Ohio EPA General Isolated Wetland Permit Application (Level One Review)

SCI-823-0.00
PID 19415
Portsmouth Bypass

Prepared for:
Ohio Department of Transportation
1980 West Broad Street
Mailstop #4170
Columbus OH, 43223

October 18, 2013

By: **ASC Group, Inc.**
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Columbus OH, 43229
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Fax: 614.268.7881

SCI-823-0.00
PID 19415
Portsmouth Bypass
Waterway Permit Package

Ohio EPA General Isolated Wetland Permit Application
(Level One Review)

Table of Contents

SECTION 1: Ohio EPA General Isolated Wetland Permit Application (Level One Review)

Appendices

Appendix A: Overview Figures
- Figure 1 – USGS Topographic Maps (Sheets 1-7)
- Figure 2 – Survey Results (Sheets 1-3)

Appendix B: Impact Figures
Appendix C: Tables
Appendix D: Preliminary JD
Appendix E: Data Forms and ORAMs
Appendix F: Photographs

SECTION 1: OHIO EPA GENERAL ISOLATED WETLAND PERMIT APPLICATION (LEVEL ONE REVIEW)

GENERAL ISOLATED WETLAND PERMIT APPLICATION (Level One Review)

For impacts ½ acre or less to Category 1 & 2 isolated wetlands

Please Print or Type (attach additional sheets if necessary)

	Applicant	Agent:
Company Name:	Ohio Department of Transportation	ODOT - OES - Waterway Permits Unit
Address:	1980 West Broad Street, Mailstop #4170	1980 West Broad Street, Mailstop #4170
City, State, Zip:	Columbus, OH 43223	Columbus, OH 43223
Contact Person	Jerry Wray, Director	Adrienne E. Earley, Waterway Permits Supervisor
Phone Number(s):	(614) 644-0377 (Office of Tim Hill)	(614) 466-2159
Fax Number:	(614) 728-7368	(614) 728-7368
E-Mail Address:	Tim.Hill@dot.state.oh.us	Adrienne.Earley@dot.state.oh.us

PROJECT INFORMATION

Project Name: Portsmouth Bypass - Phases 2 & 3 Watershed (USGS 8-Digit HUC): 05090103

Street: N/A City/Township: Valley, Jefferson, Madison, Harrison and Porter Townships

County: Scioto Latitude: Approx. Center of Phase 2: 38.887517 °N
Approx. Center of Phase 3: 38.786199 °N Longitude: Approx. Center of Phase 2: 82.951070 °W
Approx. Center of Phase 3: 82.865827 °W

Project Description:

The proposed project includes the construction of Phases 2 and 3 of the Portsmouth Bypass. The Portsmouth Bypass will be a four-lane, divided, limited access facility connecting US 23 just north of Lucasville, Ohio to US 52 near Wheelersburg, Ohio (Figure 1, Sheet 1). The proposed project was divided into three phases, each of which has its own operational independence. Phase 1 of the Portsmouth Bypass extends from Lucasville-Minford Road approximately 3.0 miles south to the interchange near the Scioto County Airport. The Section 401 and 404 Permits for Phase 1 have been issued and no isolated wetlands are to be impacted in Phase 1 of the project. Phase 2 is approximately 7.4 miles long and extends from the interchange in Phase 1 at Lucasville-Minford Road to US 23. Phase 3 is approximately 5.6 miles long and extends from US 52 to the southern terminus of Phase 1 near the interchange near the Scioto County Airport near Shumway Hallow Road.

Phases 2 and 3 will result in the unavoidable impact to three isolated wetlands.

Other water-related permits pending, issued, or required for this project:

- ☐ Nationwide Permit (#)
- ☒ Individual 401 Certification
- ☒ Individual 404 Permit
- ☐ Permit To Install
- ☐ Mining Permit
- ☐ Coastal Erosion Area Permit
- ☒ NPDES Storm Water Permit
- ☐ NPDES Discharge Permit
- ☐ Other: _____

I have included the following in this submittal:

- ☒ Maps showing project footprint & wetlands and a USGS topographic map
- ☐ Wetland delineation
- ☒ Corps isolated waters determination
- ☒ Wetland categorization (including all ORAM score sheets)
- ☒ Site photographs
- ☒ Mitigation proposal (including mitigation bank credit documentation if appropriate)
- ☐ Check for applicable fees

Are there other aquatic resources on the project site? (Please check all that apply)

Ohio EPA General Isolated Wetland Permit Application (continued) Project Name: Portsmouth Bypass - Phases 2 & 3

☒Perennial Streams ☒Intermittent Streams ☒Ephemeral Streams
☒Non-isolated wetlands ☒Lakes/Ponds

Have any impacts to aquatic resources related to this project already occurred on this site?

☐Yes ☒No

Individual Isolated Wetland Information Table*. Please list all isolated wetlands:

Wetland ID	ORAM Score	Category	Size (Acres)			Impacts (Acres)		
			Forest	Non-Forest	Total	Forest	Non-Forest	Total
Wetland 19	38.0	2	0.000	0.024	0.024	0.000	0.024	0.024
Wetland 21	43.0	2	0.000	0.014	0.014	0.000	0.014	0.014
Wetland 32	23.5	1	0.000	0.009	0.009	0.000	0.009	0.009
Totals:			0.000	0.047	0.047	0.000	0.047	0.047
Totals - Category 1 Wetlands			0.000	0.009	0.009	0.000	0.009	0.009
Totals - Category 2 Wetlands			0.000	0.038	0.038	0.000	0.038	0.038
Totals - Category 3 Wetlands			0.000	0.000	0.000			

**List more on separate sheets if needed.*

List mitigation techniques utilized for the proposed filling:

Onsite (check)	Offsite (check)	Mitigation Acreage				Name of Bank (If applicable)	USGS 8-Digit HUC
		Restored	Created	Enhanced	Preserved		
	X	0.094				Red Stone Farm Wetland Mitigation Bank	05090201
Totals:		0.094	0.00	0.00	0.00		

Fee Table:

a. Application Fee: $0.00

b. Review Fee ($500.00 X _ _ _. _ _): $0.00 (Maximum $5,000.00)

(Acres of impacts to the nearest 1/100 of an acre)

c. Subtotal (add lines a and b): $0.00 (Maximum $5,200.00)

d. After the Fact Fee (equal to line c): $0.00 (Maximum $5,200.00)

(Only if impacts have occurred without authorization)

e. Total Fee Amount (add lines c and d): $0.00 (Maximum $10,000.00)

Please make fee check payable to: "**Treasurer, State of Ohio**"

I certify that the information provided on this form and submissions related to the project are true and accurate to the best of my knowledge:

Applicant Name (Print): Jerry Wray Applicant Signature: [signature] Date: 10/25/13

Send completed application, including fee check, to: Ohio EPA, Division of Surface Water
P.O. Box 1049, Columbus, Ohio 43216-1049
ATTN: Isolated Wetlands Permitting

APPENDIX A: OVERVIEW FIGURES

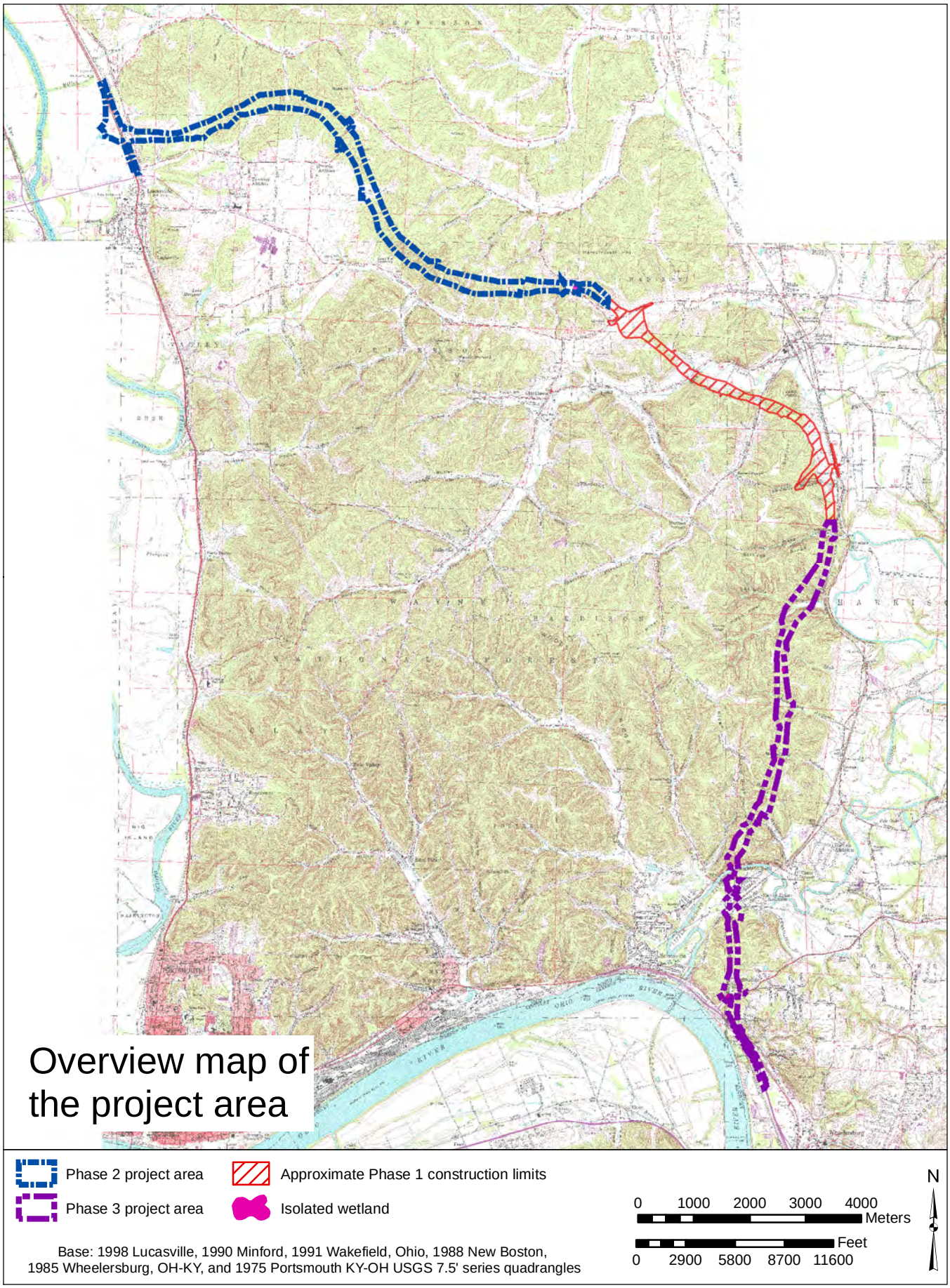


Figure 1. USGS 7.5' topographic maps. (Sheet 1 of 7)

