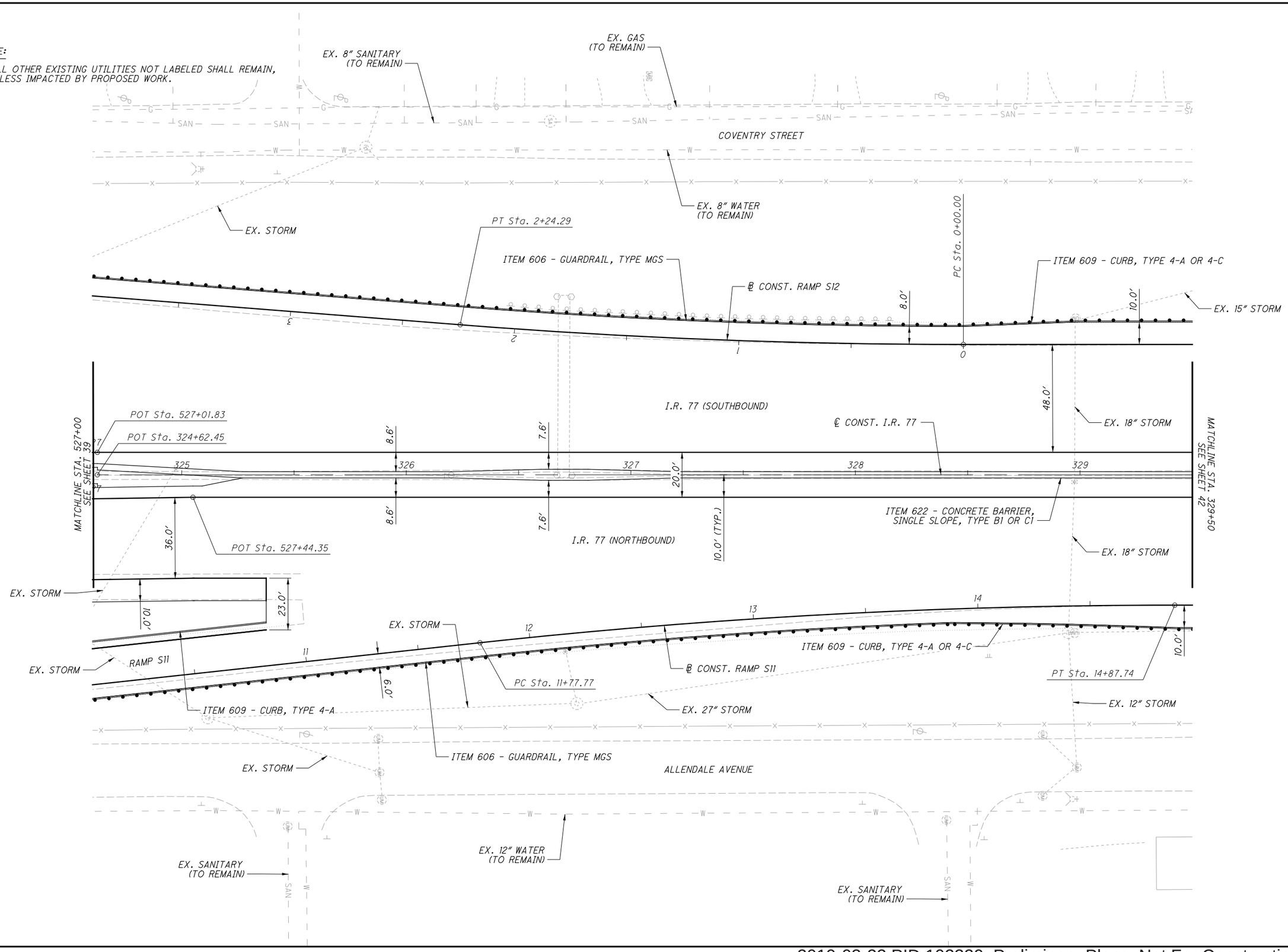
NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 527+00 TO STA. 329+50

SUM-76-8.42
SUM-77-9.77

41
59

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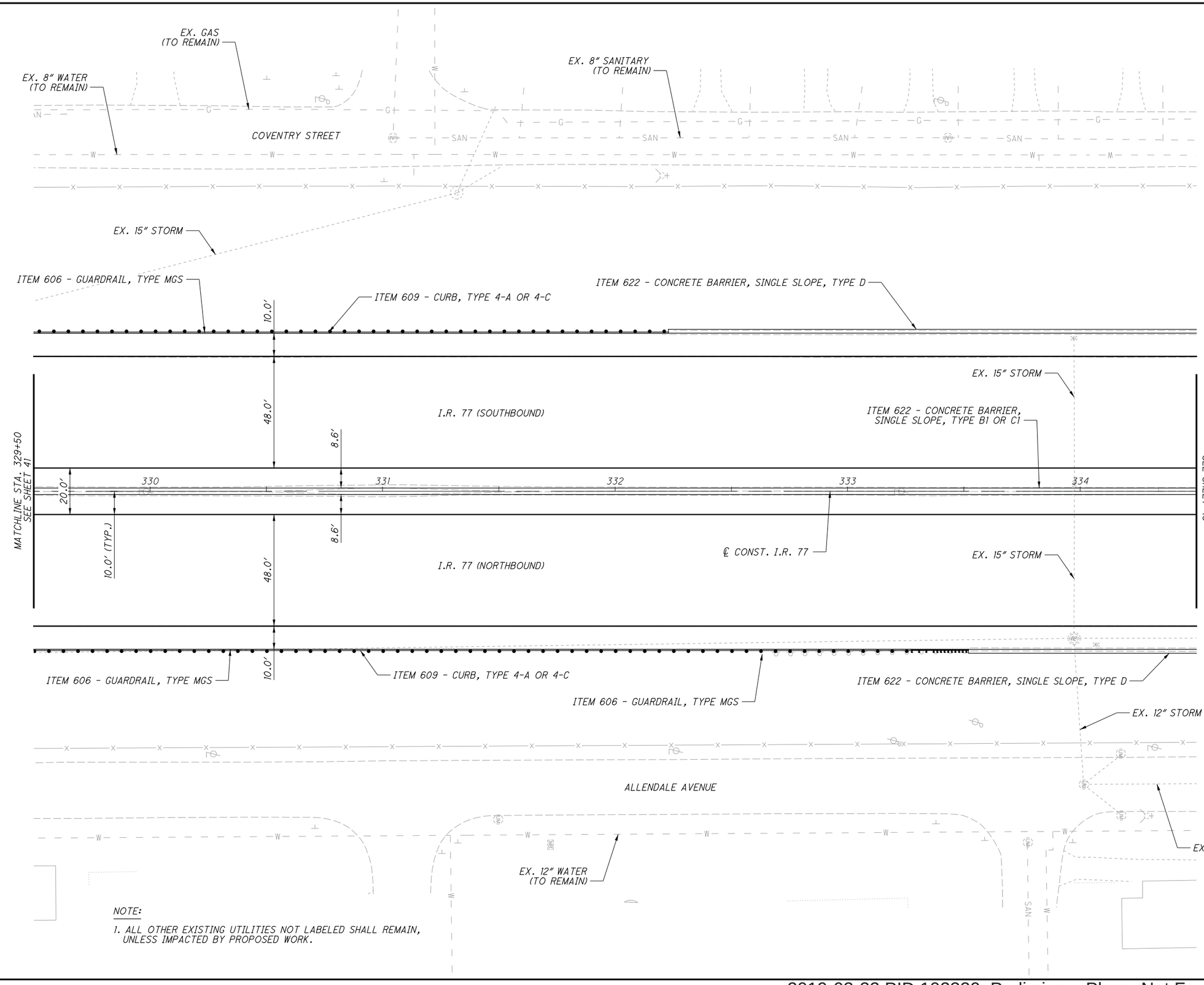

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 329+50 TO STA. 334+50

SUM-76-8.42
SUM-77-9.77

42
59

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EX. GAS
(TO REMAIN)

COVENTRY STREET

POT Sta. 5+37.27

EX. 8" SANITARY
(TO REMAIN)

EX. 8" WATER
(TO REMAIN)

CATAWBA AVENUE

EX. 12" STORM

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

10.0'

48.0'

℄ CONST. I.R. 77

I.R. 77 (SOUTHBOUND)

SUM-77-0973

℄ CATAWBA AVENUE

EX. 15" STORM

MATCHLINE STA. 334+50
SEE SHEET 42

20.0'

7.6'

8.6'

7.1'

335 336 337 338 339

MATCHLINE STA. 339+50
SEE SHEET 44

ITEM 622 - CONCRETE BARRIER,
SINGLE SLOPE, TYPE B1 OR C1

10.0' (TYP.)

7.6'

8.6'

48.0'

7.1'

I.R. 77 (NORTHBOUND)

EX. 18" STORM

PC Sta. 0+00.00

PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 16.64'

PT. A

10.0'

ITEM 606 - GUARDRAIL, TYPE MGS

EX. STORM

℄ CONST. RAMP S9

ITEM 609 - CURB, TYPE 4-A OR 4-C

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

ALLENDALE AVENUE

POT Sta. 8+32.47

EX. 12" WATER
(TO REMAIN)

EX. 12" STORM

EX. 12" STORM

EX. SANITARY
(TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 334+50 TO STA. 339+50

SUM-76-8.42
SUM-77-9.77

43
59

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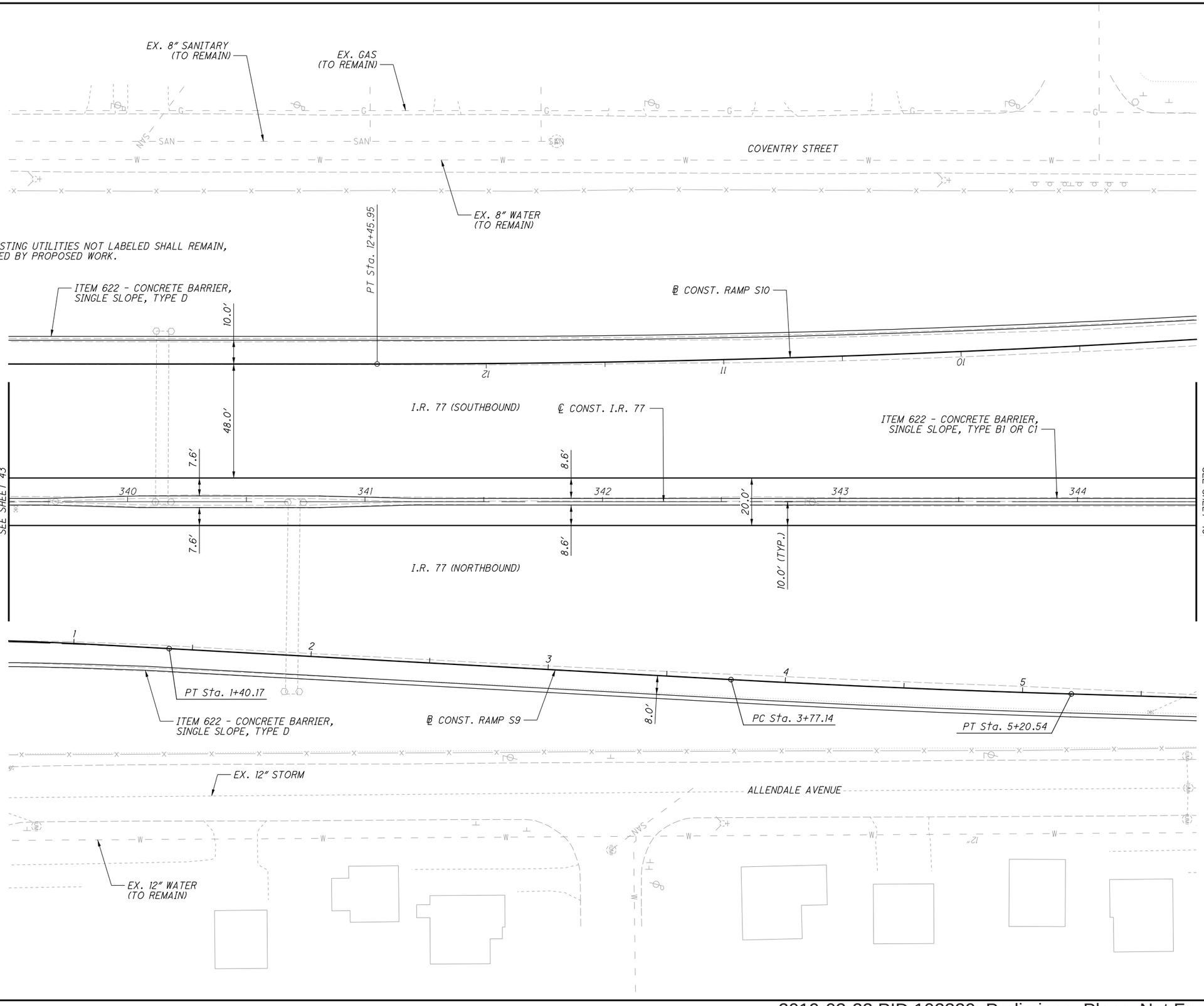
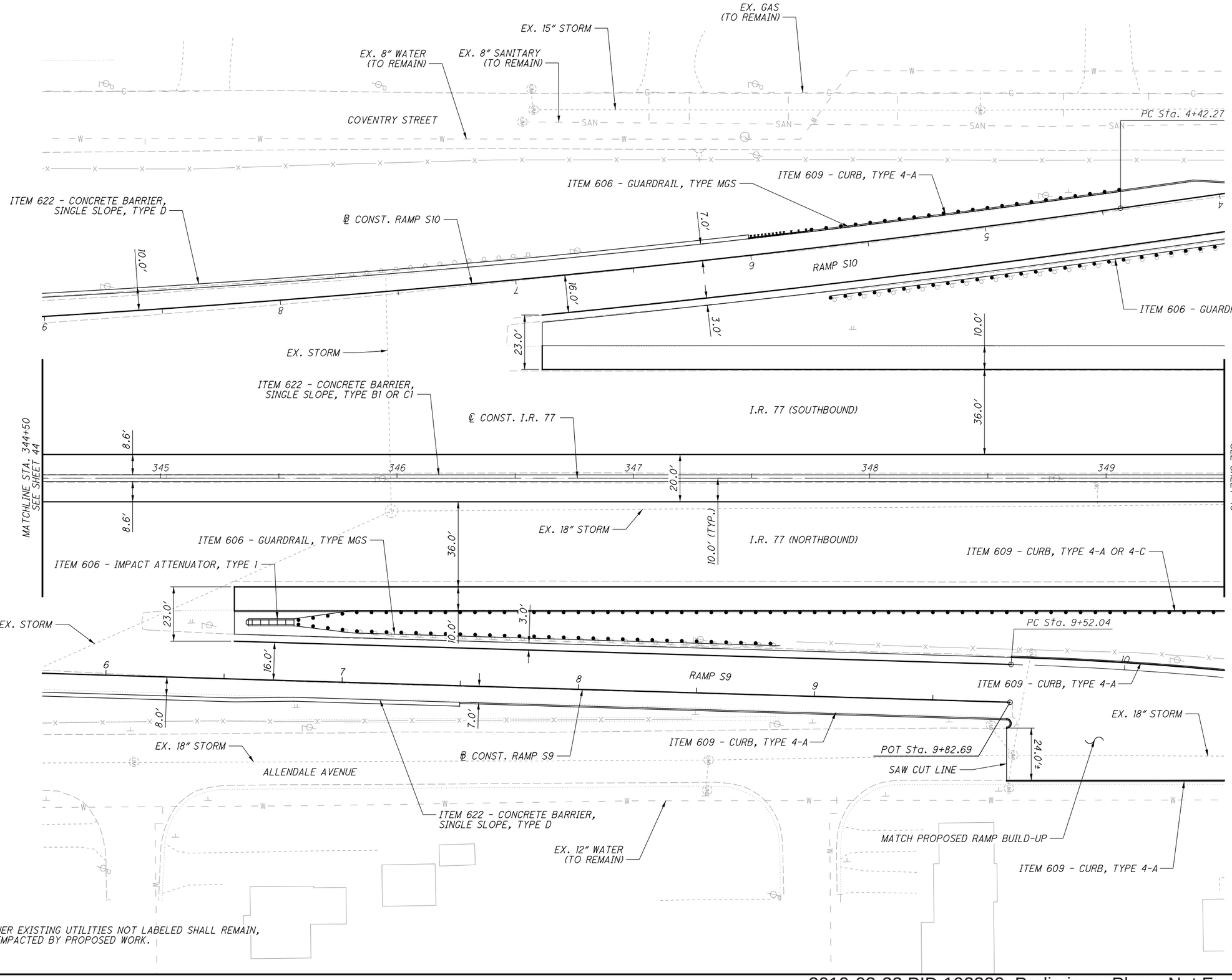


HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 339+50 TO STA. 344+50

SUM-76-8.42
SUM-77-9.77



NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 344+50 TO STA. 349+50

SUM-76-8.42
SUM-77-9.77

45
59

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EX. 8" WATER (TO REMAIN)
EX. 8" STORM
EX. 8" SANITARY (TO REMAIN)
SAW CUT LINE
COVENTRY STREET
ITEM 609 - CURB, TYPE 4-A
POT Sta. 2+91.42
RAMP S10
19.0'
PT Sta. 2+51.60
POT Sta. 2+91.42
ITEM 609 - CURB, TYPE 4-A
℄ CONST. RAMP S10
ITEM 606 - GUARDRAIL, TYPE MGS
PC Sta. 0+49.58
EX. 8" SANITARY (TO REMAIN)
EX. WATER (TO REMAIN)
EX. 27" STORM
EX. 8" GAS (TO REMAIN)
EX. 12" GAS (TO REMAIN)
POT Sta. 5+00.00
POT Sta. 0+00.00
ITEM 609 - CURB, TYPE 4-A
7.0'
RAMP S8
24.0'
SAW CUT LINE
3.0'
℄ CONST. RAMP S8
ITEM 609 - CURB, TYPE 4-A
ITEM 606 - GUARDRAIL, TYPE MGS

10.0'
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1
I.R. 77 (SOUTHBOUND)
36.0'
8.6'
7.1'
PC Sta. 352+67.07
SUM-764-0214
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
EX. 36" STORM
MATCHLINE STA. 349+50 SEE SHEET 45
℄ CONST. I.R. 77
20.0'
350
351
352
353
354
MATCHLINE STA. 354+50 SEE SHEET 47
10.0' (TYP.)
EX. 18" STORM
I.R. 77 (NORTHBOUND)
℄ WILBETH ROAD
PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 16.44'
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
PT. A

ITEM 609 - CURB, TYPE 4-A OR 4-C
10.0'
EX. 36" STORM
ITEM 609 - CURB, TYPE 4-A OR 4-C
PT Sta. 1+03.59
PT Sta. 10+55.49
PC Sta. 12+09.06
ITEM 606 - GUARDRAIL, TYPE MGS
ITEM 609 - CURB, TYPE 4-A
PT Sta. 13+55.50
EX. 15" STORM
WILBETH ROAD
ITEM 606 - GUARDRAIL, TYPE MGS
ITEM 609 - CURB, TYPE 4-A
3.0'
EX. 18" STORM
SAW CUT LINE
EX. 18" STORM
ALLENDALE AVENUE
24.0'±
POT Sta. 14+44.76
SAW CUT LINE
POT Sta. 7+82.59
RAMP S7
16.0'
PC Sta. 0+00.00
ITEM 609 - CURB, TYPE 4-A
EX. 12" WATER (TO REMAIN)
℄ CONST. RAMP S9
ITEM 609 - CURB, TYPE 4-A
SAW CUT LINE
℄ CONST. RAMP S7
ITEM 609 - CURB, TYPE 4-A

NOTE:
1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 349+50 TO STA. 354+50

SUM-76-8.42
SUM-77-9.77

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 8" SANITARY (TO REMAIN)

ITEM 609 - CURB, TYPE 4-A

EX. 18" STORM

POT Sta. 9+47.56

ITEM 609 - CURB, TYPE 4-A

ITEM 606 - GUARDRAIL, TYPE MGS

RAMP S8

POT Sta. 11+50.00

℄ CONST. RAMP S8

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 36" STORM

EX. 24" STORM

EX. 36" STORM

℄ CONST. I.R. 77

I.R. 77 (SOUTHBOUND)

PT Sta. 357+92.03

EX. 15" STORM

MATCHLINE STA. 354+50 SEE SHEET 46

MATCHLINE STA. 359+50 SEE SHEET 48

I.R. 77 (NORTHBOUND)

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 15" STORM

ITEM 609 - CURB, TYPE 4-A OR 4-C

ITEM 609 - CURB, TYPE 4-A

℄ CONST. RAMP S7

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 15" STORM

RAMP S7

PC Sta. 5+35.31

ITEM 609 - CURB, TYPE 4-A

ITEM 609 - CURB, TYPE 4-A OR 4-C

ITEM 606 - GUARDRAIL, TYPE MGS

HORIZONTAL SCALE IN FEET

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 77
STA. 354+50 TO STA. 359+50

SUM-76-8.42
SUM-77-9.77

47
59

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ITEM 609 - CURB, TYPE 4-A
EX. 18" STORM
PT Sta. 7+94.52
℄ CONST. RAMP S8
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
ITEM 606 - GUARDRAIL, TYPE MGS
ITEM 609 - CURB, TYPE 4-A OR 4-C
RAMP S8
7.0'
8
7
16.0'
9
6
5
4
ITEM 609 - CURB, TYPE 4-A
EX. 24" STORM
3.0'
23.0'
PC Sta. 6+11.88
EX. 8" SANITARY
(TO REMAIN)
10.0'
36.0'
EX. 15" STORM
EX. 18" STORM
I.R. 77 (SOUTHBOUND)
ITEM 622 - CONCRETE BARRIER,
SINGLE SLOPE, TYPE B1 OR C1
MATCHLINE STA. 359+50
SEE SHEET 47
8.6'
20.0'
360
361
362
363
364
MATCHLINE STA. 364+50
SEE SHEET 49
10.0' (TYP.)
8.6'
I.R. 77 (NORTHBOUND)
℄ CONST. I.R. 77
EX. 15" STORM
PT Sta. 8+52.80
EX. 8" WATER
(TO REMAIN)
8.0'
7
8
9.0'
℄ CONST. RAMP S7
COVENTRY STREET
ITEM 609 - CURB, TYPE 4-A OR 4-C
ITEM 606 - GUARDRAIL, TYPE MGS
ITEM 606 - GUARDRAIL, TYPE MGS QUARTER POST SPACING
EX. GAS
(TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 359+50 TO STA. 364+50

SUM-76-8.42
SUM-77-9.77

48
59

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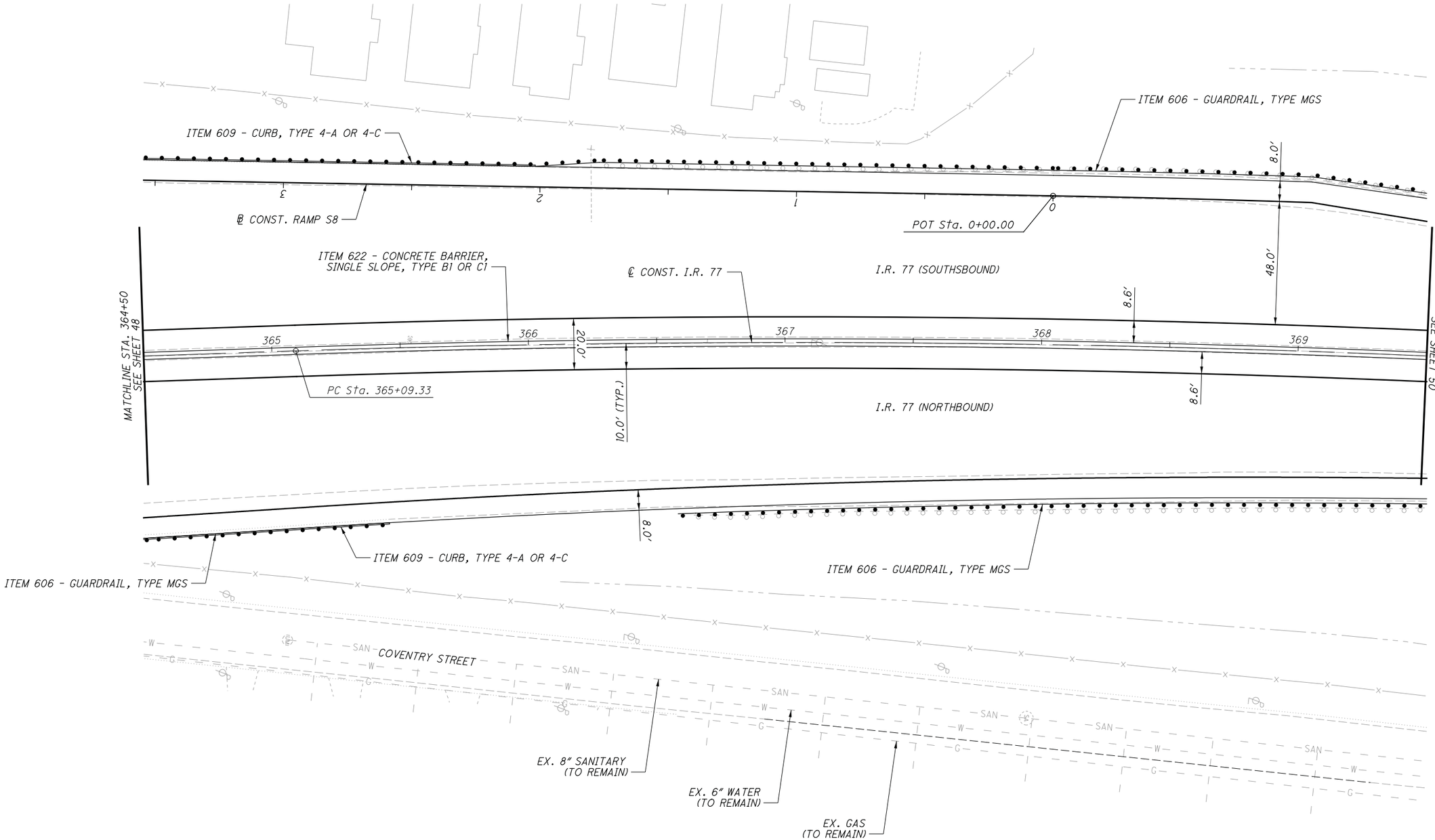

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 364+50 TO STA. 369+50

SUM-76-8.42
SUM-77-9.77

49
59

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NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. GAS (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 6" WATER (TO REMAIN)

POT Sta. 5+00.00

FIRESTONE BOULEVARD

BURKHARDT AVENUE

EX. 6" WATER (TO REMAIN)

ITEM 606 - GUARDRAIL, TYPE MGS

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 4" WATER (TO REMAIN)

EX. 24" WATER (TO REMAIN)

℄ FIRESTONE BOULEVARD

EX. SANITARY (TO REMAIN)

EX. 8" WATER (TO REMAIN)

10.0'

36.0'

I.R. 77 (SOUTHBOUND)

8.6'

20.0'

MATCHLINE STA. 369+50 SEE SHEET 49

370

371

372

373

374

MATCHLINE STA. 374+50 SEE SHEET 50

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1

EX. 12" SANITARY (TO REMAIN)

℄ CONST. I.R. 77

PT Sta. 372+99.85

I.R. 77 (NORTHBOUND)

10.0' (TYP.)

ITEM 606 - GUARDRAIL, TYPE MGS

SUM-77-1082

ITEM 606 - GUARDRAIL, TYPE MGS

EX. 15" STORM

EX. 8" SANITARY (TO REMAIN)

POT Sta. 8+11.87

COVENTRY STREET

EX. 6" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 77

STA. 369+50 TO STA. 374+50

SUM-76-8.42

SUM-77-9.77

50

59

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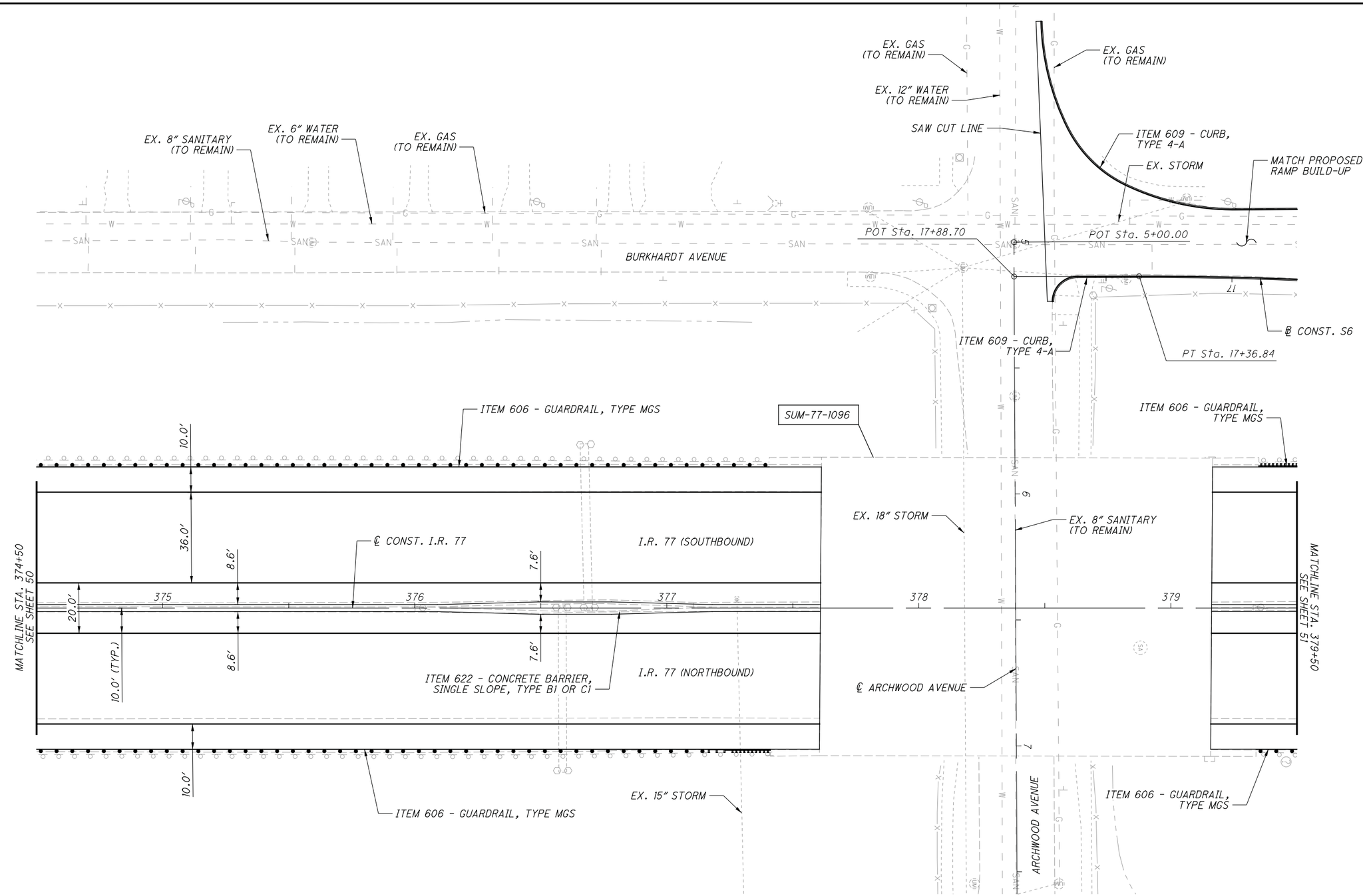