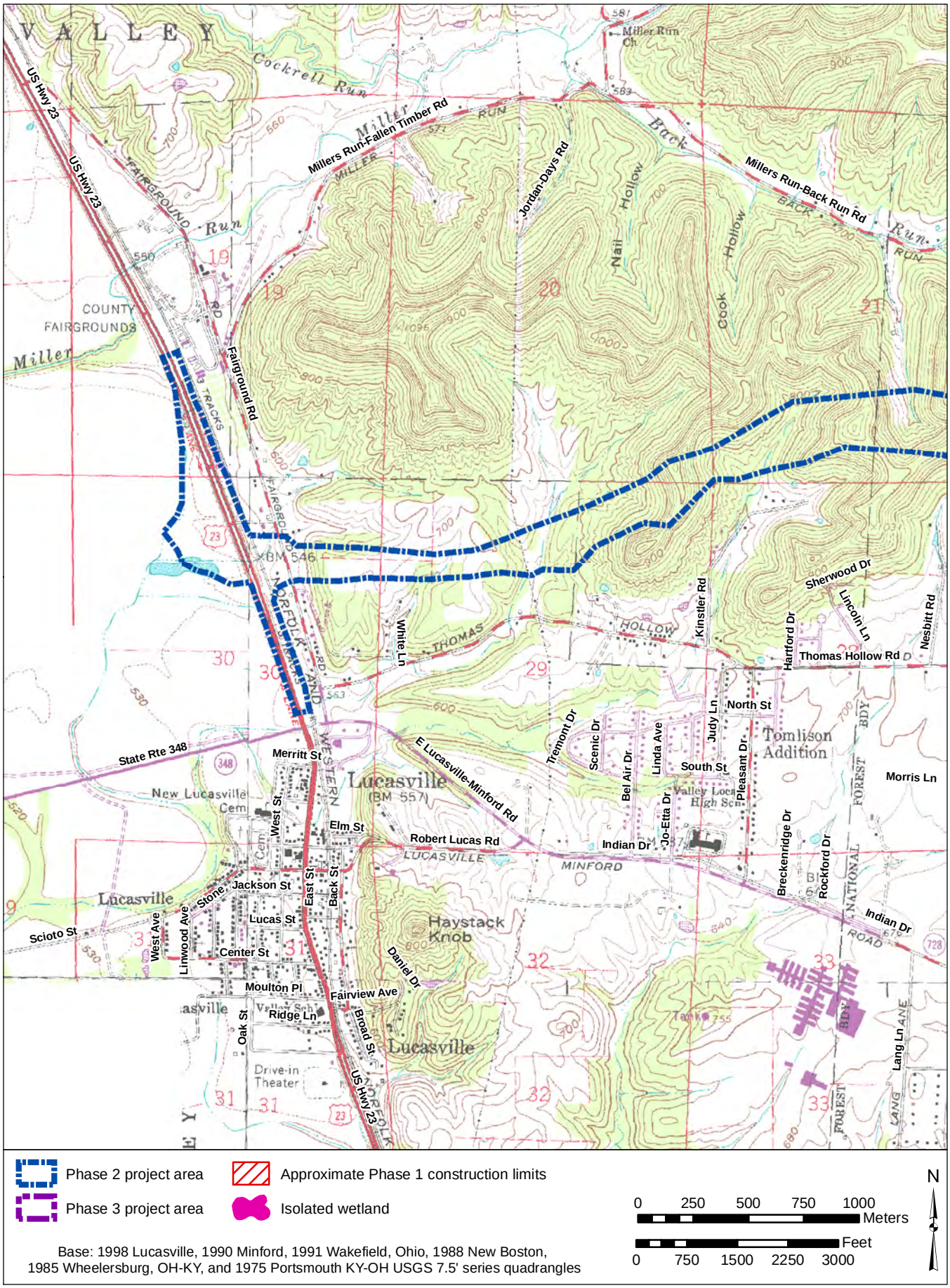


Figure 1. USGS 7.5' topographic maps. (Sheet 2 of 7)

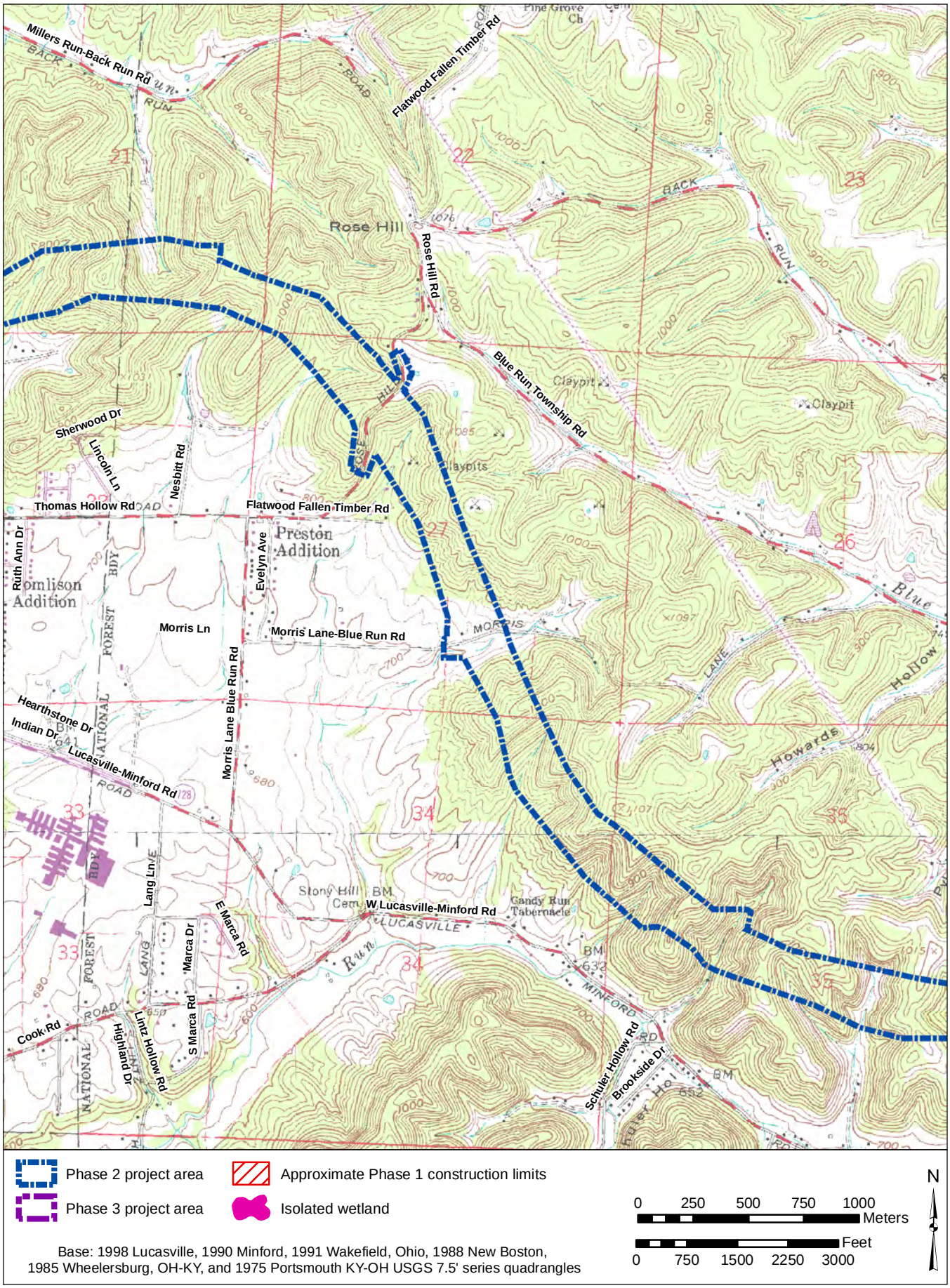


Figure 1. USGS 7.5' topographic maps. (Sheet 3 of 7)

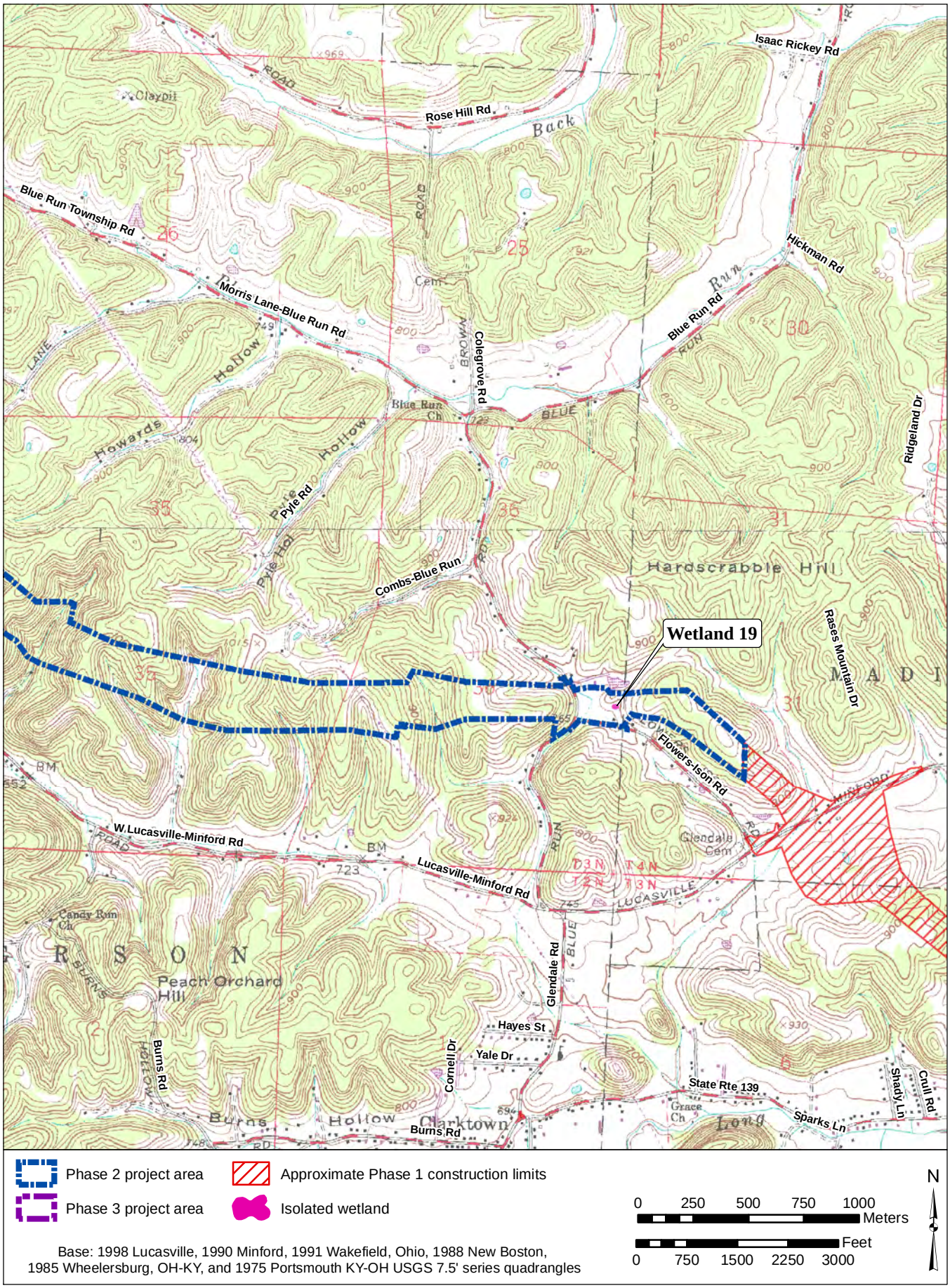


Figure 1. USGS 7.5' topographic maps. (Sheet 4 of 7)