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 374+50 TO STA. 379+50

SUM-76-8.42
SUM-77-9.77

51
59

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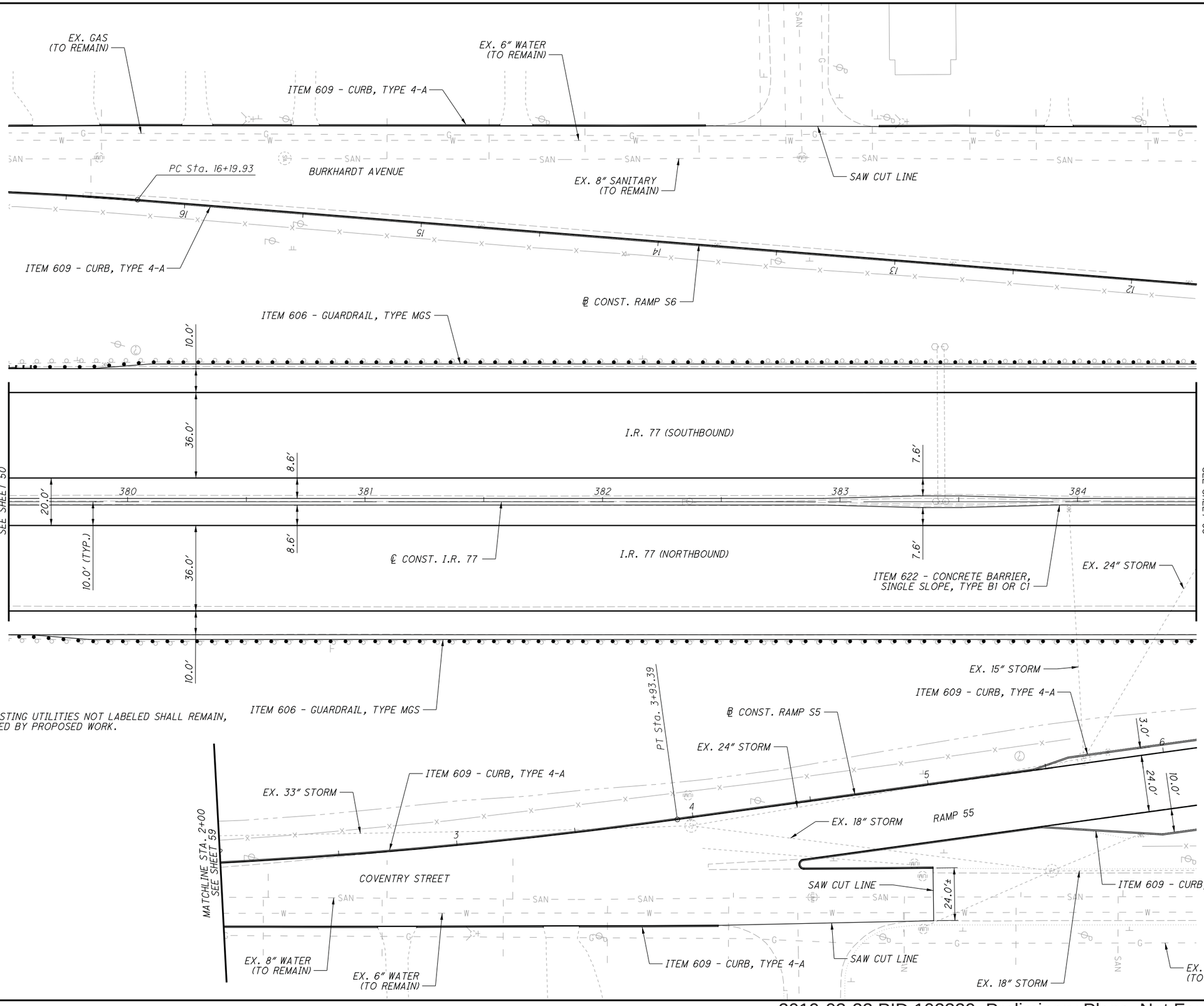

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 379+50 TO STA. 384+50

SUM-76-8.42
SUM-77-9.77

52
59

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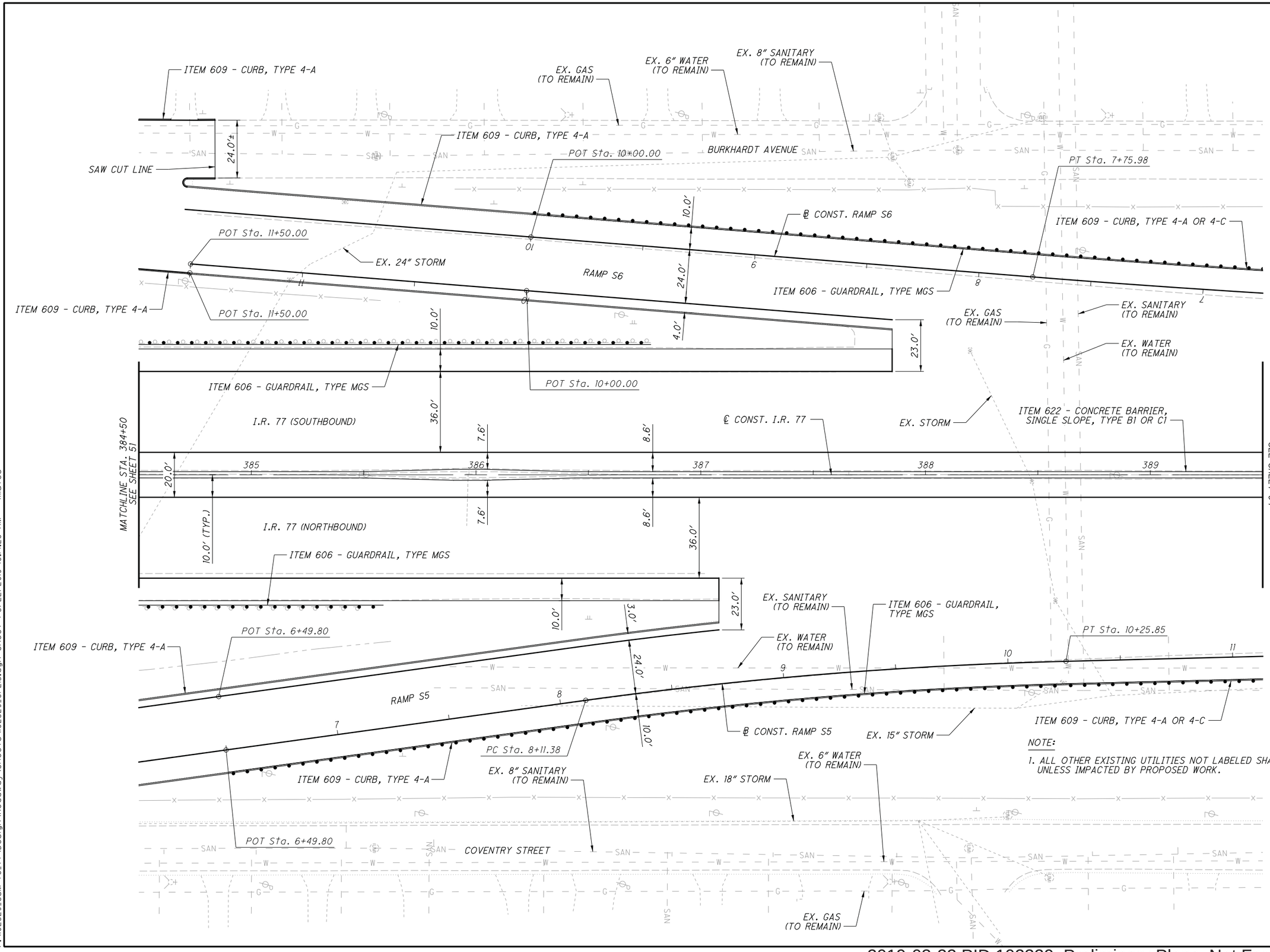

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 384+50 TO STA. 389+50

SUM-76-8.42
SUM-77-9.77

53
59

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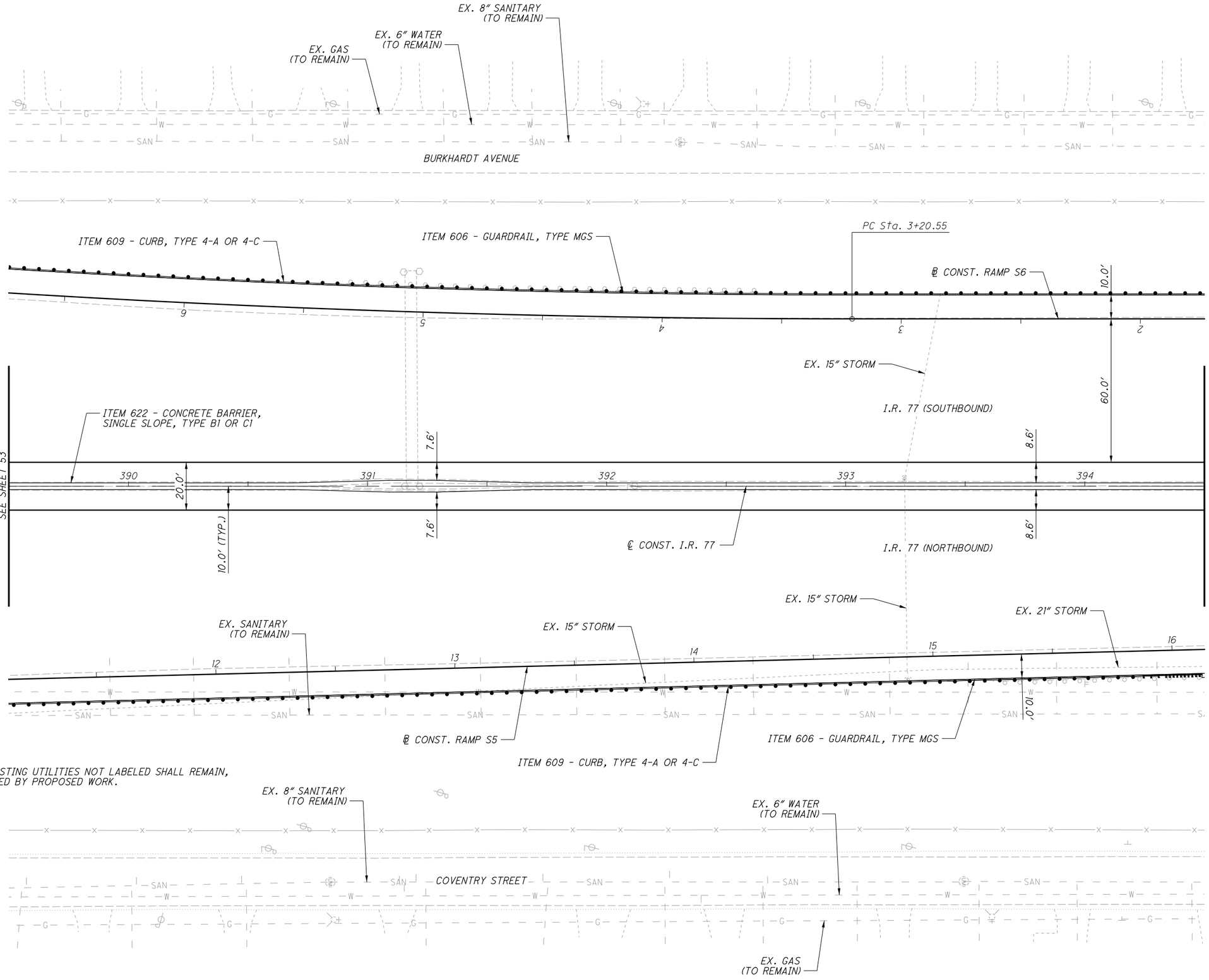

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 389+50 TO STA. 394+50

SUM-76-8.42
SUM-77-9.77

54
59

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EX. 6" WATER (TO REMAIN)
EX. GAS (TO REMAIN)
BURKHARDT AVENUE
EX. 6" GAS (TO REMAIN)
POT Sta. 5+00.00
EX. 8" SANITARY (TO REMAIN)
ITEM 609 - CURB, TYPE 4-A OR 4-C
POT Sta. 0+00.00
℄ CONST. RAMP S6
PI Sta. 1+00.72
COLE AVENUE
EX. STORM
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D
10.0'
PT. A
ITEM 606 - GUARDRAIL, TYPE MGS
PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 16.09'
SUM-77-1096
60.0'
I.R. 77 (SOUTHBOUND)
EX. STORM
48.0'
10.0' (TYP.)
8.6'
7.1'
MATCHLINE STA. 394+50
SEE SHEET 54
MATCHLINE STA. 399+50
SEE SHEET 56
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1
℄ CONST. I.R. 77
EX. STORM
20.0'
I.R. 77 (NORTHBOUND)
POT Sta. 20+26.16
EX. 21" STORM
EX. 30" STORM
℄ CONST. RAMP S5
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

℄ COLE AVENUE
EX. 8" WATER (TO REMAIN)
EX. 8" SANITARY (TO REMAIN)
EX. 8" WATER (TO REMAIN)
EX. 12" SANITARY (TO REMAIN)
COVENTRY STREET
POT Sta. 8+08.50
EX. GAS (TO REMAIN)
EX. GAS (TO REMAIN)

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 394+50 TO STA. 399+50

SUM-76-8.42
SUM-77-9.77

55
59

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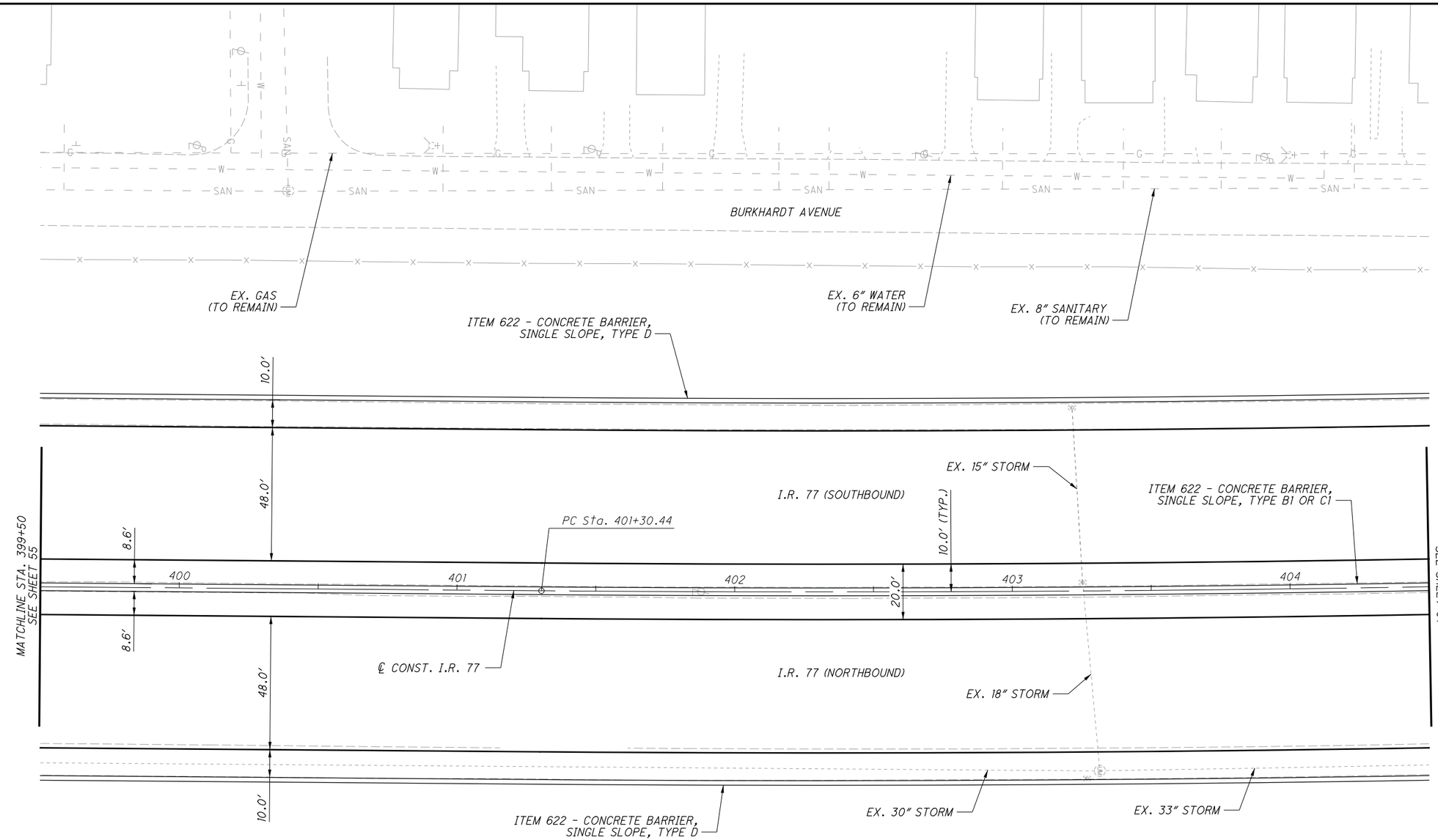
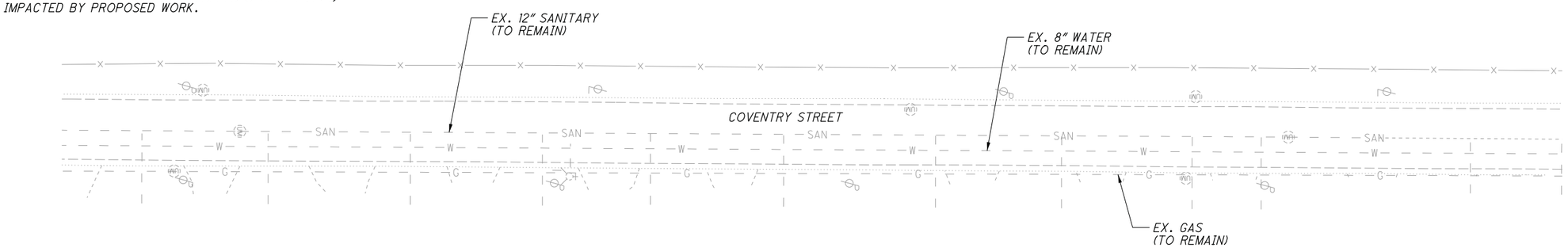


NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED MLL
CHECKED JTW

PLAN - I.R. 77
STA. 399+50 TO STA. 404+50

SUM-76-8.42
SUM-77-9.77

56
59

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EX. GAS (TO REMAIN)

EX. 10" WATER (TO REMAIN)

POT Sta. 5+00.00

BURKHARDT AVENUE

EX. 6" WATER (TO REMAIN)

EX. 8" SANITARY (TO REMAIN)

EX. 12" WATER (TO REMAIN)

ITEM 606 - GUARDRAIL, TYPE MGS

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

10.0'

PT. A

PT. A - POINT OF MINIMUM VERTICAL CLEARACE = 16.10'

SUM-77-1150

EX. 15" STORM

48.0'

℄ CONST. I.R. 77

I.R. 77 (SOUTHBOUND)

END PROJECT STA. 408+56.57 S.L.M. 11.54

E180(428)

PT Sta. 407+01.59

8.6'

7.1'

MATCHLINE STA. 404+50 SEE SHEET 56

405

406

407

408

409

20.0'

8.6'

48.0'

10.0' (TYP.)

7.1'

EX. 15" STORM

EX. 6" GAS (TO REMAIN)

EX. 15" STORM

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1 OR C1

I.R. 77 (NORTHBOUND)

℄ LOVERS LANE

EX. 36" STORM

10.0'

ITEM 609 - CURB, TYPE 4-A OR 4-C

ITEM 606 - GUARDRAIL, TYPE MGS

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D

LOVERS LANE

EX. 30" COMBINED (TO REMAIN)

NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.

EX. 18" STORM

COVENTRY STREET

POT Sta. 8+05.77

EX. 8" WATER (TO REMAIN)

EX. GAS (TO REMAIN)

EX. 8" WATER (TO REMAIN)

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED MLL

CHECKED JTW

PLAN - I.R. 77

STA. 404+50 TO END PROJECT

SUM-76-8.42

SUM-77-9.77

57

59

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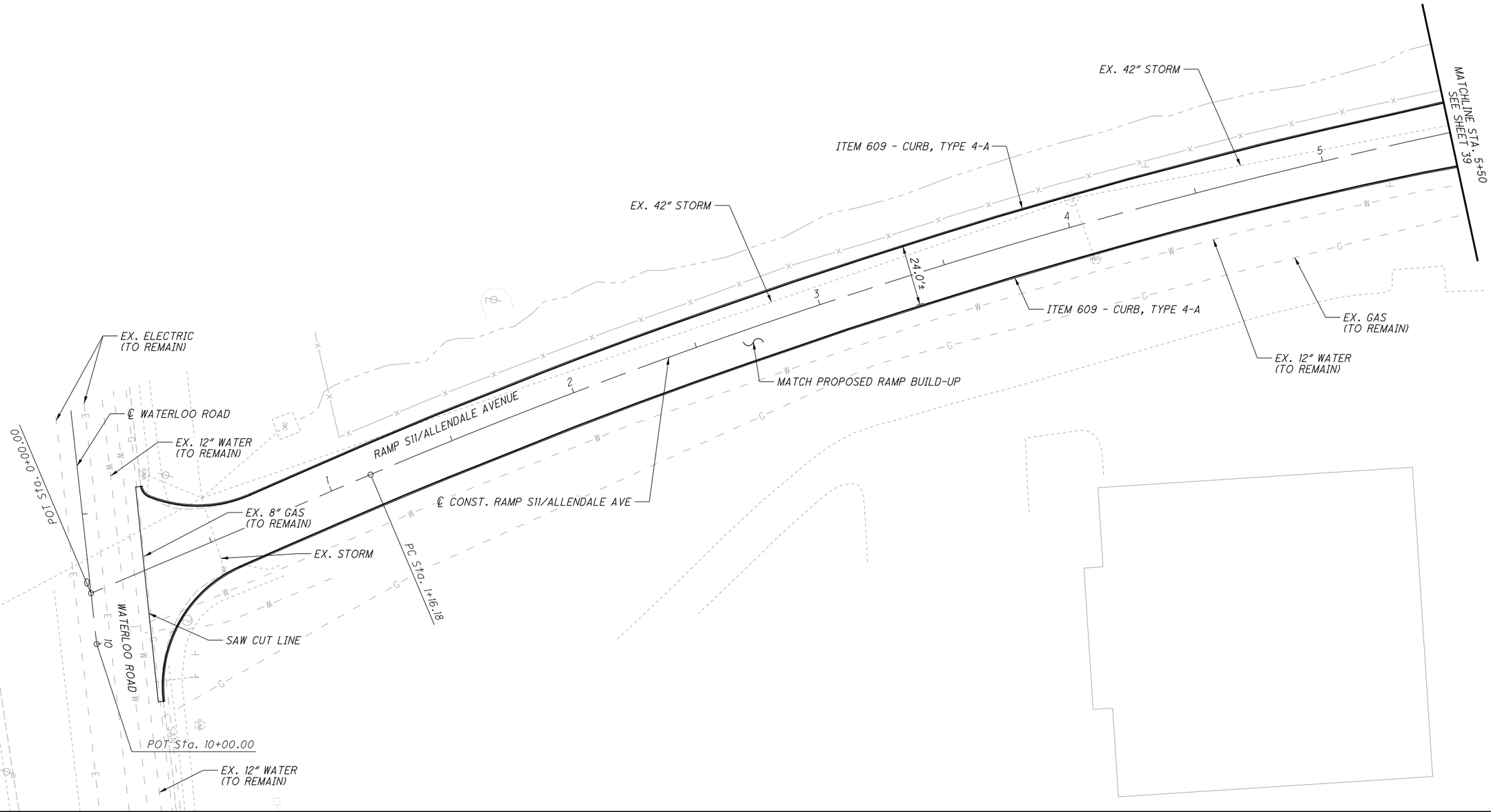
2019-03-22.PID 102329_Preliminary Plans_Not For Construction



N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED MLL
CHECKED JTW

PLAN - RAMP S11
BEGIN WORK TO STA. 5+50

SUM-76-8.42
SUM-77-9.77

58
59

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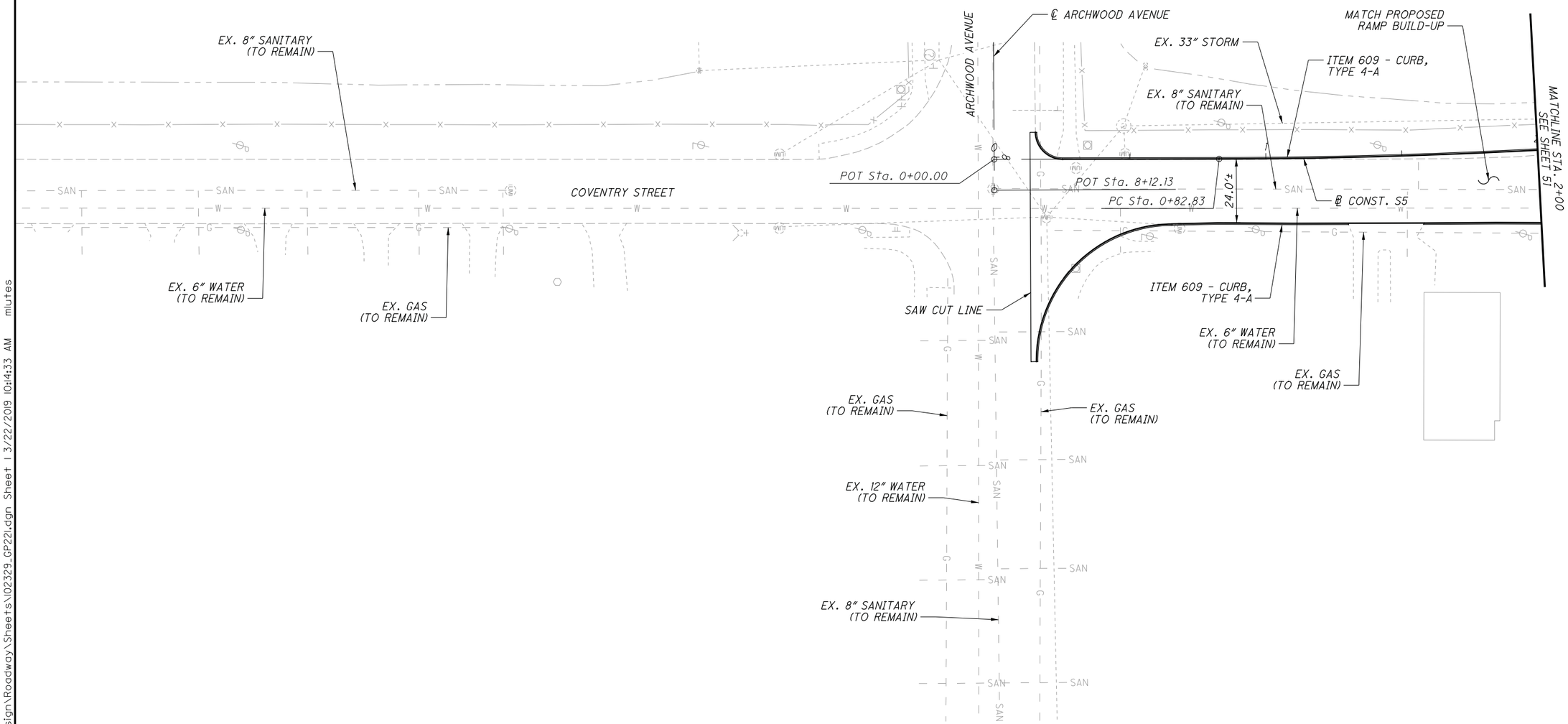
NOTE:

1. ALL OTHER EXISTING UTILITIES NOT LABELED SHALL REMAIN, UNLESS IMPACTED BY PROPOSED WORK.



N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED MLL
CHECKED JTW

PLAN - RAMP S5
BEGIN WORK TO STA. 2+00

SUM-76-8.42
SUM-77-9.77

59
59

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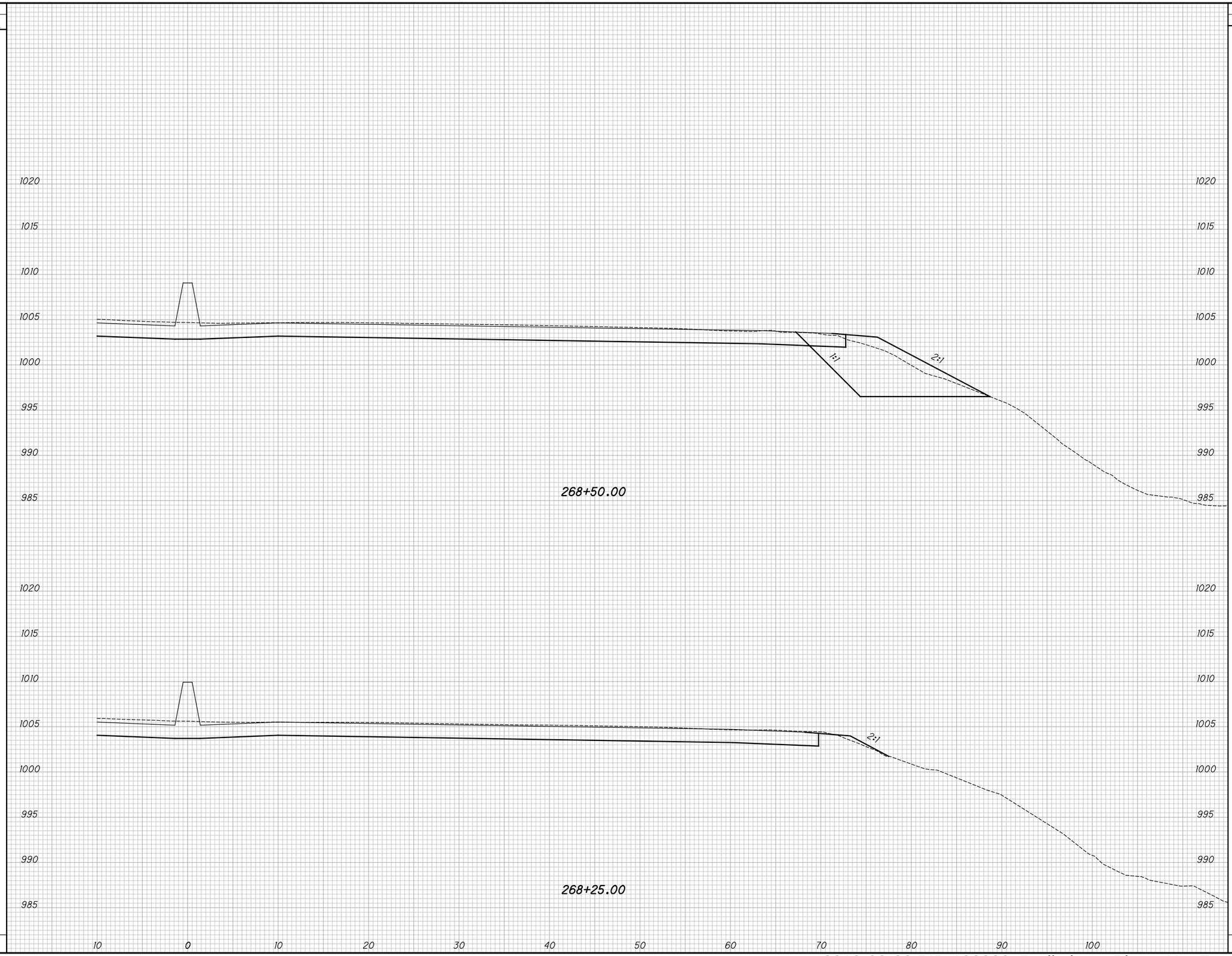
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
SWC	JTW

CROSS SECTIONS - I.R. 76
STA. 268+25.00 TO STA. 268+50.00

SUM-76-8.42
SUM-77-9.77

1
6

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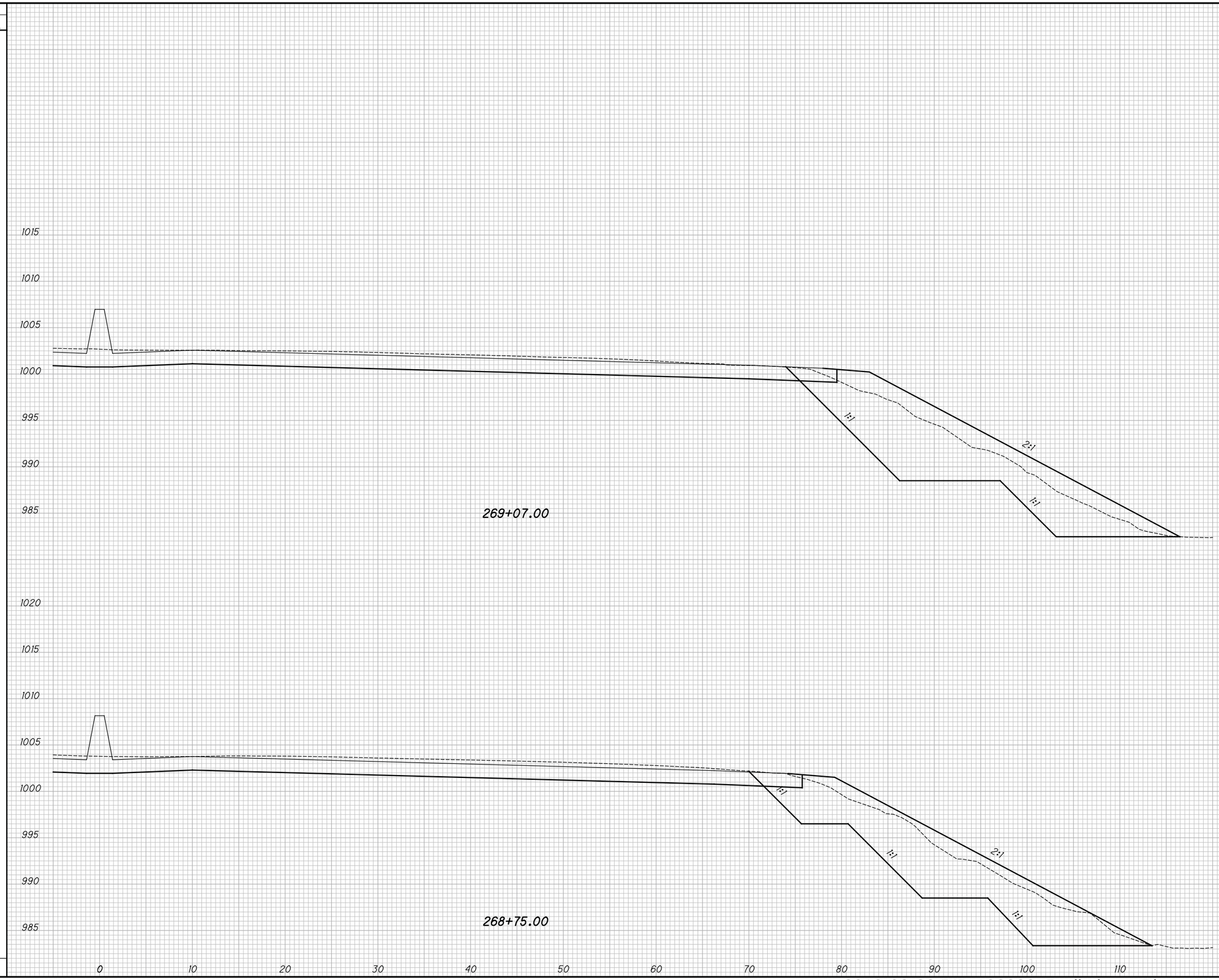
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
SWC	JTW