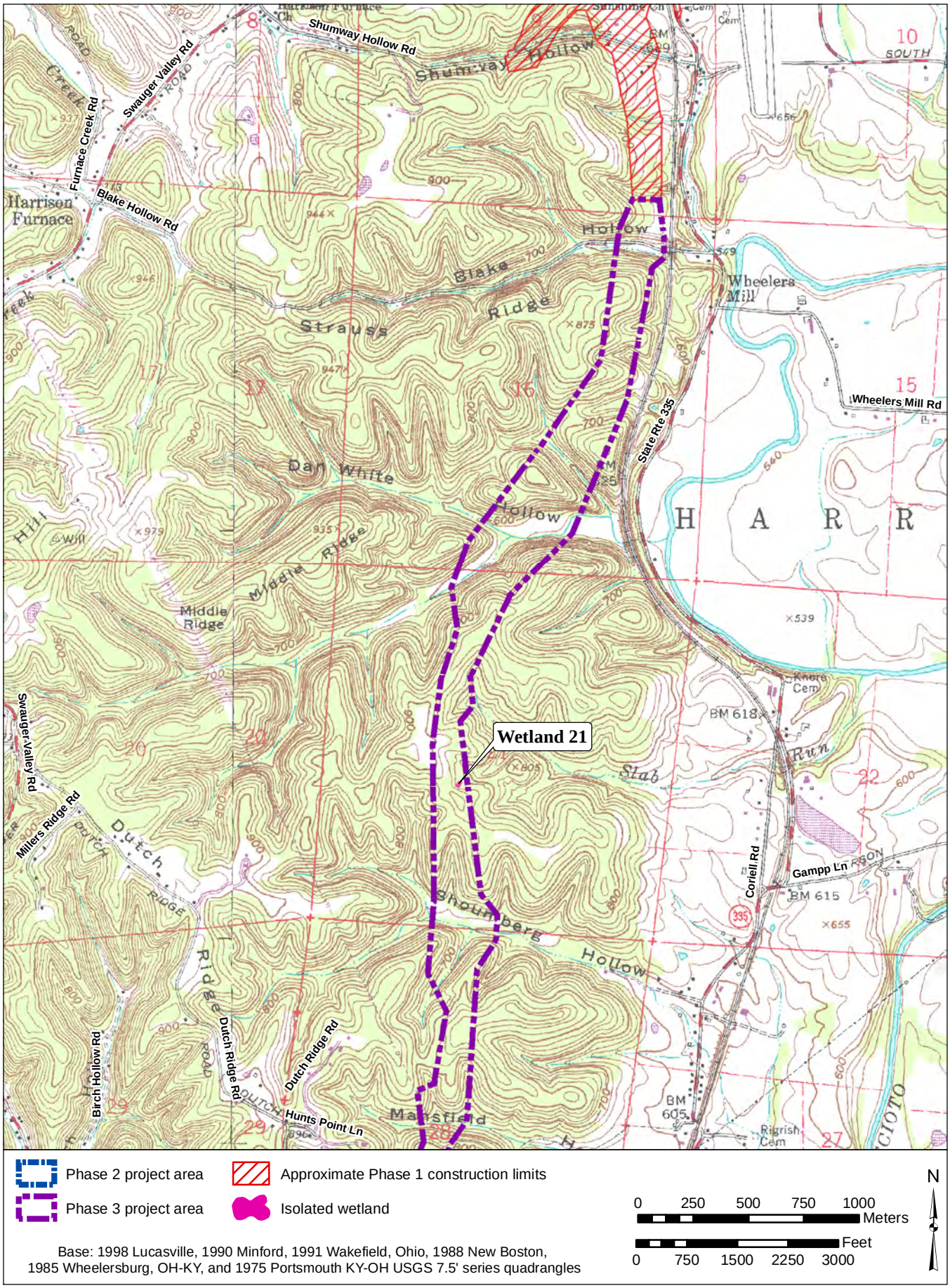
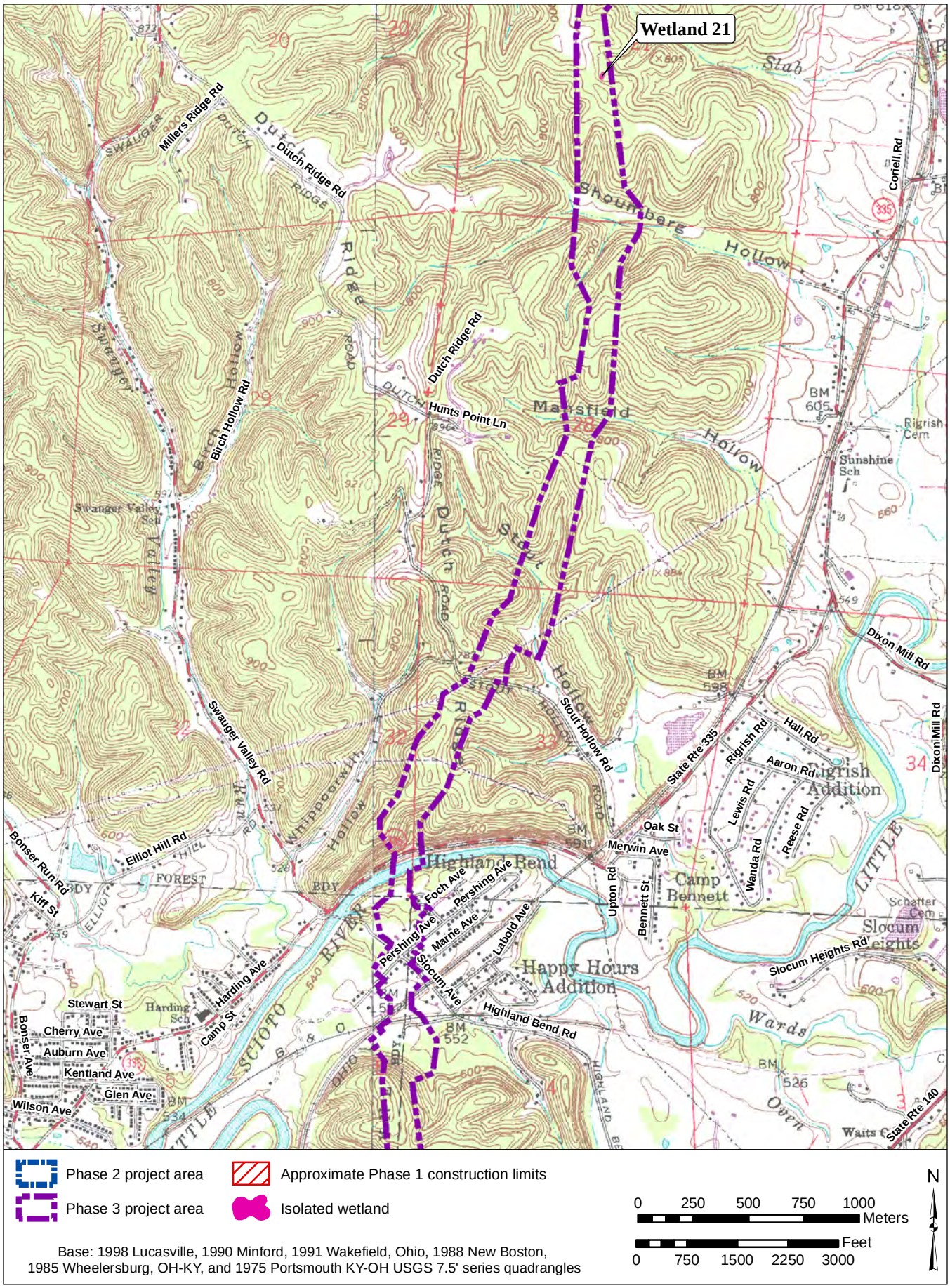


Figure 1. USGS 7.5' topographic maps. (Sheet 5 of 7)



Base: 1998 Lucasville, 1990 Minford, 1991 Wakefield, Ohio, 1988 New Boston, 1985 Wheelersburg, OH-KY, and 1975 Portsmouth KY-OH USGS 7.5' series quadrangles

Figure 1. USGS 7.5' topographic maps. (Sheet 6 of 7)

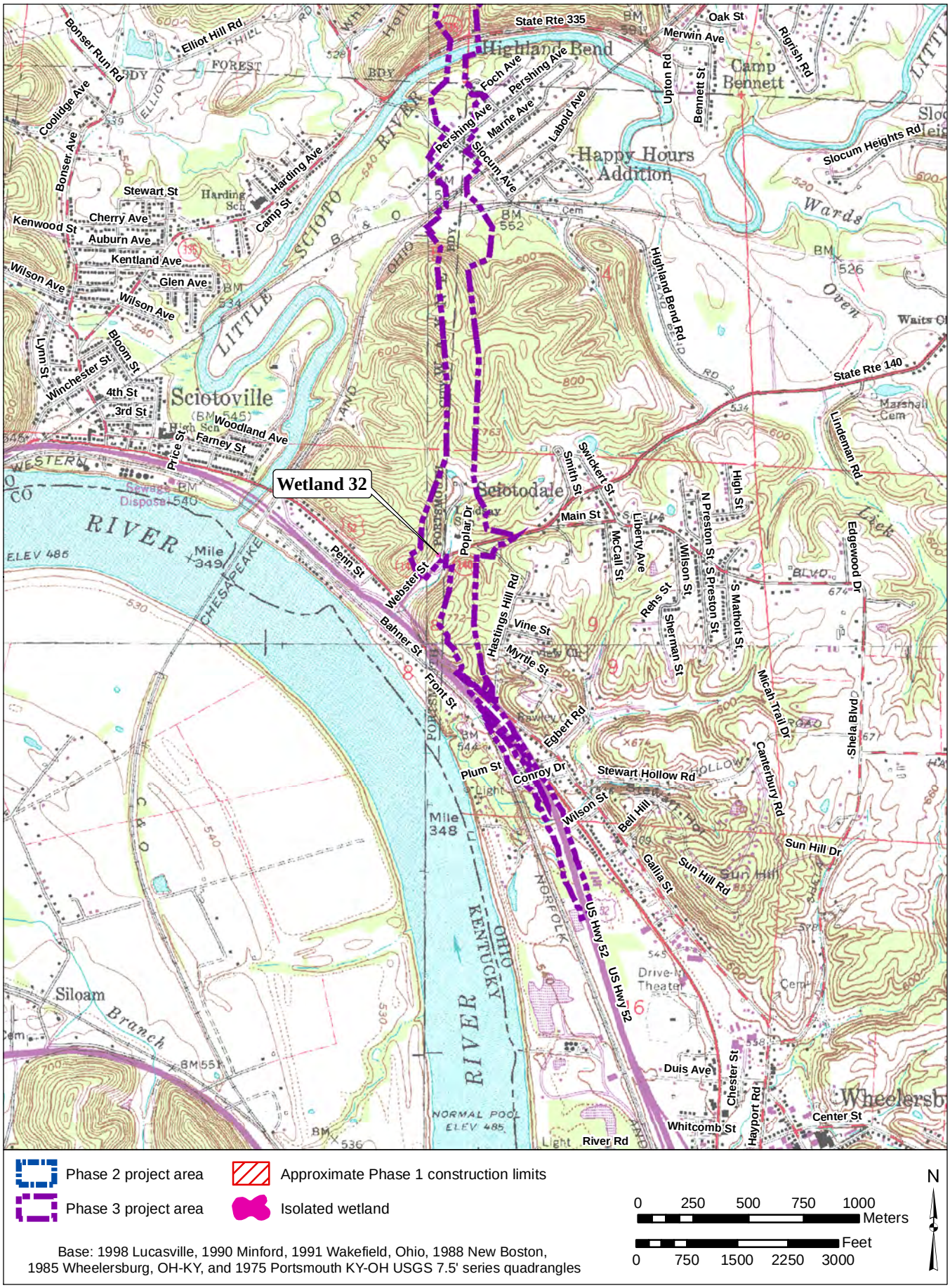


Figure 1. USGS 7.5' topographic maps. (Sheet 7 of 7)

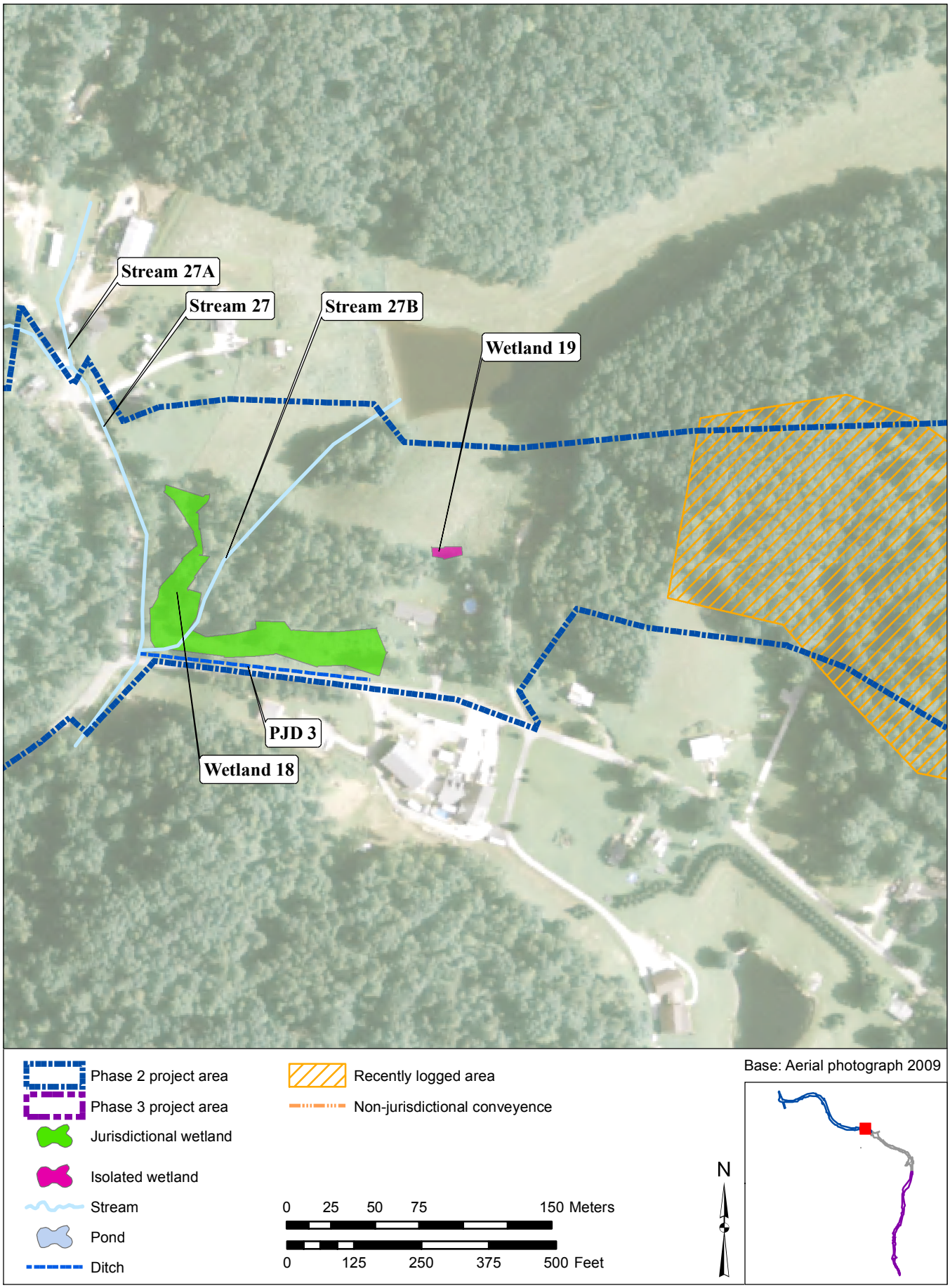
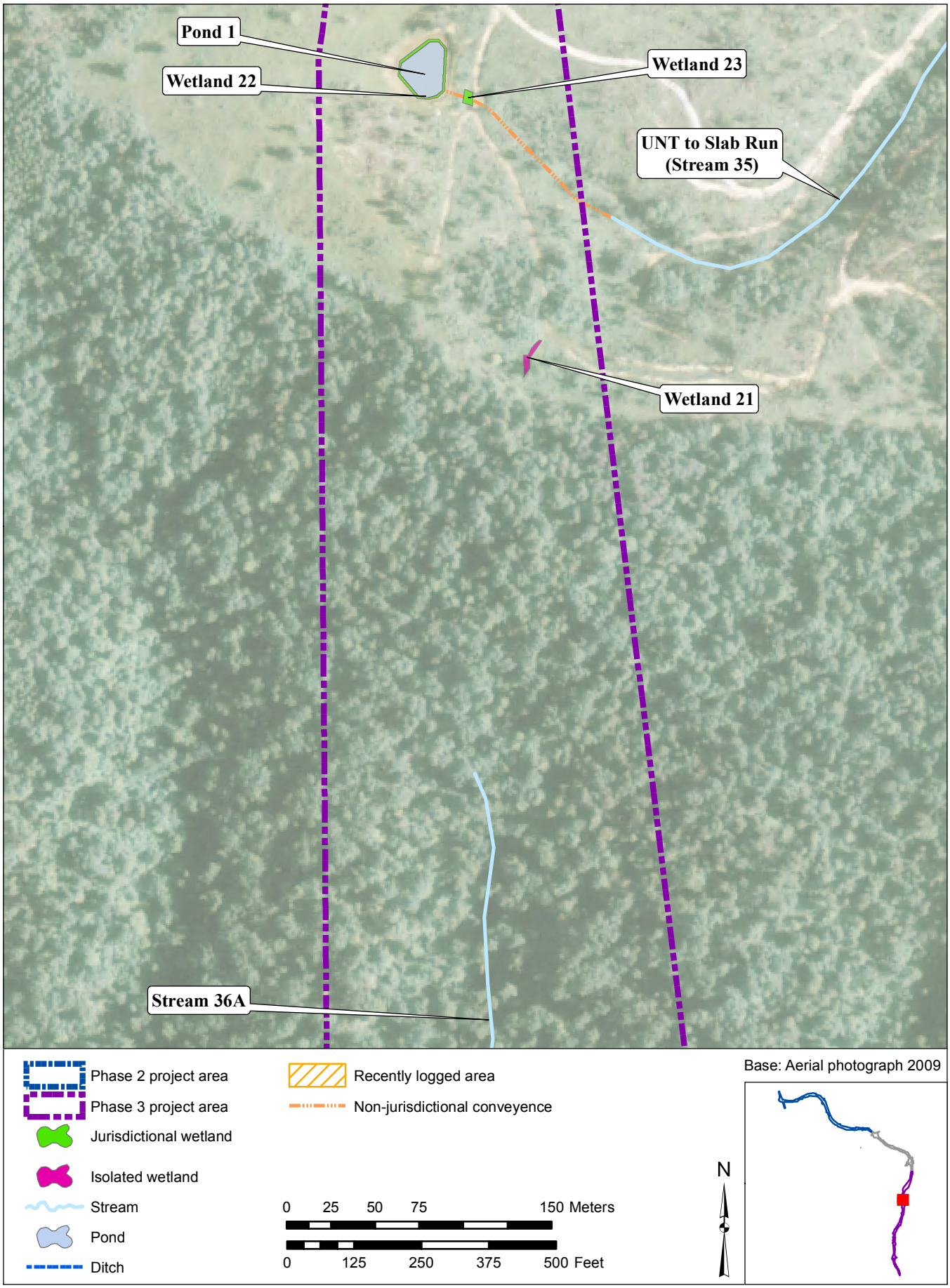


Figure 2. Survey Results. (Sheet 1 of 3)



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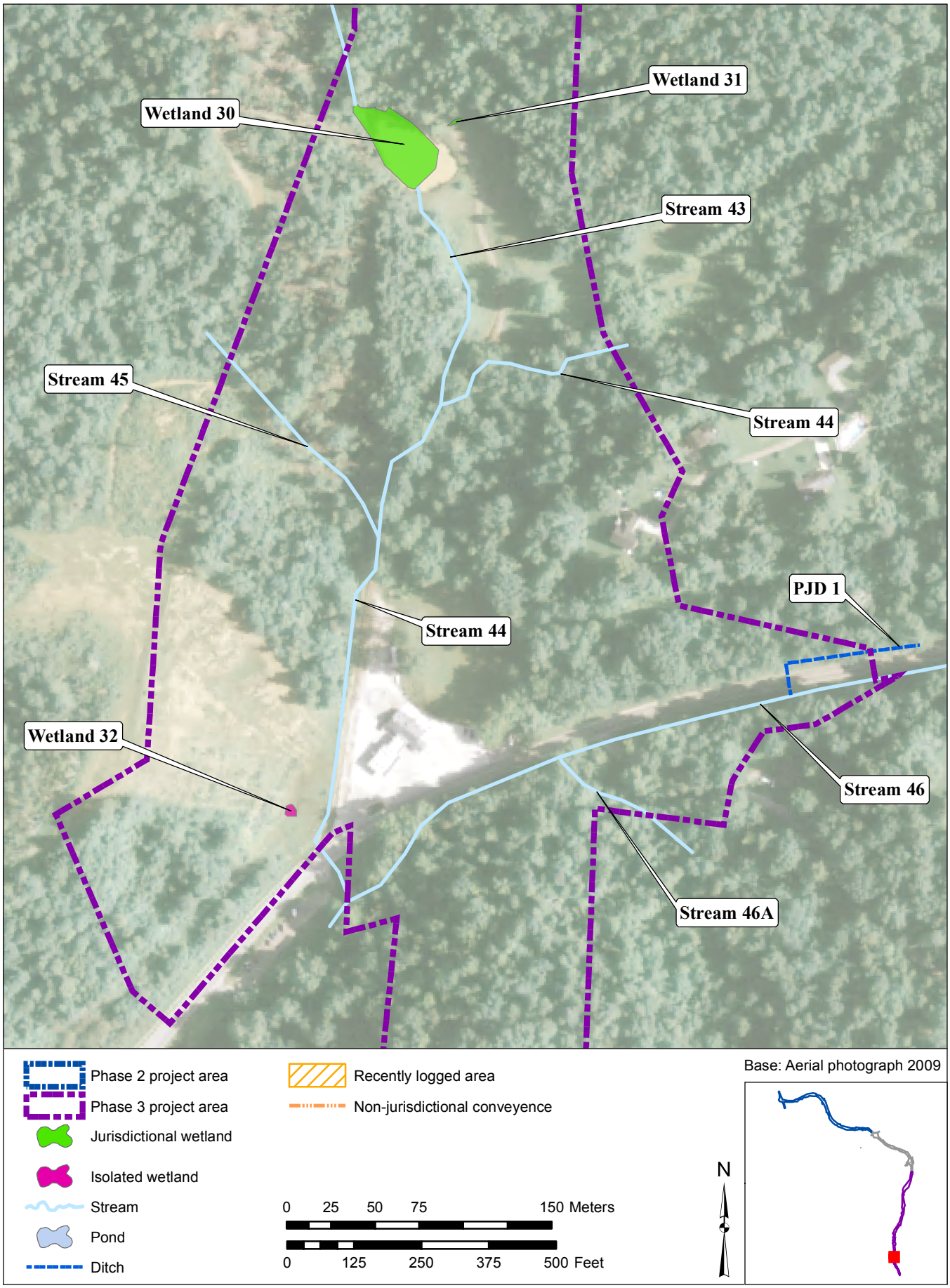
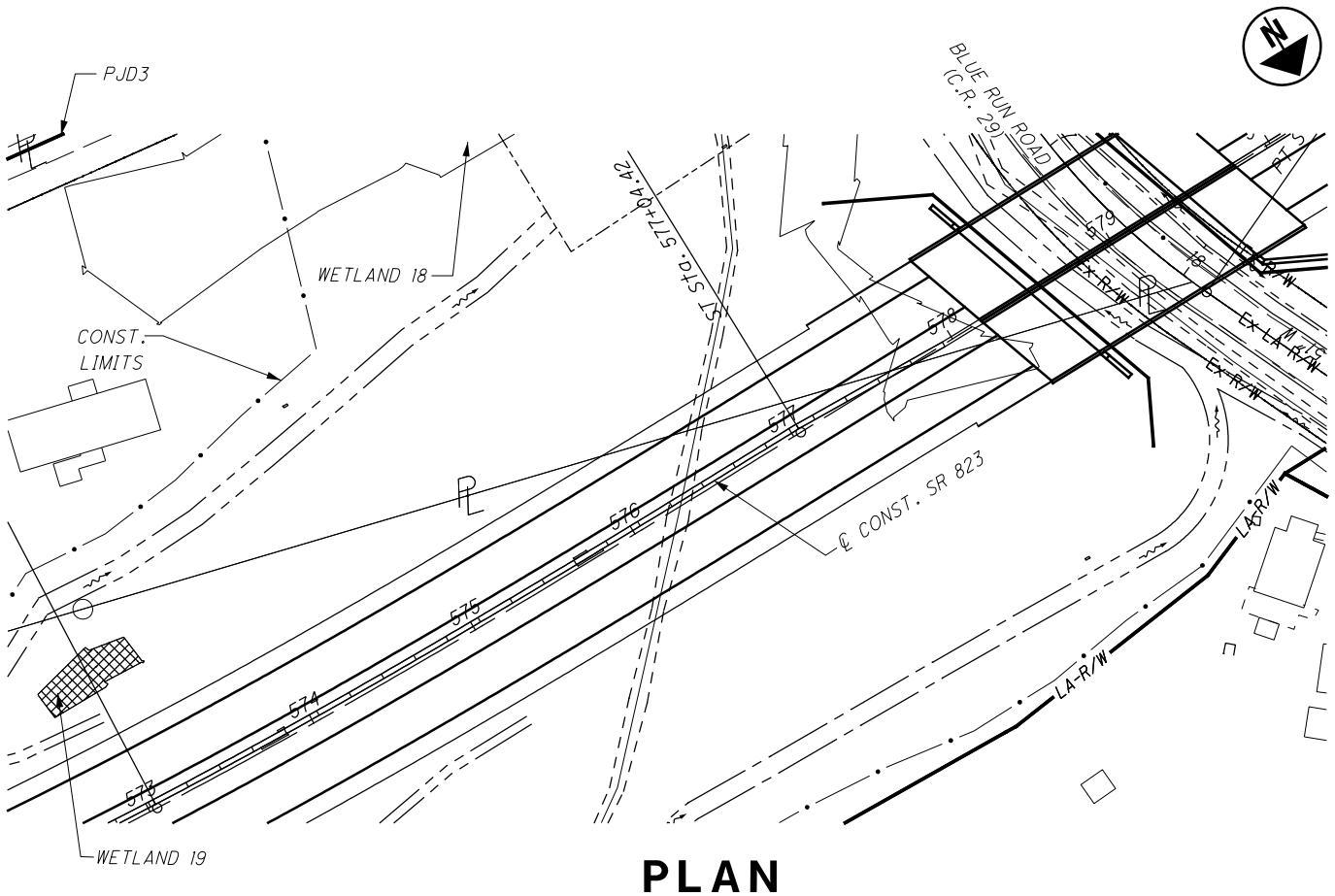