CROSS SECTIONS - I.R. 76
STA. 268+75.00 TO STA. 269+07.00

SUM-76-8.42
SUM-77-9.77

2
6

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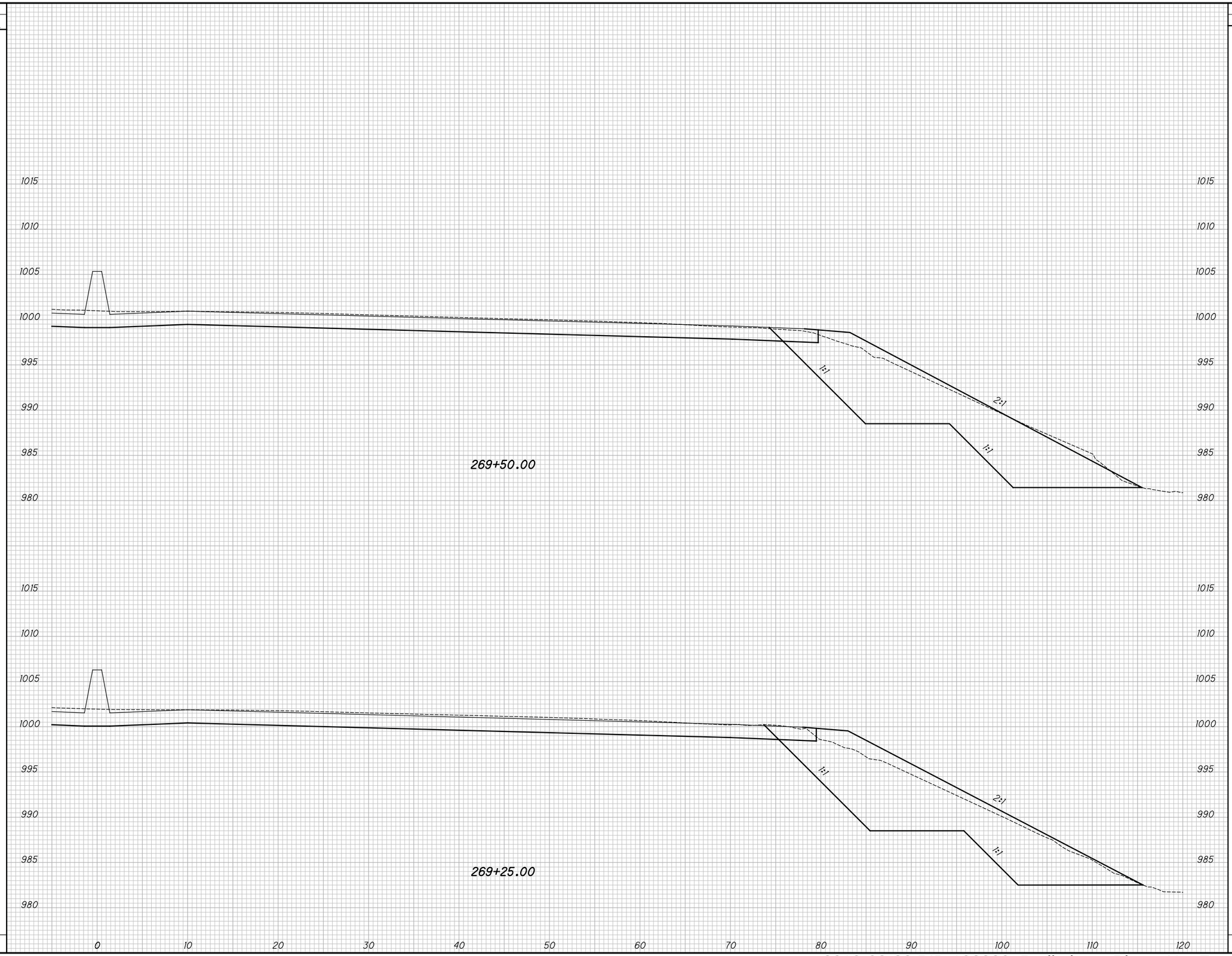

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
SWC	JTW

CROSS SECTIONS - I.R. 76
STA. 269+25.00 TO STA. 269+50.00

SUM-76-8.42
SUM-77-9.77

3
6

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SEEDING	
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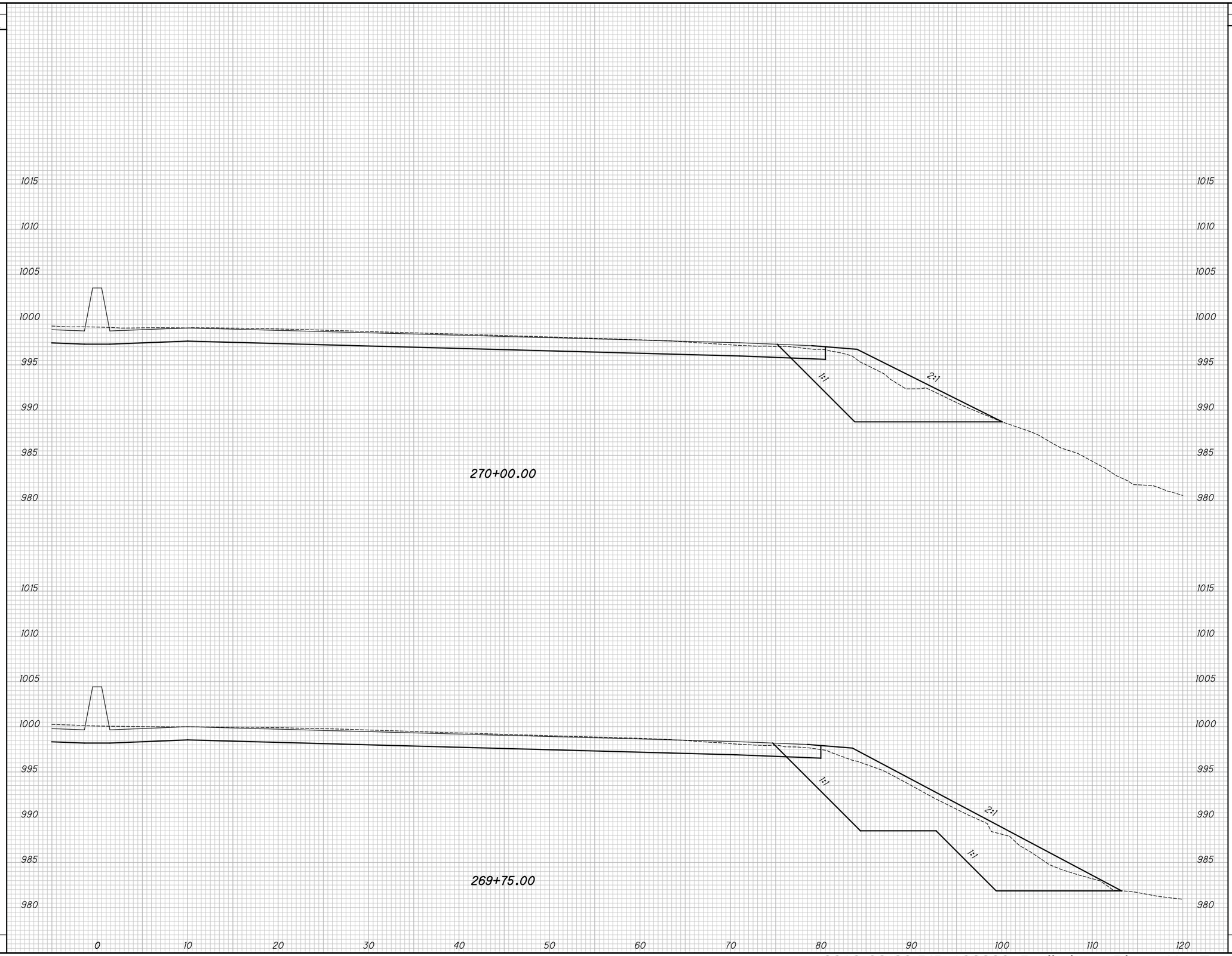

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED SWC
CHECKED JTW

CROSS SECTIONS - I.R. 76
STA. 269+75.00 TO STA. 270+00.00

SUM-76-8.42
SUM-77-9.77

4
6

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SEEDING	
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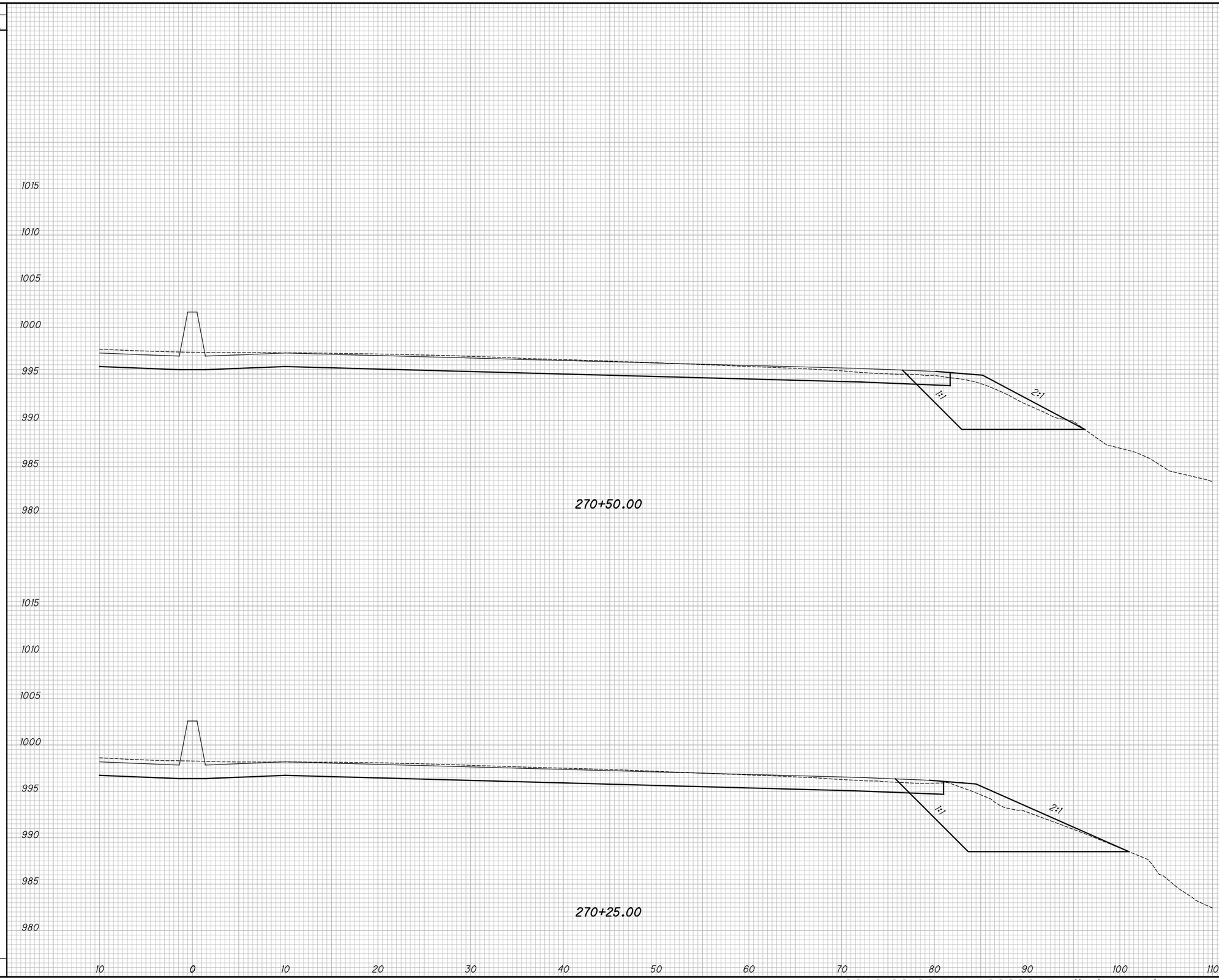

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED SWC
CHECKED JTW

CROSS SECTIONS - I.R. 76
STA. 270+25.00 TO STA. 270+50.00

SUM-76-8.42
SUM-77-9.77

5
6

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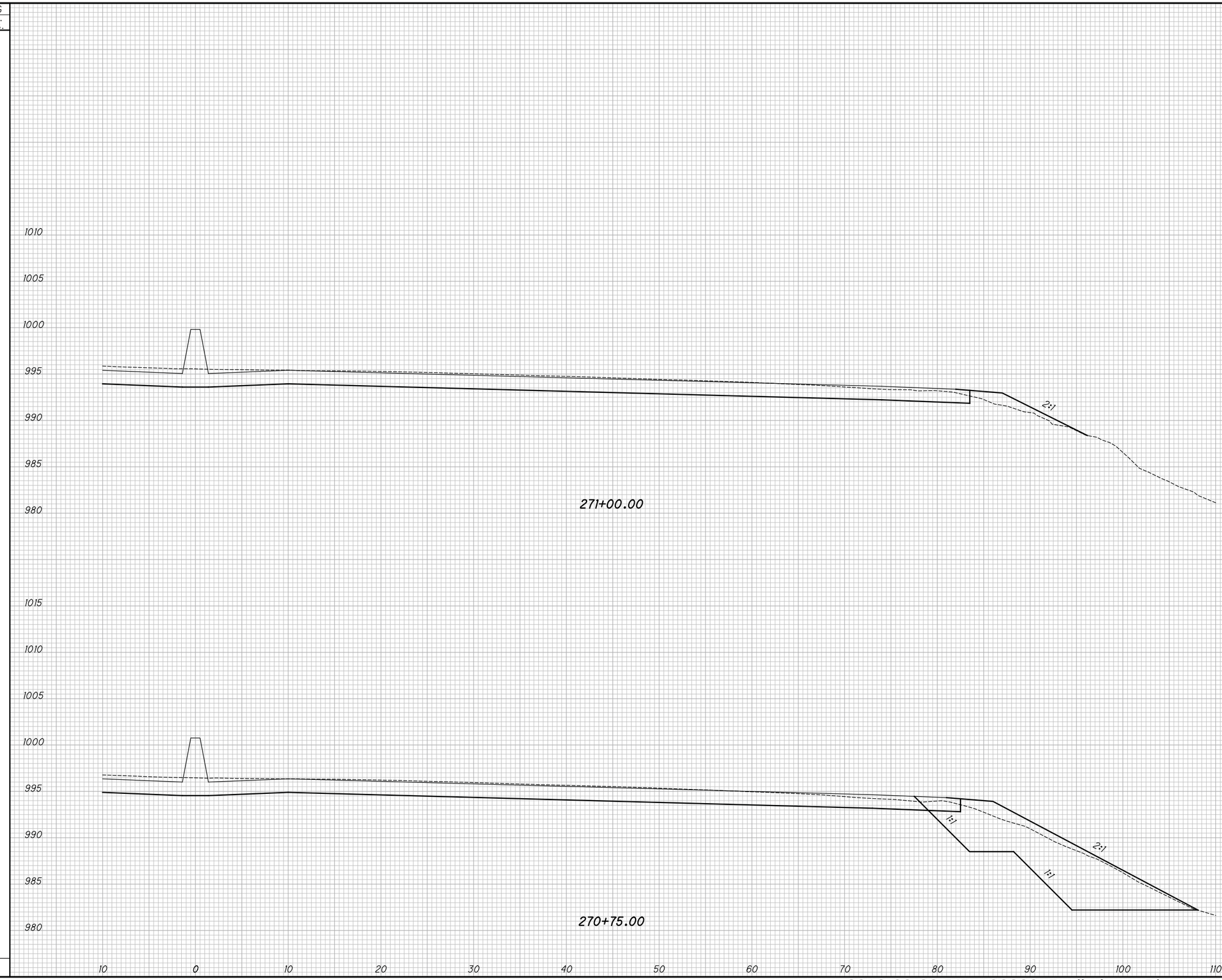
SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED	CHECKED
SWC	JTW

CROSS SECTIONS - I.R. 76

STA. 270+75.00 TO STA. 271+00.00

SUM-76-8.42
SUM-77-9.77

6
6

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Appendix 4

Forms

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 25.0

Stream & Location: SUM - IR76 IR 77 (PID 102329) **RM:** 3.4 **Date:** 06/04/19

Ohio Canal

Scorers Full Name & Affiliation: A.Bradford : Lawhon & Associates, Inc.