Figure 2. Survey Results. (Sheet 3 of 3)

APPENDIX B: IMPACT FIGURES



PLAN

LEGEND

IMPACT AREA

PROPERTY OWNERS:
CHARLES K. WITT AND CAROL J. WITT,
TRUSTEES OF THE WITT REVOCABLE LIVING
TRUST DATED SEPTEMBER 3, 2008

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.024 ACRES
FILL BELOW OHW:	39 CY

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

PREFERRED ALTERNATIVE IMPACTS AT WETLAND 19

OHIO DEPARTMENT OF TRANSPORTATION
SCI-823-10.13 PORTSMOUTH BYPASS
SCIOTO COUNTY, OHIO

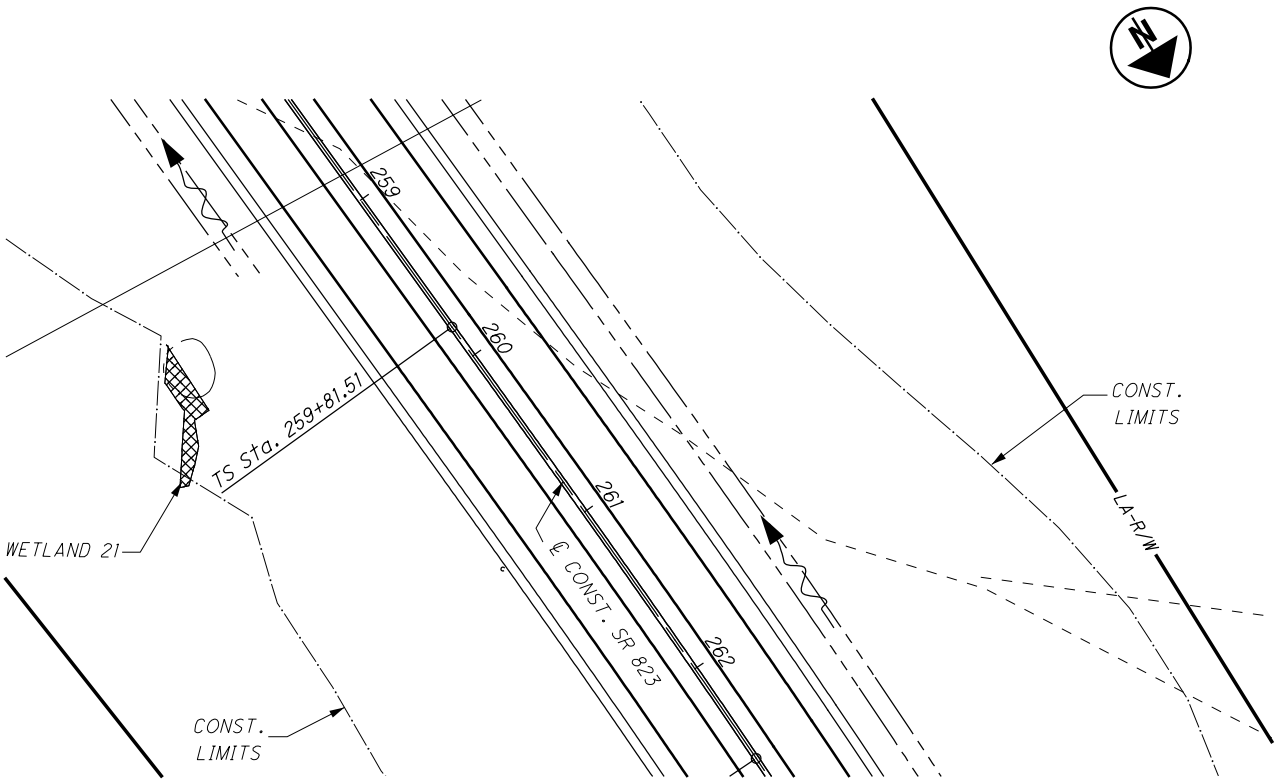
U.S. ARMY CORPS OF ENGINEERS
SECTION 404 PERMIT AND OEPA
SECTION 401 WATER QUALITY
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013

FIGURE 1-1

WETLAND 19.dgn



PLAN

LEGEND

IMPACT AREA

PROPERTY OWNERS:
DAVID K. CORIELL AND MARSHA K. CORIELL

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.014 ACRES
FILL BELOW OHW:	23 CY

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

PREFERRED ALTERNATIVE IMPACTS AT WETLAND 21

OHIO DEPARTMENT OF TRANSPORTATION
SCI-823-10.13 PORTSMOUTH BYPASS
SCIOTO COUNTY, OHIO

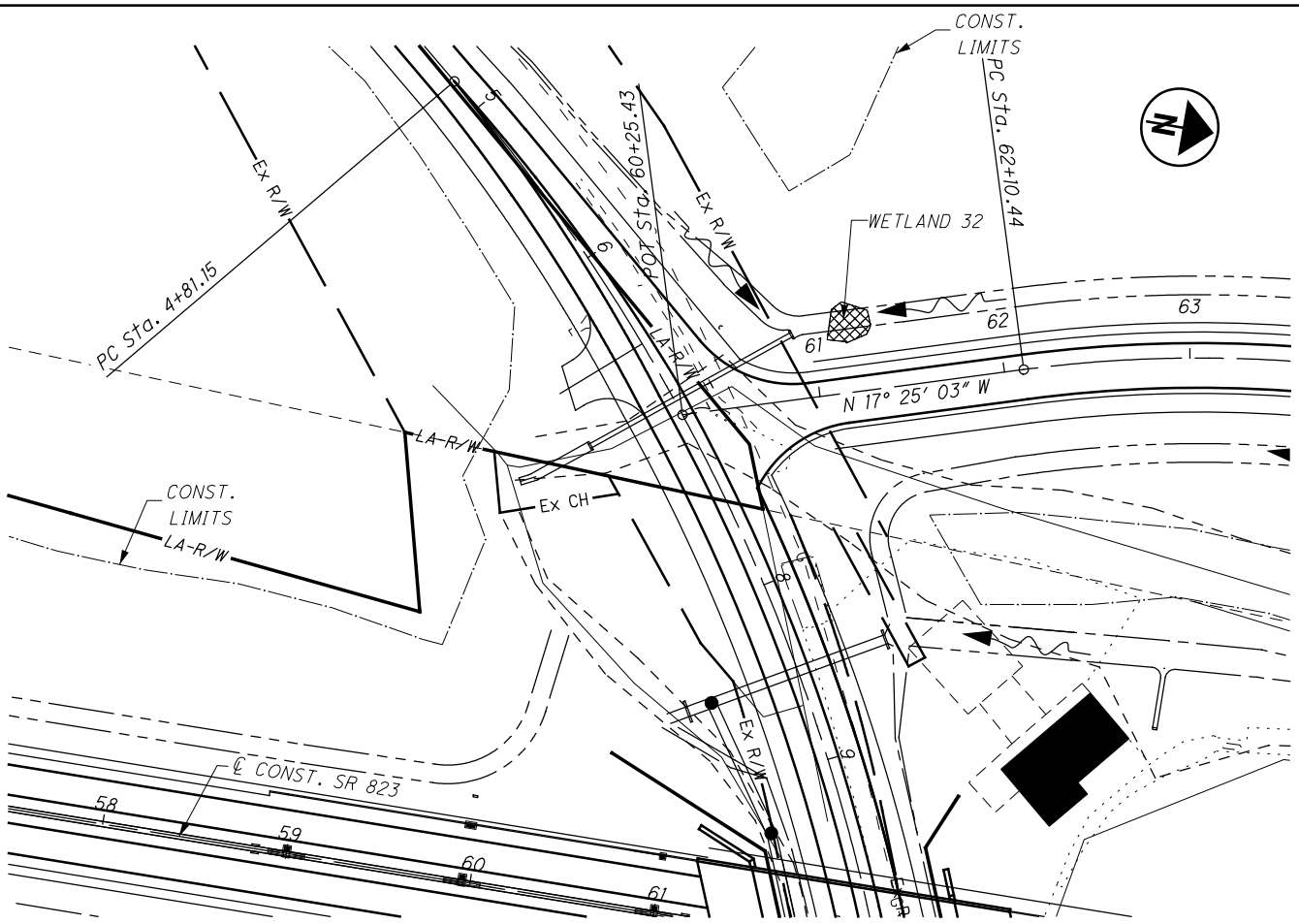
U.S. ARMY CORPS OF ENGINEERS
SECTION 404 PERMIT AND OEPA
SECTION 401 WATER QUALITY
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013

FIGURE 1-2

WETLAND 21.dgn



PLAN

LEGEND

IMPACT AREA

PROPERTY OWNERS:	
MARK FITZGERALD	

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.009 ACRES
FILL BELOW OHW:	15 CY

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

PREFERRED ALTERNATIVE IMPACTS AT WETLAND 32

OHIO DEPARTMENT OF TRANSPORTATION
SCI-823-10.13 PORTSMOUTH BYPASS
SCIOTO COUNTY, OHIO

U.S. ARMY CORPS OF ENGINEERS
SECTION 404 PERMIT AND OEPA
SECTION 401 WATER QUALITY
CERTIFICATION APPLICATION

PLAN SCALE: 1" =100'

DATE: AUGUST 16, 2013

FIGURE 1-3

Wetland 32.dgn

APPENDIX C: TABLES

TABLE A. IMPACTED ISOLATED WETLANDS
Preferred Alternative

Wetland	Station	Acreage Within Project	Hydrologic Unit Code (HUC)	Drainage Basin	Cowardin et al Classification	ORAM Score	OEPA Wetland Category	Jurisdictional Status	Description of Proposed Impacts
Wetland 19	573+05.75	0.024	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	38.0	Modified Category 2	Isolated	FILL
Wetland 21	259+37.34	0.014	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/AB	43.0	Modified Category 2	Isolated	FILL
Wetland 32	61+52.33	0.009	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	23.5	Category 1	Isolated	FILL

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; NA = Not Applicable, AB = aquatic bed

TABLE B. ISOLATED WETLAND IMPACT QUANTITIES
Preferred Alternative

ISOLATED WETLANDS			Permanent Fill Below OHWM			TOTAL IMPACT			TOTAL NEW IMPACT
Resource ID	Description of Impacts/ Activities below OHWM	Total Acreage Within Project Area	Proposed Earthen, Granular, or Embankment Fill						
			Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Acreage
Wetland 19	**FILL**	**0.024**	N/A	0.024	39	N/A	0.024	39	0.024
Wetland 21	**FILL**	**0.014**	N/A	0.014	23	N/A	0.014	23	0.014
Wetland 32	**FILL**	**0.009**	N/A	0.009	15	N/A	0.009	15	0.009
TOTALS	**N/A**	**0.047**	**N/A**	**0.047**	**77**	**N/A**	**0.047**	**77**	**0.047**

TABLE C. ISOLATED WETLAND MITIGATION

Preferred Alternative

Wetland	Impacted Amount	ORAM Category	Vegetative Classification	Jurisdictional Status	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount	
						Impacted	Mitigated	On-site	Off-site
Wetland 19	0.024	Modified Category 2	PEM	Isolated	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0.0	0.048
Wetland 21	0.014	Modified Category 2	PEM/AB	Isolated	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0.0	0.028
Wetland 32	0.009	Category 1	PEM	Isolated	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0.0	0.018

APPENDIX D: PRELIMINARY JD

Official JD is currently being drafted by the USACE ORTO Office. The revision request email from the JD field visit has been provided as a place holder until the official JD is issued.

From:	Latta, Brett C LRH
To:	Raymond, Matt; Michael, Megan
Cc:	Long, Timothy M LRH; Earley, Adrienne; Jason Earley; Len Mikles; Dunlap, Kathleen; Pettegrew, Mike
Subject:	Summary for SCI-823-0.00 PID 19415 - JD/PJD field review - Portsmouth Bypass Phases 2/3 (UNCLASSIFIED)
Date:	Wednesday, June 05, 2013 1:30:42 PM
Attachments:	Changes to Figure 11 from SCI-823-0.00 Phase 2 and 3 PID Revised Level 2 ESR.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Hello:

Requested changes to the ESR based on our site visits are attached. The changes are relatively minor. Please make sure the ESR tables reflect any changes in linear feet or acreage within the review area, where appropriate.

Would it be possible to include the approximate locations of all drainage divides on the Revised Figure 11, similar to what was done for Phase 1? I know there are HUCs on Figure 5, but it would be really helpful for the review.

Please send the extranet link when the ESR revisions are complete. Let me know if there are any questions.

Thank you,

Brett C. Latta, CPG
Regulatory Project Manager
U.S. Army Corps of Engineers - Huntington District
Building 10 / Section 10
PO Box 3990
Columbus, OH 43218-3990
Phone: (614) 692-4672

Classification: UNCLASSIFIED
Caveats: NONE

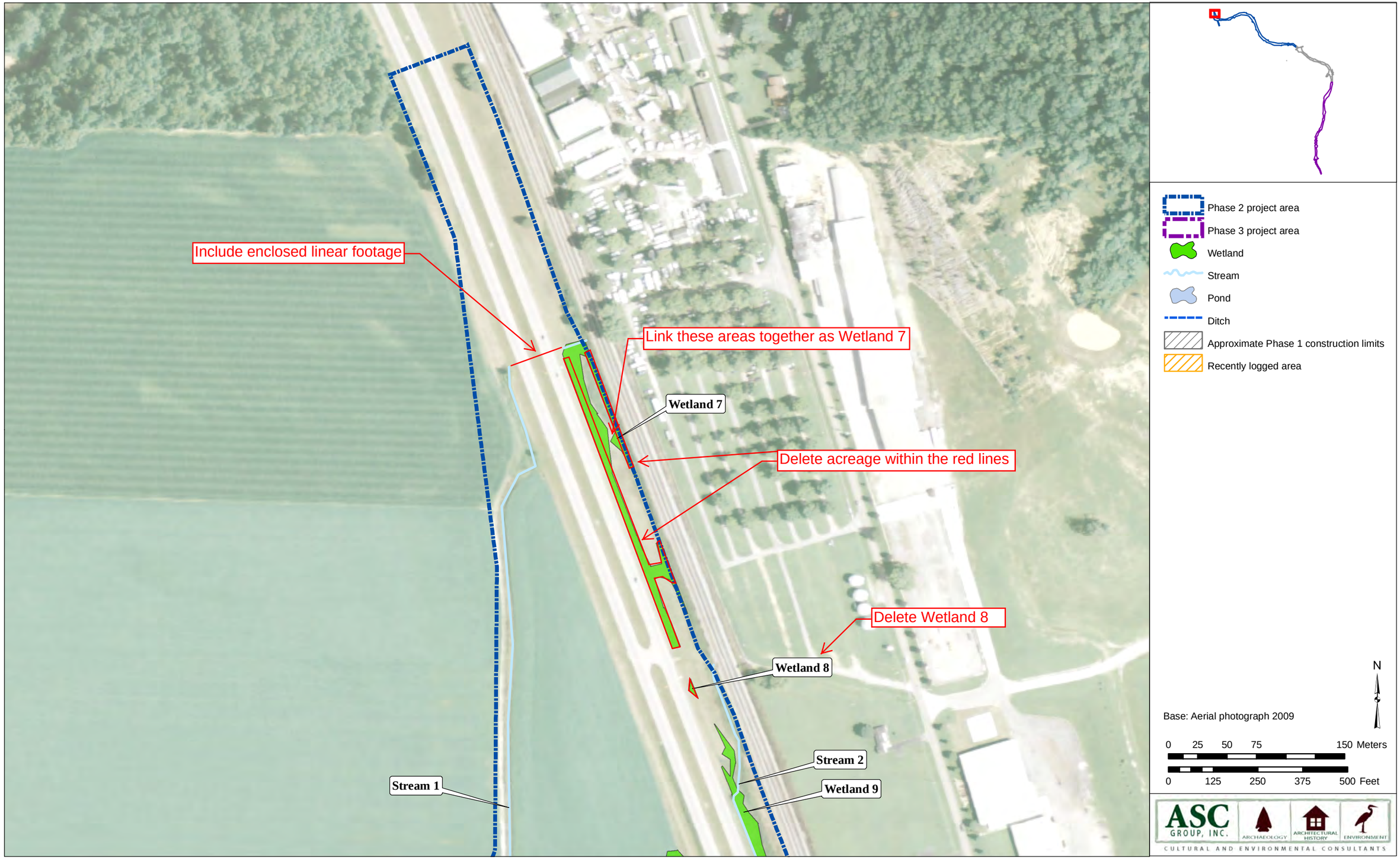


Figure 11. Survey Results. (30 sheets)