River Code: _ _ _-_ _ _-_ _ _ **STORET #:** _ _ _ _ _ _ **Lat./ Long.:** (NAD 83 - decimal °) 41 . 061557 /81 . 542101 **Office verified location** ■

1] SUBSTRATE

Check **ONLY Two** substrate *TYPE BOXES*; estimate % or note every type present

Check ONE (*Or 2 & average*)

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]			☐ ☐ HARDPAN [4]		
☐ ☐ BOULDER [9]	5		☐ ☐ DETRITUS [3]		
☐ ☐ COBBLE [8]			☐ ☐ MUCK [2]		
☐ ☐ GRAVEL [7]			☐ ■ SILT [2]	20	
☐ ☐ SAND [6]			◪ ☐ ARTIFICIAL [0]	75	
☐ ☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ■ 3 or less [0]

ORIGIN
- ☐ LIMESTONE [1]
- ☐ TILLS [1]
- ☐ WETLANDS [0]
- ■ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ■ HEAVY [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☑ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate -2 *Maximum 20*

Comments

2] INSTREAM COVER

Indicate presence 0 to 3: **0**-Absent; **1**-Very small amounts or if more common of marginal quality; **2**-Moderate amounts, but not of highest quality or in small amounts of highest quality; **3**-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

___ UNDERCUT BANKS [1]	2 POOLS > 70cm [2]	___ OXBOWS, BACKWATERS [1]
___ OVERHANGING VEGETATION [1]	___ ROOTWADS [1]	___ AQUATIC MACROPHYTES [1]
___ SHALLOWS (IN SLOW WATER) [1]	___ BOULDERS [1]	___ LOGS OR WOODY DEBRIS [1]
___ ROOTMATS [1]		

AMOUNT

Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ■ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 5 *Maximum 20*

3] CHANNEL MORPHOLOGY

Check ONE in each category (*Or 2 & average*)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☐ NONE [6]	■ HIGH [3]
☐ MODERATE [3]	☐ GOOD [5]	☐ RECOVERED [4]	☐ MODERATE [2]
☐ LOW [2]	☐ FAIR [3]	☐ RECOVERING [3]	☐ LOW [1]
■ NONE [1]	■ POOR [1]	■ RECENT OR NO RECOVERY [1]	

Comments

Channel 6 *Maximum 20*

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for ***EACH BANK*** (*Or 2 per bank & average*)

River right looking downstream

L	R	EROSION
■	■	NONE / LITTLE [3]
☐	☐	MODERATE [2]
☐	☐	HEAVY / SEVERE [1]

L	R	RIPARIAN WIDTH
☐	☐	WIDE > 50m [4]
☐	☐	MODERATE 10-50m [3]
☐	☐	NARROW 5-10m [2]
■	■	VERY NARROW < 5m [1]
	☐	NONE [0]

L	R	FLOOD PLAIN QUALITY
☐	☐	FOREST, SWAMP [3]
☐	☐	SHRUB OR OLD FIELD [2]
■	■	RESIDENTIAL, PARK, NEW FIELD [1]
☐	☐	FENCED PASTURE [1]
☐	☐	OPEN PASTURE, ROWCROP [0]

L	R	
☐	☐	CONSERVATION TILLAGE [1]
☐	☐	URBAN OR INDUSTRIAL [0]
☐	☐	MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 5 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check **ONE** (*ONLY!*)
- ■ > 1m [6]
- ☐ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH

Check ONE (*Or 2 & average*)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ■ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☐ MODERATE [1]
- ■ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 7 *Maximum 12*

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (*Or 2 & average*). ■ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☐ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☐ BEST AREAS 5-10cm [1]	☐ MAXIMUM < 50cm [1]	☐ MOD. STABLE (e.g., Large Gravel) [1]	☐ LOW [1]
☐ BEST AREAS < 5cm [metric=0]		☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	☐ MODERATE [0]
			☐ EXTENSIVE [-1]

Comments

Riffle / Run 0 *Maximum 8*

6] GRADIENT

(1.2 ft/mi)
- ■ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (1.7 mi²)

%POOL: 100 **%GLIDE:** 0% **%RUN:** 0% **%RIFFLE:** 0%

Gradient 4 *Maximum 10*

A] SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☐ WADE
- ☐ L. LINE
- ☒ OTHER

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☐ OTHER

_____ meters

STAGE

1st -sample pass-	2nd
☐ HIGH	☐
☐ UP	☐
☒ NORMAL	☐
☐ LOW	☐
☐ DRY	☐

CLARITY

1st --sample pass--	2nd
☐ < 20 cm	☐
☐ 20-<40 cm	☐
☐ 40-70 cm	☐
☐ > 70 cm/ CTB	☐
☐ SECCHI DEPTH	☐

1st pass _____ cm

2nd _____ cm

CANOPY

- ☐ > 85%- OPEN
- ☐ 55%-<85%
- ☒ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?*, Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

Stream channel was too deep to wade and therefore no access into the stream was made. Measurements and assessments were taken from visual characteristics.

pH 7.8

B] AESTHETICS

- ☐ NUISANCE ALGAE
- ☐ INVASIVE MACROPHYTES
- ☐ EXCESS TURBIDITY
- ☒ DISCOLORATION
- ☐ FOAM / SCUM
- ☐ OIL SHEEN
- ☒ TRASH / LITTER
- ☐ NUISANCE ODOR
- ☒ SLUDGE DEPOSITS
- ☒ CSOs/SSOs/OUTFALLS

C] RECREATION

	AREA	DEPTH
POOL:	☐ >100ft²	☐ >3ft

D] MAINTENANCE

Circle some & *COMMENT*

PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

E] ISSUES

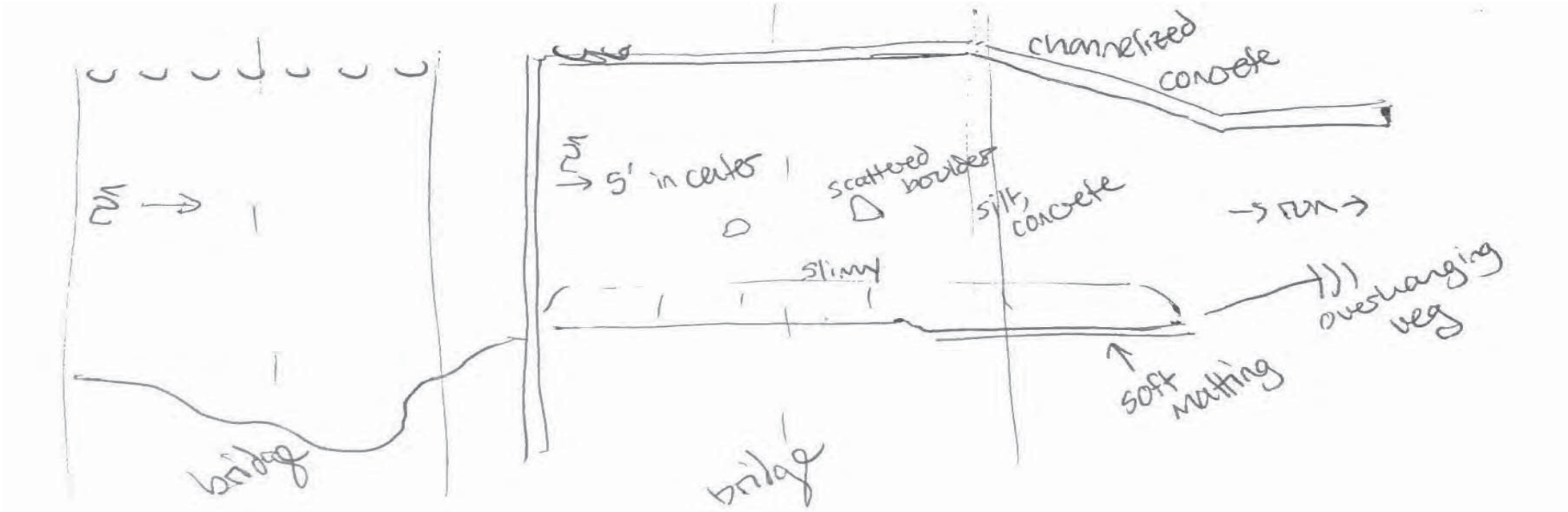
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width
- $\bar{x}$ depth
- max. depth
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 59

SITE NAME/LOCATION SUM-76-6.31

Stream 1, lower SITE NUMBER AS-39 RIVER BASIN Muskingum River DRAINAGE AREA (mi²) 0.19

LENGTH OF STREAM REACH (ft) 90 LAT. 41.0606 LONG. -81.5692 RIVER CODE _____ RIVER MILE _____

DATE 9/10/14 SCORER L.Scott, A.Schweitzer COMMENTS _____

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

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

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	10
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☐	CLAY or HARDPAN [0 pt]	
☑	GRAVEL (2-64 mm) [9 pts]	40	☐	MUCK [0 pts]	
☑	SAND (<2 mm) [6 pts]	30	☐	ARTIFICIAL [3 pts]	20

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)** 15 **(B)** 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **TOTAL NUMBER OF SUBSTRATE TYPES:**

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

- ☐ > 30 centimeters [20 pts]
- ☑ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

18

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

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

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☑ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

1.3

COMMENTS _____ **AVERAGE BANKFULL WIDTH (meters)**

HHEI Metric Points

Substrate Max = 40 19

A + B

Pool Depth Max = 30 25

Bankfull Width Max=30 15

This information must also be completed

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

RIPARIAN WIDTH L	R	(Per Bank)	FLOODPLAIN QUALITY L	R	(Most Predominant per Bank)	L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	☑	☑	Urban or Industrial
☑	☑	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS _____

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

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS Personal

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

- ☐ None
- ☑ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

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

Mod. Class II PHWH

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

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

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Tuscarawas River Distance from Evaluated Stream 2.6mi

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangle Name: Akron West NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Summit County Township / City: Coventry/Akron

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 9/7/2014 Quantity: 0.1"

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 20%

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C)_____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

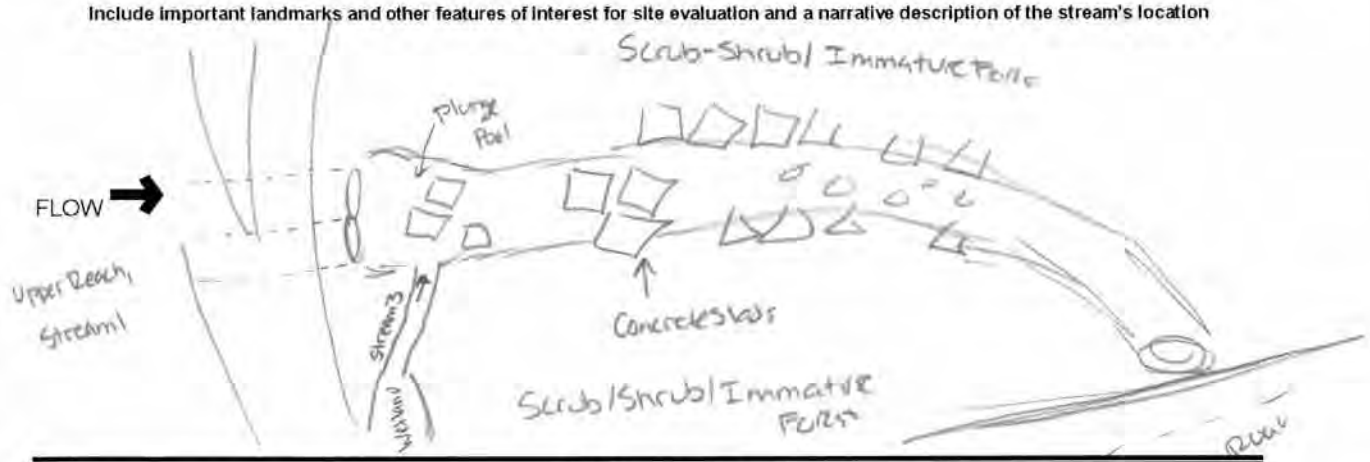
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N)_____ Voucher? (Y/N)_____ Salamanders Observed? (Y/N)_____ Voucher? (Y/N)_____
Frogs or Tadpoles Observed? (Y/N)____ Voucher? (Y/N)____ Aquatic Macroinvertebrates Observed? (Y/N)____ Voucher? (Y/N)____

Comments Regarding Biology: _____

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

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



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM-36631 City/County: Akron / Summit County Sampling Date: 9/3/2014

Applicant/Owner: ODOT State: OH Sampling Point: Sp 19

Investigator(s): L. Scott, A. Schweitzer Section, Township, Range: T2N R9W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5%

Subregion (LRR or MLRA): 2L13 Lat: 41.063° Long: -81.527° Datum:

Soil Map Unit Name: Urban land NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N, Soil N, or Hydrology N 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	**Is the Sampled Area within a Wetland?**	Yes ✓ No
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID:	Wetland A

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3) (requires depth of water table)
- ___ 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches):
Water Table Present?	Yes ___	No ✓	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0 - 10

Wetland Hydrology Present? Yes ✓ No

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

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: Sp 19

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Prosopis glandulosa	100		FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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.

Definitions of Vegetation Strata:

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

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

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3 28 ft tall.

Woody vines – All woody vines greater than 3 28 ft in height

Hydrophytic Vegetation Present? Yes ✓ No

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

SOIL

Sampling Point: Sp 19

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Clayloam	
6-18	10YR 5/2	80	7.5YR 4/6	20	C	M	Sandy clayloam	

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ 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:

(Redox Features)

WETLAND DETERMINATION DATA FORM – Nor icentral and Northeast Region

Project/S e: _____ City/County: _____ Sampling Date: 9/13/2014

Applican Owner: _____ State: _____ Sampling Point Sp 20

Investiga r(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave convex, none): _____ Slope (%): _____

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No _____ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	If yes, optional Wetland Site ID: Upland A
Wetland Hydrology Present?	Yes _____	No ✓	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3) (requires depth of water table)
- ___ 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches):
Water Table Present?	Yes _____	No ✓	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches):

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Sp 20

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Solidago canadensis	30%	✓	FACU
2. Lolium perenne	40%	✓	FACU
3. Cirsium arvense	20%	✓	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100% = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 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	100	x 4 =	400
UPL species		x 5 =	
Column Totals:		(A)	(B)

Prevalence Index = B/A = 4

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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ____ No ✓

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

SOIL

Sampling Point: Sp 20

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100						
10+	10YR 4/3	100						Unconsolidated Parent Material

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Soil / Rock

Depth (inches): 10

Hydric Soil Present? Yes _____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: [illegible] City/County: [illegible] Sampling Date: [illegible]

Applicant/Owner: [illegible] State: [illegible] Sampling Point: Sp 1

Investigator(s): [illegible] Section, Township, Range: T1N R11W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0%

Subregion (LRR or MLRA): [illegible] Lat: 41.06004 Long: -81.5[illegible] Datum:

Soil Map Unit Name: Urban land (UrA) NWI classification

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N, Soil N, or Hydrology N 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	Is the Sampled Area within a Wetland?	Yes ✓ No
Hydric Soil Present?	Yes ✓ No	If yes, optional Wetland Site ID:	Wetland B
Wetland Hydrology Present?	Yes ✓ No		

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3) (requires depth of water table)
- ___ 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ___	Depth (inches):
Water Table Present?	Yes ✓	No ___	Depth (inches): 10-18"
Saturation Present? (Includes capillary fringe)	Yes ✓	No ___	Depth (inches): 8 8"

Wetland Hydrology Present? Yes ✓ No

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: Sp 1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Pycnanthemum virginianum	100	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ✓ No

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

SOIL Sampling Point: Sp 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					loam	
6-18	10YR 4/1	90	7.5YR 5/8	10	C	M	clay loam	

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ 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:

Dominant Rock

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: [illegible] City/County: [illegible] Sampling Date: 9/3/2014

Applicant/Owner: ODOT State: OH Sampling Point: Sp 2

Investigator(s): L. Smith, A. Schweinhart Section, Township, Range: T1N R11W

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0%

Subregion (LRR or MLRA): 113 Lat: 41.01600 Long: -81.5[illegible] Datum:

Soil Map Unit Name: Wooster (WoB) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation N, Soil N, or Hydrology N 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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present? Yes ____ No ✓	
Wetland Hydrology Present? Yes ____ No ✓	If yes, optional Wetland Site ID: Upland B

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3) (requires depth of water table)
- ___ 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches):

Water Table Present? Yes ____ No ✓ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 14-18

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Sp 2

VEGETATION – Use scientific nam[illegible]s of plants. Sa[illegible]pling Point: [illegible]