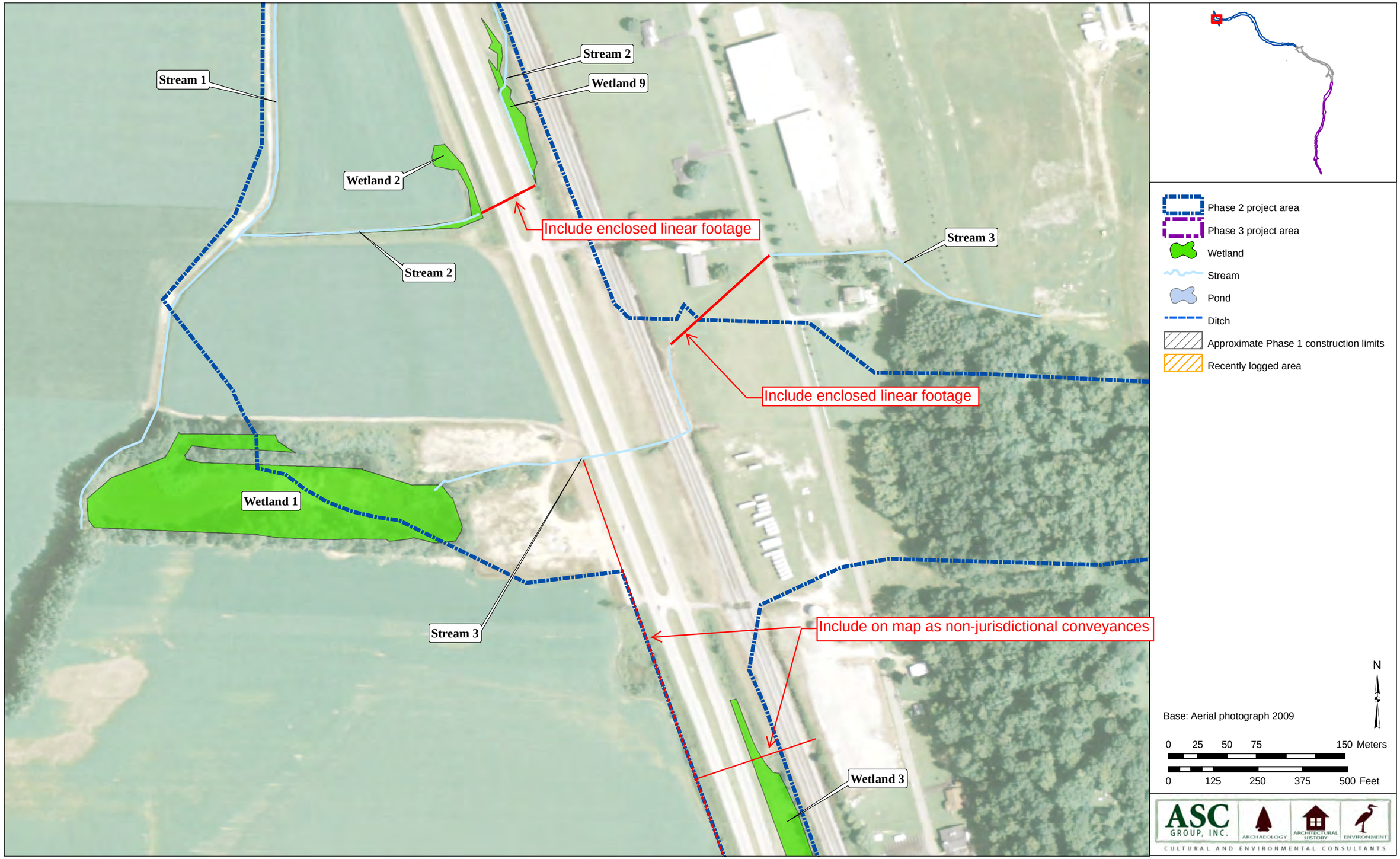
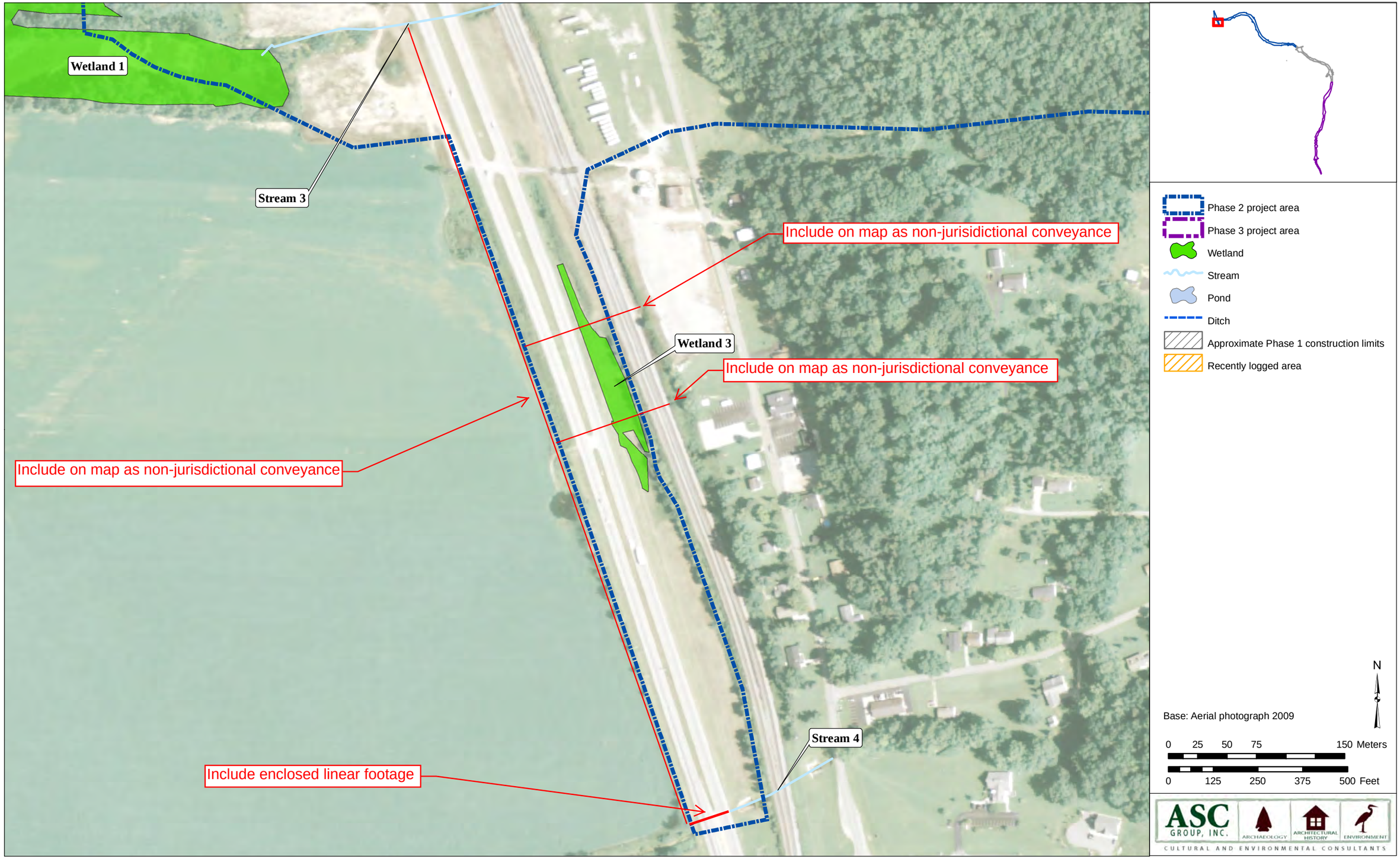


Figure 11. Survey Results. (30 sheets)



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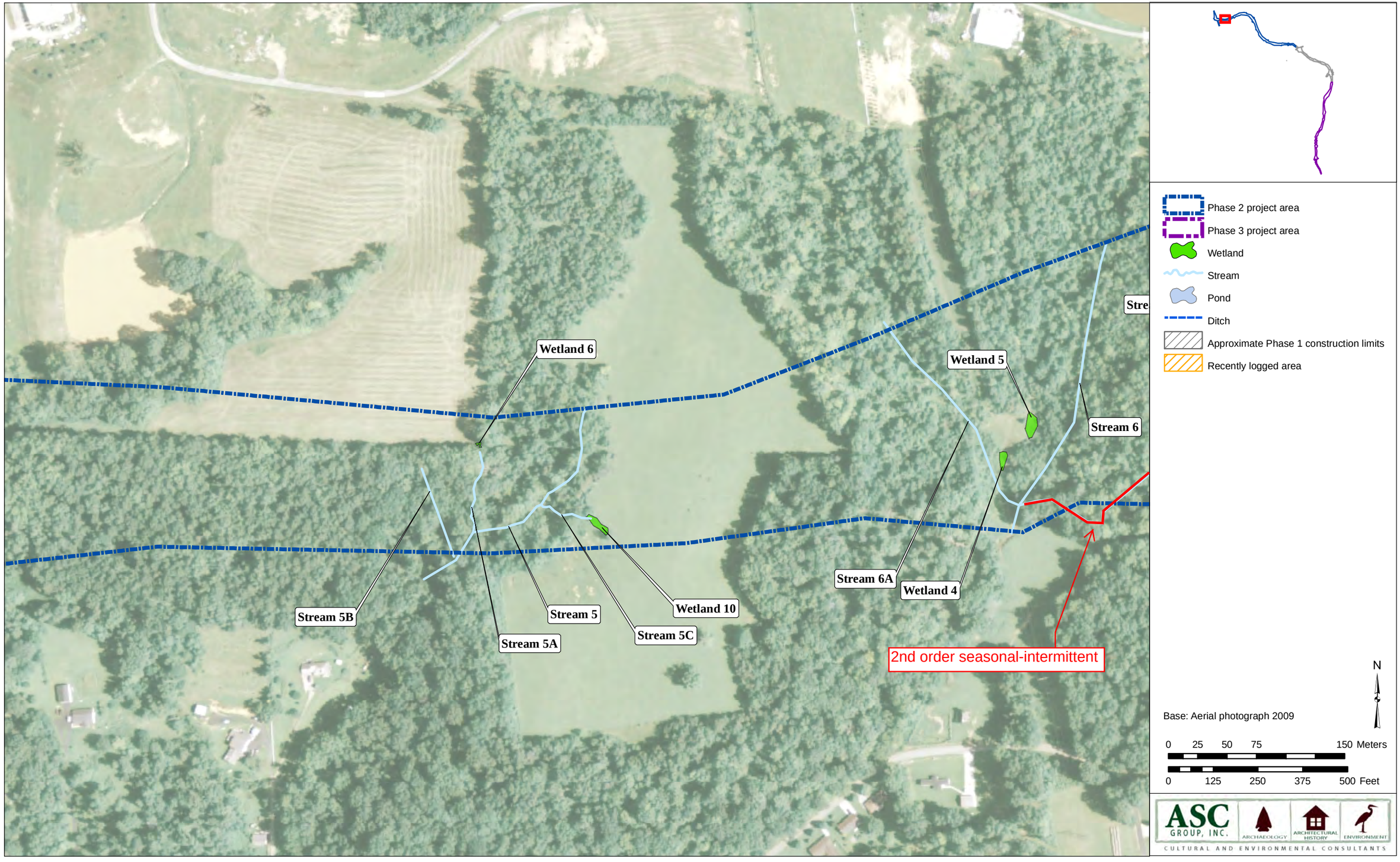

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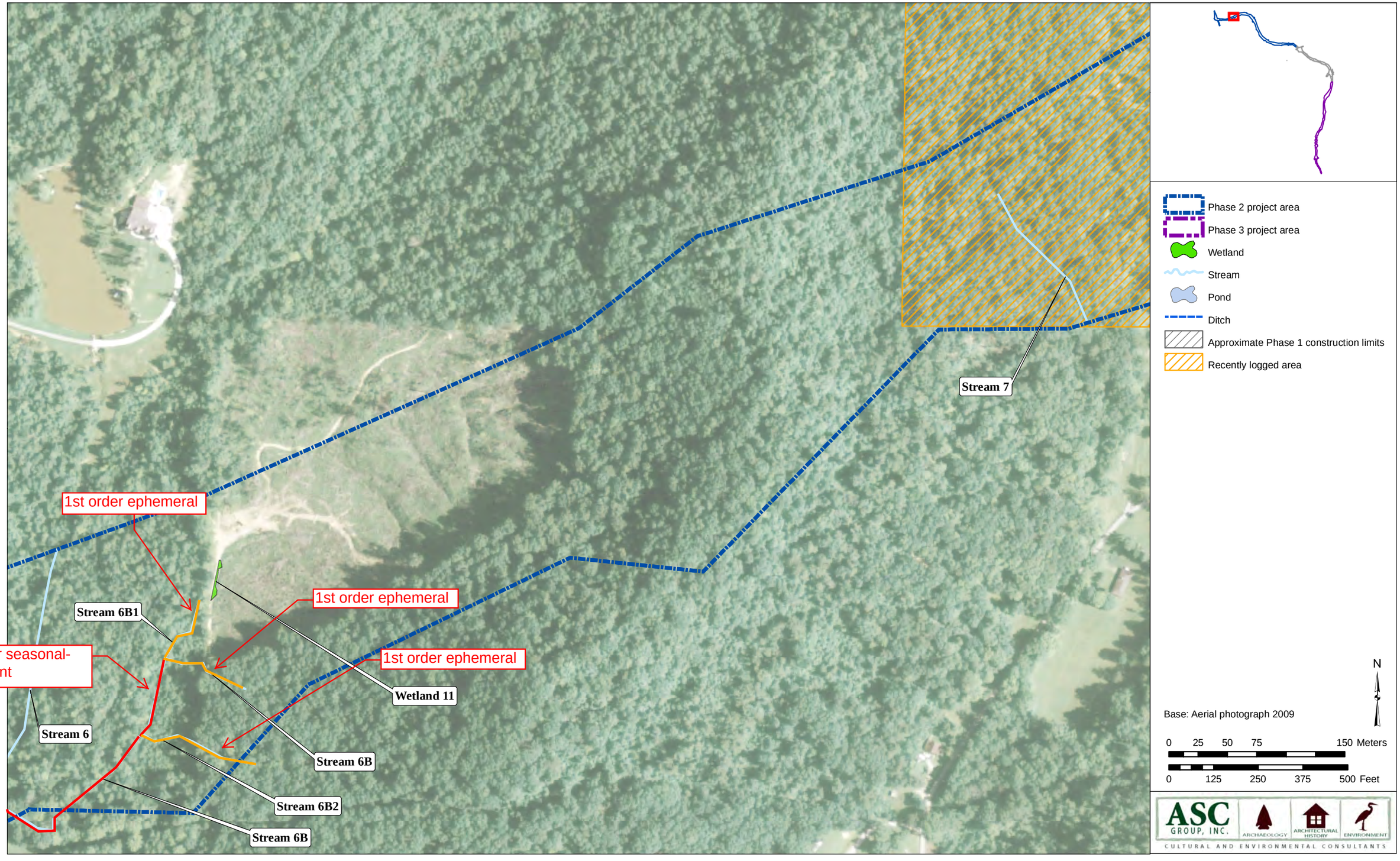