Tree Stratum (Plot size:)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		= Total Cover		
Herb Stratum (Plot size: 5')				
1. Lolium perenne		100	✓	FACU
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		100 = Total Cover		
Woody Vine Stratum (Plot size:)				
1.				
2.				
3.				
4.				
		= 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 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species	100	x 4 =	400
UPL species		x 5 =	
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4

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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ___ No ✓

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

SOIL

Sampling Point: Sp 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/2	XX%					loam	

[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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 3

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Concave Slope (%): 3-5

Subregion (LRR or MLRA): LRR-R Lat: 41.06078 Long: -81.55314 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland-unassociated
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phalaris arundinacea	80	Yes	FACW
2. Verbena hastata	10	No	FACU
3. Lathyrus latifolius	5	No	UPL
4. Cirsium arvense	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	98 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Clay Loam	
6-8	10YR 4/3	75	10YR 4/6	25	C	M	Clay Loam	
8-16	10 YR 5/6	60	10YR 6/1	40	D	M	Clay Loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 4

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06118 Long: -81.55145 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Upland-unassociated
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 4

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phalaris arundinacea	80	Yes	FACW
2. Ascelepias syriaca	10	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis vulpina	5	Yes	FAC
2.			
3.			
4.			
	5 = 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 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Sandy gravel	
8-16	10YR 4/2	96	10YR 5/4	4	C	M	Sandy gravel	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☑ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 5

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06137 Long: -81.55086 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

PEM community

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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Phragmites australis	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100						

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil profile information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 6

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): Concave Slope (%): 1-4

Subregion (LRR or MLRA): LRR-R Lat: 41.06093 Long: -81.55002 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 6

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	90	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 7

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): LRR-R Lat: 41.06102 Long: -81.54956 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 7

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	90	Yes	FACW
2. Festuca rubra	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

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

SOIL Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Silty clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 8

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06117 Long: -81.54851 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 8

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Phragmites australis	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Silty clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil profile was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 9

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR-R Lat: 41.06223 Long: -81.54417 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 9

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Parthenocissus quinquefolia	5	Yes	FACU
2.			
3.			
4.			
	5 = 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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	100 (A)		210 (B)

Prevalence Index = B/A = 2.10

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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

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

SOIL Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Silty clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil profile information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 10

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 2-3

Subregion (LRR or MLRA): LRR-R Lat: 41.06228 Long: -81.54361 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 10

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Phragmites australis	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL

Sampling Point: 10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					Silty clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil profile information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 11

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): ROW Local relief (concave, convex, none): concave Slope (%): 1-2

Subregion (LRR or MLRA): LRR-R Lat: 41.06228 Long: -81.54360 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland BB
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 11

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Festua rubra	80	Yes	FACU
2. Lotus corniculatus	10	No	FACU
3. Dipsacus fullonum	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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 (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL

Sampling Point: 11

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					sandy loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel Fill

Depth (inches): 12

Hydric Soil Present? Yes ☐ No ☑

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 12

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06233 Long: -81.54294 Datum: NAD 83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Wetland BB
Wetland Hydrology Present?	Yes ☑	No ☐	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☑	No ☐	Depth (inches): 0

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 12

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	90	Yes	FACW
2. Cirsium arvense	8	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	98 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes [x] No [ ]

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

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	95	10YR 5/6	5	C	M	sandy loam	
12-16	10YR 5/2	65	10YR 6/8	30	C	M	sandy loam	
			10YR 2/1	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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 13

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06242 Long: -81.54156 Datum: NAD83

Soil Map Unit Name: Jimtown-urban land complex (Ju) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☑, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☑

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Wetland C
Wetland Hydrology Present?	Yes ☑	No ☐	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 13

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	90	Yes	FACW
2. Convolvulus arvensis	3	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	93 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis riparia	15	Yes	FAC
2.			
3.			
4.			
	15 = 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 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL

Sampling Point: 13

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					sandy loam	
3-10	10YR 4/2	94	10YR 7/8	3	C	M	sandy loam	
			10YR 2/1	3	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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel fill

Depth (inches): 10

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soil disturbed- right-of-way

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 14

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR-R Lat: 41.06242 Long: -81.54164 Datum: NAD83

Soil Map Unit Name: Jimtown-urban land complex (Ju) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Upland C
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 14

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Festuca rubra	70	Yes	FACU
2. Convolvulus arvensis	8	No	UPL
3. Phragmites australis	8	No	FACW
4. Ambrosia artemisiifolia	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	91 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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 (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL Sampling Point: 14

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					sandy loam	
3-10	10YR 4/2	94	10YR 7/8	3	C	M	sandy loam	
			10YR 2/1	3	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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel fill

Depth (inches): 10

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Soil disturbed- right-of-way

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 15

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1-3

Subregion (LRR or MLRA): LRR-R Lat: 41.04865 Long: -81.50570 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 15

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL

Sampling Point: 15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					silty clay loam	

[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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

This soil profile information was collected and characterized by ODOT-OES personnel on August 6, 2019.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 16

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): LRR-R Lat: 41.04497 Long: -81.50505 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Wetland D
Wetland Hydrology Present?	Yes ☑	No ☐	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 16

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	95	Yes	FACW
2. Rumex crispus	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ☑ **No** ☐

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

SOIL

Sampling Point: 16

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	90	10YR 6/8	10	C	M	sandy loam	
5-16	10YR 4/4	80	10YR 6/8	15	C	M	sandy clay loam	
			10YR 2/1	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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 17

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR or MLRA): LRR-R Lat: 41.04501 Long: -81.50504 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☑	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☑	No ☐	If yes, optional Wetland Site ID: Upland D
Wetland Hydrology Present?	Yes ☐	No ☑	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 17

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Dipsacus fullonum	94	Yes	FACU
2. Rumex crispus	3	No	FAC
3. Galium aparine	3	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	0 = 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 (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.

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

SOIL Sampling Point: 17

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	100					silty clay loam	
5-11	10YR 4/2	60	10YR 6/8	30	C	M	silty clay loam	
			10YR 6/4	10	C	M		
11-18	10YR 6/6	45	10YR 7/8	40	C	M	silty clay loam	
			10YR 7/3	15	C	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)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SUM 76/77 City/County: Akron/Summit County Sampling Date: 6/4/2019

Applicant/Owner: ODOT State: OH Sampling Point: 18

Investigator(s): A. Bradford, B.Hollinden, J. Robbins Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 2-6

Subregion (LRR or MLRA): LRR-R Lat: 41.02977 Long: -81.50453 Datum: NAD83

Soil Map Unit Name: Udorthents (Ua) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Hydric Soil Present?	Yes ☐	No ☑	
Wetland Hydrology Present?	Yes ☐	No ☑	If yes, optional Wetland Site ID: Upland

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ 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)
- ☐ Marl Deposits (B15)
- ☐ 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)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☑	Depth (inches):
Water Table Present?	Yes ☐	No ☑	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ☐	No ☑	Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

This hydrology information was noted by ODOT-OES personnel on August 6, 2019.

VEGETATION – Use scientific names of plants.

Sampling Point: 18

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Phragmites australis	80	Yes	FACW
2. Symphyotrichum novae-angliae	5	No	FACW
3. Securigera varia	2	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Parthencissus quinquefolia	3	No	FACU
2.			
3.			
4.			
	3 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- [x] 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.

Definitions of Vegetation Strata:

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

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

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

Hydrophytic Vegetation Present? **Yes** [x] **No** [ ]

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

SOIL Sampling Point: 18

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					silt loam	

[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)
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- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
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- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ 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:

ORAM v. 5.0 Field Form Quantitative Rating

Site: SUM-76-6.31 AS-\ WetlandA	**Rater(s):** LScott, A. Schweitzer	**Date:** 9/3/14

Metric 1. Wetland Area (size).

max 6 pts: 0 | subtotal: 0

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)

Metric 2. Upland buffers and surrounding land use.

max 14 pts: 1 | subtotal: 1

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), shrubland, 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.

max 30 pts: 4 | subtotal: 5

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)
- [ ] 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)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] 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.

max 20 pts: 6 | subtotal: 11

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)
- [ ] Poor to fair (2)
- [x] 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

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

subtotal this page: 11

ORAM v. 5.0 Field Form Quantitative Rating

Site: SUM-76-6.31 AS- \	Rater(s): L.Scott, A. Schweitzer	Date: 9/3/14

11
subtotal this page

-10 | 1 — 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 Praires (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [X] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

-5 | -4 — max 20 pts | subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [ ] 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)
- [X] None (0)

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

- [X] 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)
- [ ] Standing dead >25cm (10in) dbh
- [ ] 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 generallyw/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

-4 **GRAND TOTAL(max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address http://www.epa.state.oh.us/dsw/401/401.html

Version 5.0	**Ohio Rapid Assessment Method for Wetlands** **10 Page Form for Wetland Categorization**	
	Background Information **Scoring Boundary Worksheet** **Narrative Rating** **Field Form Quantitative Rating** **ORAM Summary Worksheet** **Wetland Categorization Worksheet**	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Mark Fedosick
Date: 08/02/2019
Affiliation: ms consultants, inc
Address: One Cascade Plaza Suite 140, Akron, Ohio, 44308-1116
Phone Number: 330-258-9920
e-mail address: mfedosick@msconsultants.com
Name of Wetland: WL-B
Vegetation Communit(ies): Palustrine Emergent (PEM)
HGM Class(es): Depression (I) Surface Water (A)
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Report

Lat/Long or UTM Coordinate	41.026289, -81.502493
USGS Quad Name	Akron East
County	Summit
Township	Coventry Twp.
Section and Subsection	T 1 N, R 11 W
Hydrologic Unit Code	050400010101
Site Visit	06/07/2018
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: WL-B	
Wetland Size (acres, hectares):	1.41 ac

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

See Report

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 25	**Category:** CAT 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.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
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.	X	
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.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.	X	

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

Narrative Rating

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

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

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO 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: WL-B	**Rater(s):** Mark Fedosick	**Date:** 08/02/2019

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.

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

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

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

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

Metric 4. Habitat Alteration and Development.

10	26
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.

- [ ] 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
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

26
subtotal this page

last revised 1 February 2001 jjm

Site: WL-B	**Rater(s):** Mark Fedosick	**Date:** 08/02/2019

26
subtotal first page

0 (max 10 pts.) | 26 (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.) | 25 (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)
- [X] 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)
- [x] 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)
- [ ] Standing dead >25cm (10in) dbh
- [ ] 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

25

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	25	Category based on score breakpoints Cat. 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Jeff Robbins & Angel Bradford
Date: 06/06/2019
Affiliation: Lawhon & Associates
Address: 1441 King Avenue Columbus, Ohio 43212
Phone Number: (614) 481-8600
e-mail address: jrobbins@lawhon-assoc.com
Name of Wetland: Wetland BB
Vegetation Communit(ies): PEM
HGM Class(es): Slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)

Lat/Long or UTM Coordinate	WGS 1984	41.06233	-81.54294
USGS Quad Name			Akron West
County			Summit
Township			N/A
Section and Subsection			N/A
Hydrologic Unit Code			050400010105
Site Visit			06-04-2019
National Wetland Inventory Map			None
Ohio Wetland Inventory Map			None
Soil Survey			Ua
Delineation report/map			Yes

Name of Wetland:	Wetland BB
Wetland Size (acres, hectares):	ac.0.002

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

Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 7	**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 BB

Narrative Rating

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

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

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	(NO) Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	(NO) Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	(NO) Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	(NO) 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 BB SUM 76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Wetland BB

ac.0.002

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)

Metric 2. Upland buffers and surrounding land use.

1 (max 14 pts.) | 1 (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.

6 (max 30 pts.) | 7 (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)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

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

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [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)
- [x] 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)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

4 (max 20 pts.) | 11 (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)
- [ ] Poor to fair (2)
- [x] Poor (1)

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

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

Check all disturbances observed

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

11 (subtotal this page)

last revised 1 February 2001 jjm

0

Site: Wetland BB SUM 76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

11
subtotal first page

Metric 5. Special Wetlands.

Wetland BB

0 max 10 pts. | 11 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. | 7 subtotal

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

- [0] Aquatic bed
- [1] Emergent
- [0] Shrub
- [0] Forest
- [0] Mudflats
- [0] Open water
- [0] 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

7

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland BB

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	6	
	Metric 4. Habitat	4	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	7	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland BB **Wetland Categorization Worksheet**

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

Final Category

Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Jeff Robbins & Angel Bradford	
Date: 06/06/2019	
Affiliation: Lawhon & Associates	
Address: 1441 King Avenue Columbus, Ohio 43212	
Phone Number: (614) 481-8600	
e-mail address: jrobbins@lawhon-assoc.com	
Name of Wetland: Wetland C	
Vegetation Communit(ies): PEM	
HGM Class(es): Riverine	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)	
Lat/Long or UTM Coordinate WGS 1984 41.062373	-81.541583
USGS Quad Name	Akron West
County	Summit
Township	N/A
Section and Subsection	N/A
Hydrologic Unit Code	050400010105
Site Visit	06/04/2019
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	None
Soil Survey	Ua
Delineation report/map	Yes

Name of Wetland:	Wetland C
Wetland Size (acres, hectares):	0.074 ac.

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

Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 13	**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 C

Narrative Rating

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

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

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	(NO) Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	(NO) Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	(NO) Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	(NO) 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 C SUM76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

Metric 1. Wetland Area (size).

0	0
max 6 pts.	subtotal

0.074 ac.

Wetland C

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)

Metric 2. Upland buffers and surrounding land use.

2	2
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.

11	13
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.

- [x] 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)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

4	17
max 20 pts.	subtotal

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [ ] Recovering (2)
- [x] 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.

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

Check all disturbances observed

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

17
subtotal this page

last revised 1 February 2001 jjm

0

Site: Wetland C SUM76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

17
subtotal first page

0 (max 10 pts.) | 17 (subtotal)

Metric 5. Special Wetlands.

Wetland C

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)

-4 (max 20 pts.) | 13 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

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

- [0] Aquatic bed
- [1] Emergent
- [0] Shrub
- [0] Forest
- [0] Mudflats
- [0] Open water
- [0] 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

13

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland C

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	2	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	4	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	13	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland C **Wetland Categorization Worksheet**

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

Final Category

Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Jeff Robbins & Angel Bradford
Date: 06/06/2019
Affiliation: Lawhon & Associates
Address: 1441 King Avenue Columbus, Ohio 43212
Phone Number: (614) 481-8600
e-mail address: jrobbins@lawhon-assoc.com
Name of Wetland: Wetland D
Vegetation Communit(ies): PEM
HGM Class(es): Slope
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)

Lat/Long or UTM Coordinate	WGS 1984	41.04497	-81.50505
USGS Quad Name			Akron West
County			Summit
Township			N/A
Section and Subsection			N/A
Hydrologic Unit Code			041100020304
Site Visit			06/04/2019
National Wetland Inventory Map			None
Ohio Wetland Inventory Map			None
Soil Survey			Ua
Delineation report/map			Yes

Name of Wetland:	Wetland D
Wetland Size (acres, hectares):	0.004 ac.

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

Please see Level 1 ESR for SUM-IR76_IR77 (PID 102329)

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 10	**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 D

Narrative Rating

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

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

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	(NO) Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	(NO) Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	(NO) Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	(NO) 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 D SUM 76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Select one size class and assign score.

Wetland D

0.004 ac.

- [ ] >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)

Metric 2. Upland buffers and surrounding land use.

2 (max 14 pts.) | 2 (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.

6 (max 30 pts.) | 8 (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)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

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

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [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)
- [ ] Recovered (7)
- [x] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

6 (max 20 pts.) | 14 (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.

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

Check all disturbances observed

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

14 (subtotal this page)

0

last revised 1 February 2001 jjm

Site: Wetland D SUM 76/77	**Rater(s):** JR & AB	**Date:** 06/06/2019

14
subtotal first page

Metric 5. Special Wetlands.

Wetland D

0 max 10 pts. | 14 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. | 10 subtotal

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

- [0] Aquatic bed
- [1] Emergent
- [0] Shrub
- [0] Forest
- [0] Mudflats
- [0] Open water
- [0] 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

10

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland D

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	2	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	10	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland D **Wetland Categorization Worksheet**

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

Final Category

Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Ohio Mussel Habitat Assessment Form

Project Information

Project Name: SUM – IR 76 IR 77 (PID 102329)

County: Summit Township: Coventry

Latitude (DD.DDDD): 41.061557 Longitude (DD.DDDD): -81.542101

Stream Name: Ohio Canal Group # (From Appendix A): 1

Methods

Name of Surveyor(s): Beth Hollinden, Angel Bradford, Jeff Robbins

Qualification of Surveyor(s): ☐ USFWS Approved ☒ ODNR Approved ☒ Aquatic Biologist (minimum)

Date of Survey: 06/04/2019 Distance Surveyed (ft.): N/A

Total Survey Time (min. x people): 45 Scientific Collector's Permit Number(s): 20-120

Note any deviations from the Ohio Mussel Habitat Assessment Methods :

The Ohio and Erie Canal at the location of the study area was too deep to wade. Access to the canal was only available along a steep artificial bank that proposed a safety hazard. Due to the potential risks of entering the canal no entrance into the water was made, but a visual inspection for mussels in the canal was made from the banks as well as from above along a bridge crossing. The water carried a lower level of turbidity allowing for an adequate visual inspection to be made.

Habitat Description of Survey Area

Drainage Area at Survey Location (mi^2): 1.67 Water Temp. (^oF): N/A Air Temp. (^oF): N/A

Substrate Types (include %):

☒ Boulder	5	☐ Gravel		☐ Bedrock		☐ Detritus		☒ Silt	20
☐Cobble		☐ Sand		☐ Hardpan		☐ Muck		☒ Artificial	75

Water Level: ☐ High ☐ Up ☐ Normal ☐ Low ☐Dry/Interstitial

Visibility: ☐ 0-15 cm ☐ 15-30 cm ☐ 30-50 cm ☐ >50 cm ☒ Visible to Bottom

Average Depth (cm): Riffle _____ Run _____ Pool 150

Max Depth (cm): Riffle _____ Run _____ Pool 150

Results

Evidence of Mussels: Presence of fresh dead mussel shells and living mussels will trigger a full mussel survey

☒ None ☐ Mussel Shell Only - Subfossil ☐ Mussel Shell Only – Weathered Dead ☐ Mussel Shell – Fresh Dead ☐ Living Mussels

Site Sketch. Approximate numbers and locations of shells and live mussels. Include species list if possible.

Required Attachments 1) Location Map and 2) Photo Log

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR MARY MERTZ, DIRECTOR

Kendra S. Wecker, Chief
Division of Wildlife
2045 Morse Rd, Building G
Columbus, Ohio 43229
Phone: (614) 265-6300

21 February 2019

Angel Bradford
Lawhon & Associates, Inc.
1441 King Ave.
Columbus, OH 43212

Dear Ms. Bradford,

Per your request, I have e-mailed you a set of shapefiles with our Natural Heritage Program data for the SUM-76/77-8.42/9.77 (PID 102329) project, including a one mile radius, in Akron, Summit County, Ohio. This data will not be published or distributed beyond the scope of the project description on the data request form.

Records included in the data layer may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, A = recently added to inventory with a state status not yet determined, X = presumed extirpated from Ohio, FE = federal endangered, FT = federal threatened, FC = federal candidate species, and FSC = federal species of concern.

The managed areas layer includes state, federal and county lands, as well as areas owned by non-profits, museums and other entities. Managed areas are sites under formal protection for their natural resources. Please be aware that this layer may not be complete and we are continually updating it as new information becomes available to us.

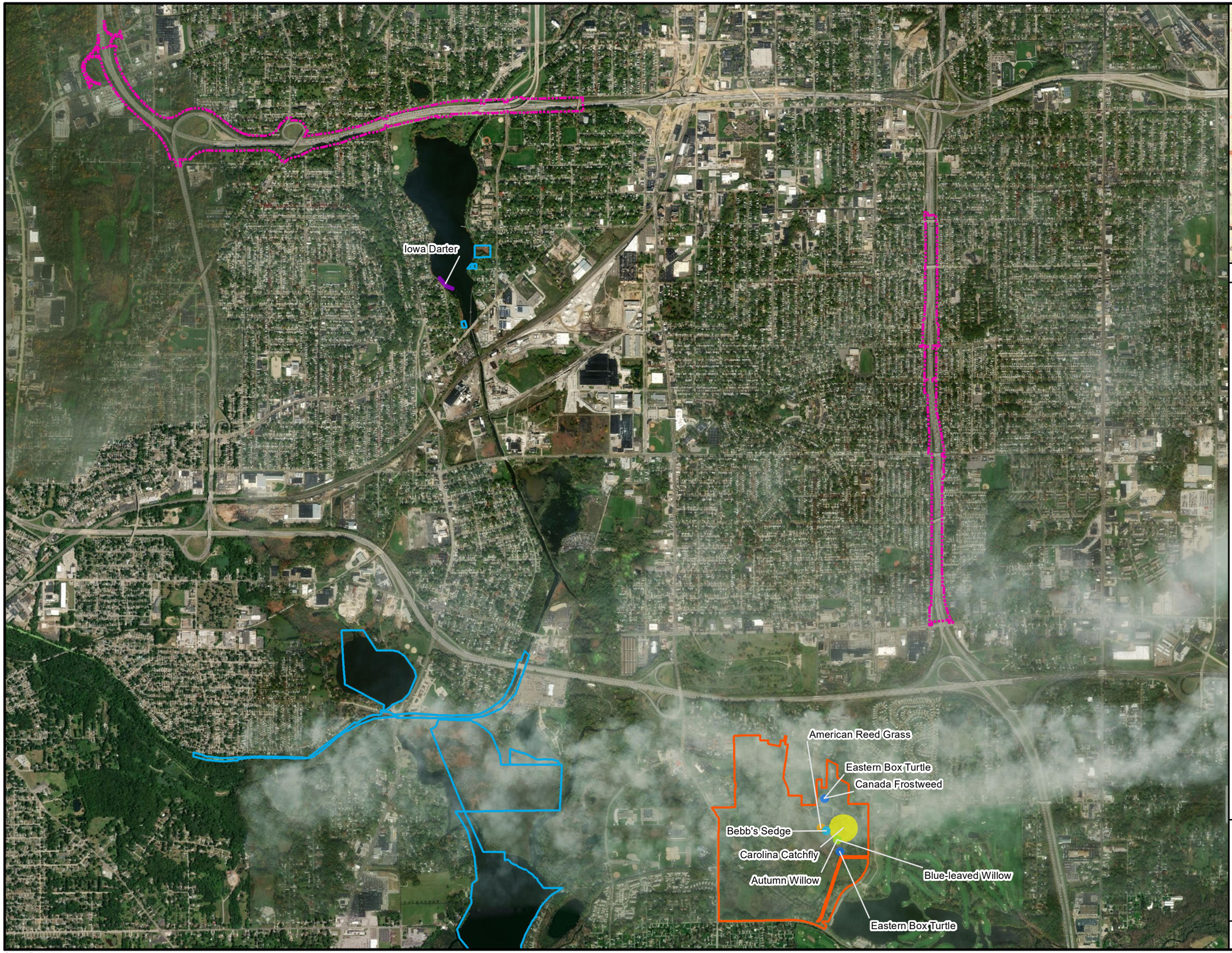
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review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

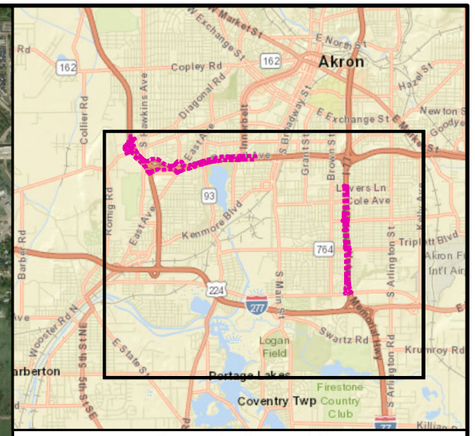
Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke
Ohio Natural Heritage Program





Extent Indicator Map

Legend

N

- Study Area

Managed Area

- Firestone Metro Park
- Portage Lakes State Park

ODNR Species

- American Reed Grass
- Autumn Willow
- Blue-leaved Willow
- Canada Frostweed
- Eastern Box Turtle
- Carolina Catchfly
- Bebb's Sedge
- Iowa Darter

0 1,000 2,000 4,000 Feet

SUM-IR76 / IR77
PID: 102329

ODNR NHD Map

Lawhon & Associates, Inc.

Date:	Approved by:	L&A No.	Figure
Nov 2019	TP	18-0568	5

Source: Esri World Imagery

File Name: 05-Odnr.mxd

Edited: 11/25/2019 By: dwilliams

From: Korfel, Lindsey
To: Angel Bradford
Cc: Karen_Hallberg@fws.gov
Subject: Re: [EXTERNAL] Bat Buffer Request of ODOT Project SUM-76/77-8.42/9.77 (PID 102329)
Date: Wednesday, February 20, 2019 3:50:56 PM

Hi Angel,

Please see my response below. Have a great day!

Best regards,

Lindsey M. Korfel

Wildlife Biologist
Transportation Liaison
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
614.416.8993 x. 29

On Wed, Feb 20, 2019 at 3:35 PM Angel Bradford <abradford@lawhon-assoc.com> wrote:

> Hi,
>
> This project is a federal aid highway project, and will be coordinated with your office (if coordination is required) through the ODOT-OES Ecological MOA process and 2016 PBO. This is a request for bat buffer information only, and a technical guidance letter is not required.
>
> Project coordinates:
>
> East-West Leg
>
Eastern Terminus	41.06244 N	-81.52460 W
Western Terminus	41.05996 N	-81.55798 W
>
> North-South Leg
>
Southern Terminus	41.02930 N	-81.50483 W
Northern Terminus	41.05454 N	-81.50537 W
>
> The project is located within the following bat buffer:

____ BLUE (IBAT hibernaculum)

____ PURPLE (NLEB hibernaculum)

____ RED (IBAT swarming location)

__x__ YELLOW (Acoustic IBAT detection)

____ GOLD (IBAT maternity colony)

____ BROWN (NLEB maternity roost)

____ GREEN (Male/Non-repro female IBAT)

____ Project is not located within a bat buffer

This project is located within an eastern massasauga range polygon:

_____ Yes

__x___ No

Angel Bradford

Ecological Scientist

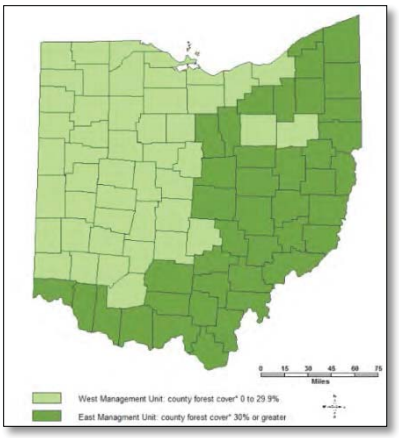
Lawhon & Associates, Inc.

Office: 614.481.8600

Cell: 614.398.6005

www.lawhon-assoc.com

Indiana Bat and Northern Long-eared Bat Field Habitat Assessment Checklist



PROJECT INFORMATION			
CRS:	SUM -76/77-8.42/9.77	PID:	102329
Date:	06/04/2019		

MANAGEMENT UNIT	
Eastern MU	☒
Western MU	☐

BAT RECORD SEARCH		
Is project in a known bat buffer?	Yes ☒	No☐
Record type(s) (color)?	Yellow (acoustic IBAT detection)	
Additional Info including date of records request: A response from USFWS was received on February 20, 2019.		

BRIDGE HABITAT ASSESSMENT		
Will Project Impact a Bridge over a stream?	Yes ☒	No ☐
Bridge Inspection Conducted?	Yes ☐	No ☒
Results of Inspection including date: Due to the height and span of the bridge over the canal, a bridge inspection could not be conducted.		

SUITABLE WOODED HABITAT ASSESSMENT		
Will Project Impact Suitable Wooded Habitat (SWH)?	Yes ☒	No ☐
Is all SWH to be impacted within 100 feet of the edge of pavement (EOP)? If yes, just fill out Line 1 (and Line 1a, if impacts ≤0.10 ac). If no, fill out Lines 1, 2, 3 and 4.	Yes ☒	No ☐
Line 1. Acreage of SWH within 100 feet of EOP	5.15 ac.	
Line 1a. For SWH impacts ≤ 0.10 ac within 100 feet of EOP, do any of the trees contain roosting habitat?	Yes ☐	No ☐
Line 2. Acreage of impacted SWH within 50 feet of a perennial stream but outside 100 feet of EOP.	ac.	
Line 3. Acreage of impacted SWH between 100 feet and 300 feet of the EOP, and not located within 50 feet of a perennial stream.	ac.	
Line 4. Acreage of impacted SWH further than 300 feet of EOP	ac.	
Line 5. Number of impacted PMRTs further than 100 feet of the EOP. Fill out PMRT table if PMRTs will be impacted.		

OHIO DEPARTMENT OF TRANSPORTATION

INTER-OFFICE COMMUNICATION

Office of Environmental Services

TO: Gery Noirot, P.E., District 4 Deputy Director **Date:** August 17, 2020
Attn: Ed Deley, District Environmental Coordinator

FROM: Tim Hill, Administrator-Office of Environmental Services

SUBJECT: Section 4(f) Temporary No Use Exception Determination

RE: SUM-SR 8-0.63 PID 91902

A *Section 4(f)/6(f) Determination Request Form for Recreational Properties* (DRF) was submitted to ODOT-OES Policy Staff on August 7, 2020 and revised on August 13, 2020. Based upon review of the DRF it was determined the proposed project can be processed as an exception to the requirement for Section 4(f) approval. In accordance with 23 CFR 774.13(d), the temporary occupancy of land and/or access will not constitute a use upon the protected recreational activities, features, or attributes associated with the Towpath Trail. The determination was made based on the proposed scope of work and concurrence received from the Official with Jurisdiction (OWJ) regarding the assessment of impacts that are included in the DRF.

No further Section 4(f) coordination is required at this time. A re-evaluation of Section 4(f) impacts may be required if changes to the proposed scope of work alter the degree of impacts to the Towpath Trail. Furthermore, all appropriate environmental commitments related to measures to minimize harm and/or resulting mitigation should be listed accordingly in the environmental document.

Should you have any questions and/or comments concerning this determination please contact Veronica Trecazzi at (614) 387-1267 or Veronica.Trecazzi@dot.ohio.gov.

TMH:ELS:KED:*vlt*

cc: EnviroNet Project File

RMR SCREENING SUMMARY

GENERAL INFORMATION

Project C-R-S / Name:	SUM-76/77-8.42/9.77+ SUM-8-0.63	**PID:**	102329 + 91902	**District:**	04
Brief Project Description:	ODOT District 4 is proposing various major repairs and improvements to I-76, I-77 and SR 8 in the heart of the Akron freeway system. Construction activities include full depth pavement replacement, pavement resurfacing, and bridge maintenance.				
Report Author(s):	Robert Lang, Environmental Specialist				
Affiliation:	ODOT District 4				
Date ODOT DEC Provided Project Information or ODOT Start of Analysis:			8/13/2020		

Certification *(Must be acknowledged by Prequalified Individual)*

☑	I certify that I have personally examined and am familiar with the information in this document and all attachments, and that the data collection was supervised by an individual(s) prequalified to conduct the RMR for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained herein, I believe that the information has been collected in accordance with the ODOT RMR Manual current at the time of this submittal, and is true, accurate, and complete.

Name:	Robert Lang	**Signature:**	*Robert Lang*
Title:	Environmental Specialist	**Date:**	8/13/2020
Email:	Robert.Lang@dot.ohio.gov	**Phone Number:**	330-786-4975

BLOCK 1 - TAKE (PERMANENT ROW) AND/OR DEEP EXCAVATION?

1a:	Does Permanent right-of-way (ROW) need to be obtained for the Project?	NO
1b:	Will the Project involve excavations greater than 6 feet deep?	NO

If answer to Questions 1a and 1b are both NO - Stop here. Project is exempted from further evaluation. Complete through Section 1 as documentation of the RMR Screening and upload to EnviroNet. If the answer to either Question 1a or 1b is Yes or Unknown - Proceed to Section 2

BLOCK 2 - COMPLETE PROPERTY INVENTORY

Complete Columns 1-6 of the Property Inventory Within or Abutting and (if applicable) Complete Property Inventory Remote Properties.

Date(s) of ORPS (ODOT Regulatory Property Search):	8/13/2020

BLOCK 3 - INITIATE PROJECT SCREENING

Are all Properties within the Project Limits Exempt OR have no Take and no Deep Excavation; AND are no Remote Properties identified in ORPS Listing?	YES

If the answer is YES - Upload this Form and attachments to EnviroNet; the Project is considered Exempt from further evaluation for Regulated Materials. If the answer is NO or UNKNOWN - Continue completing the Property Inventory.

BLOCKS 4-7 Choose answer

BLOCK 4 - MAPPING	Choose yes/no.
BLOCK 5 - HISTORIC AERIALS MAPPING	Choose yes/no.
BLOCK 6 - SCREEN SHOTS OF VIRTUAL ROADVIEW OF PROPERTIES RESULTING IN A PLAN NOTE, RMR ASSESSMENT OR RMR INVESTIGATION?	Choose yes/no.
BLOCK 7 - REGULATORY FILE REVIEW (IF APPLICABLE)	Choose yes/no.