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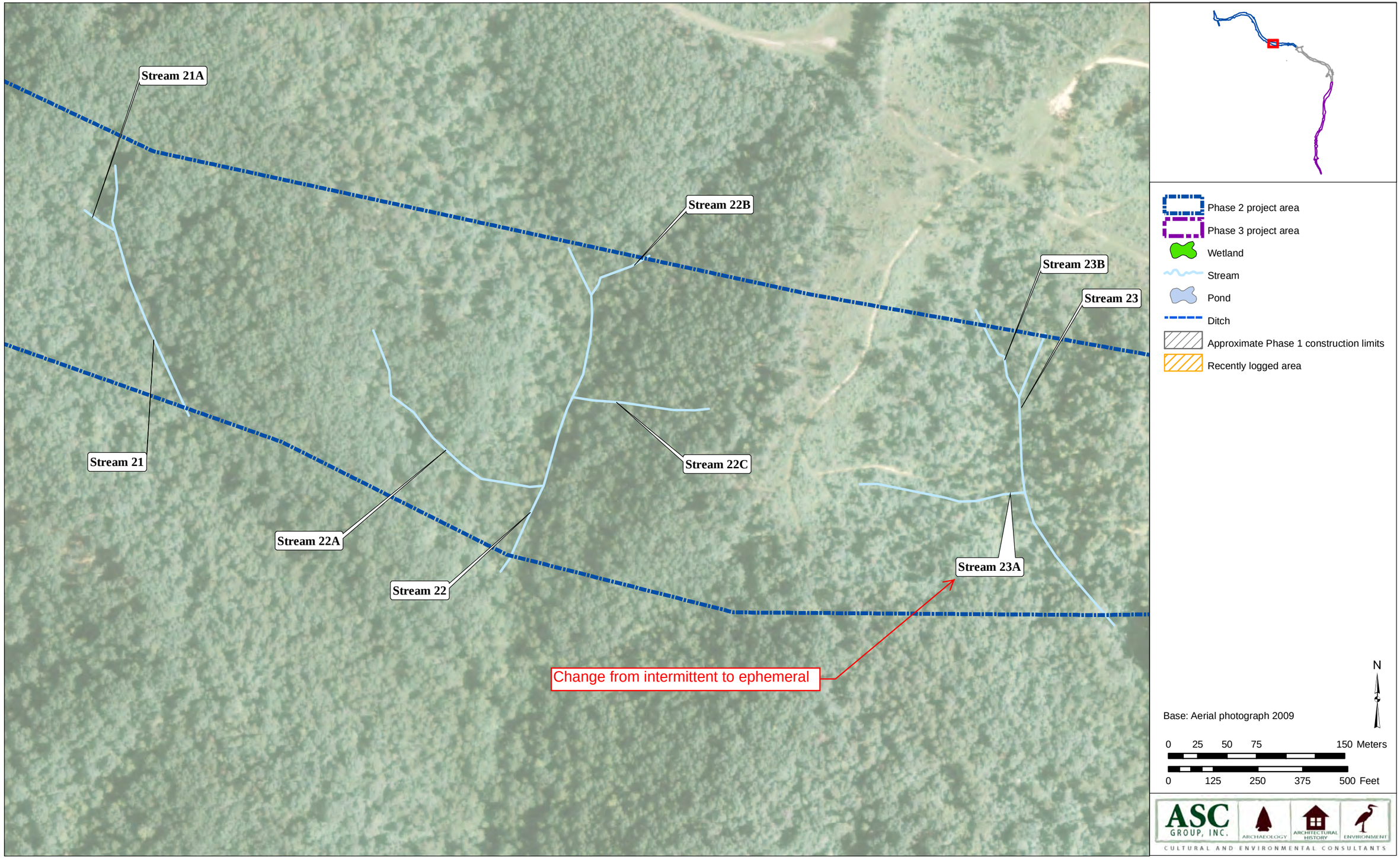

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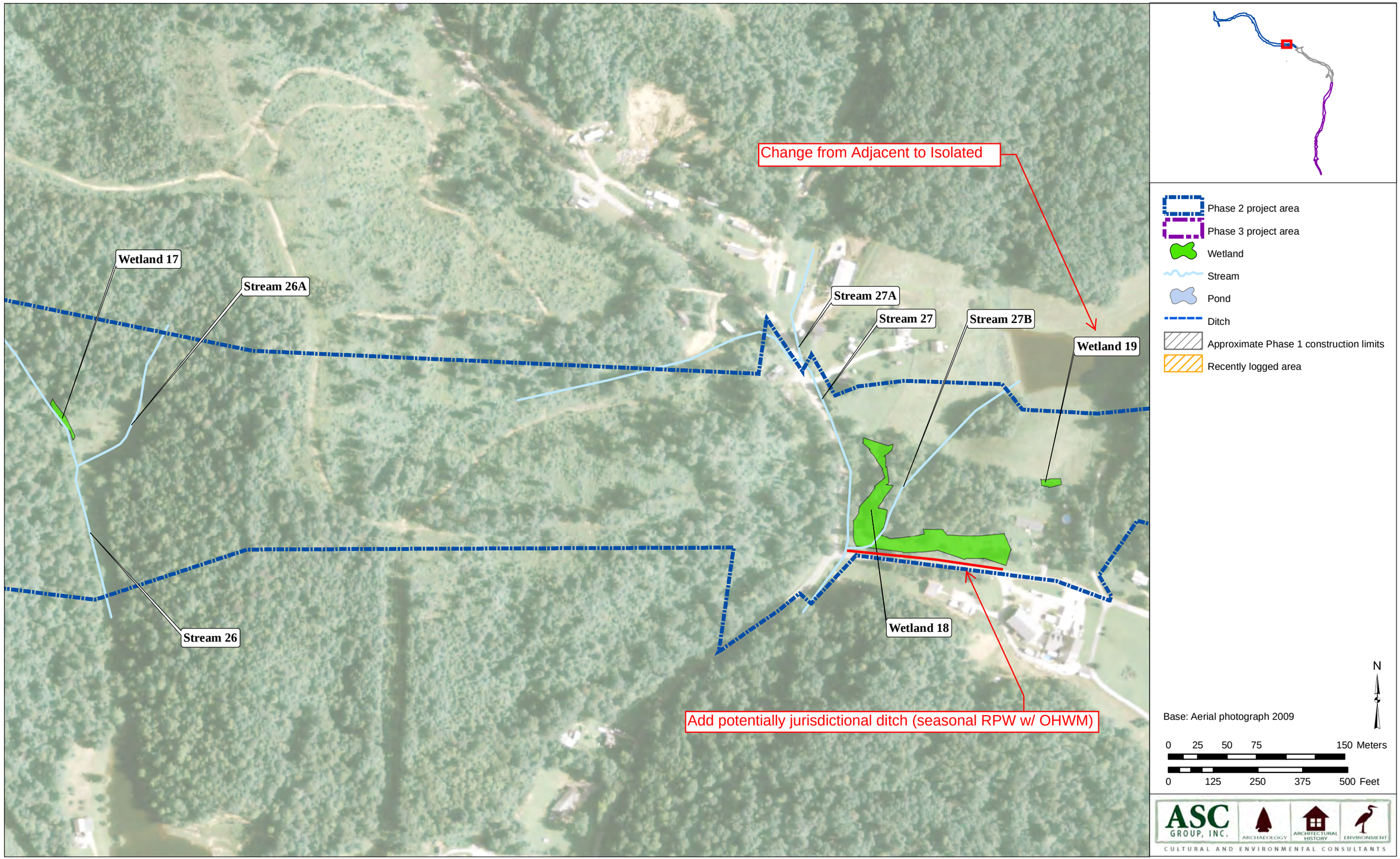

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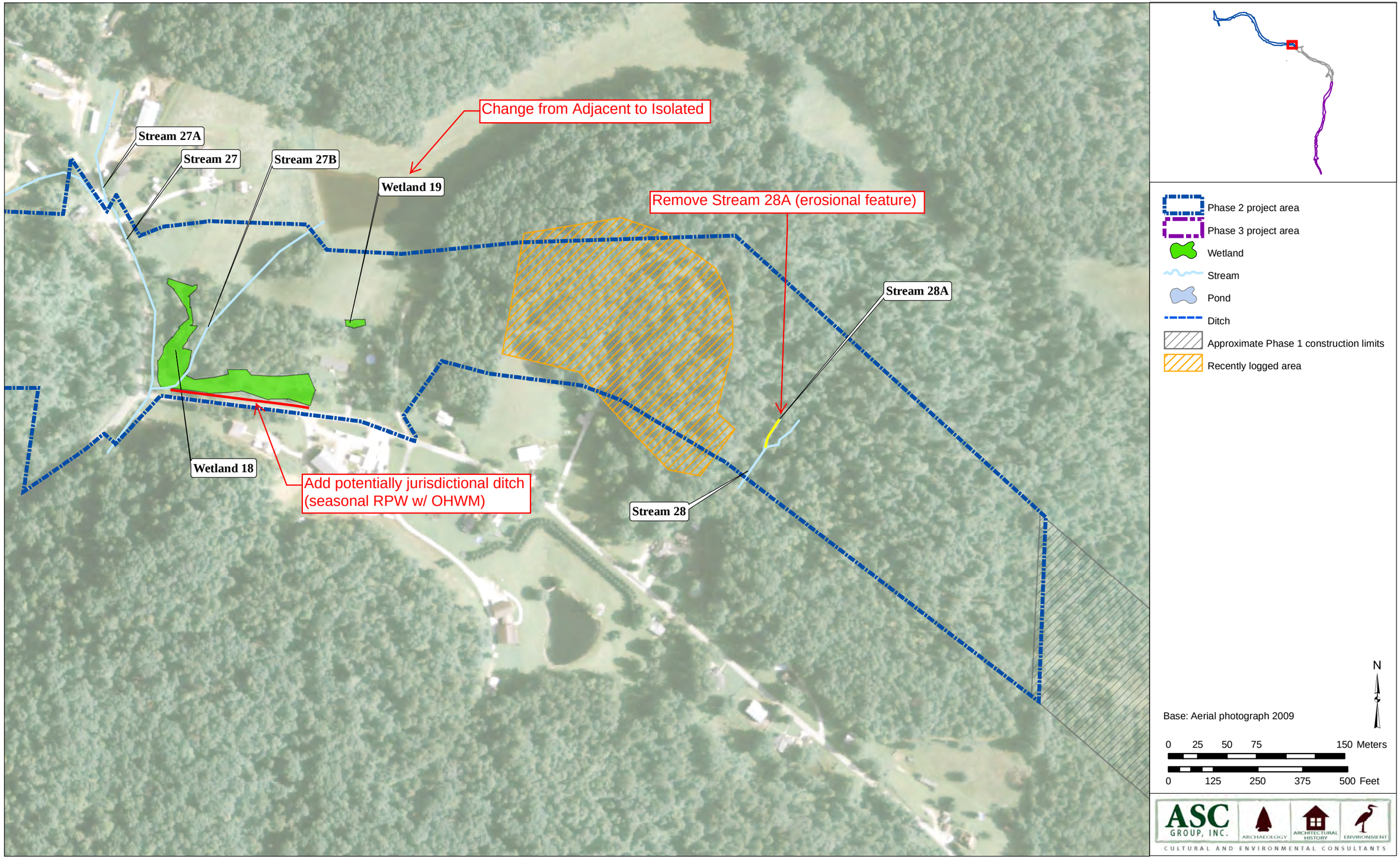

Figure 11. Survey Results. (30 sheets)

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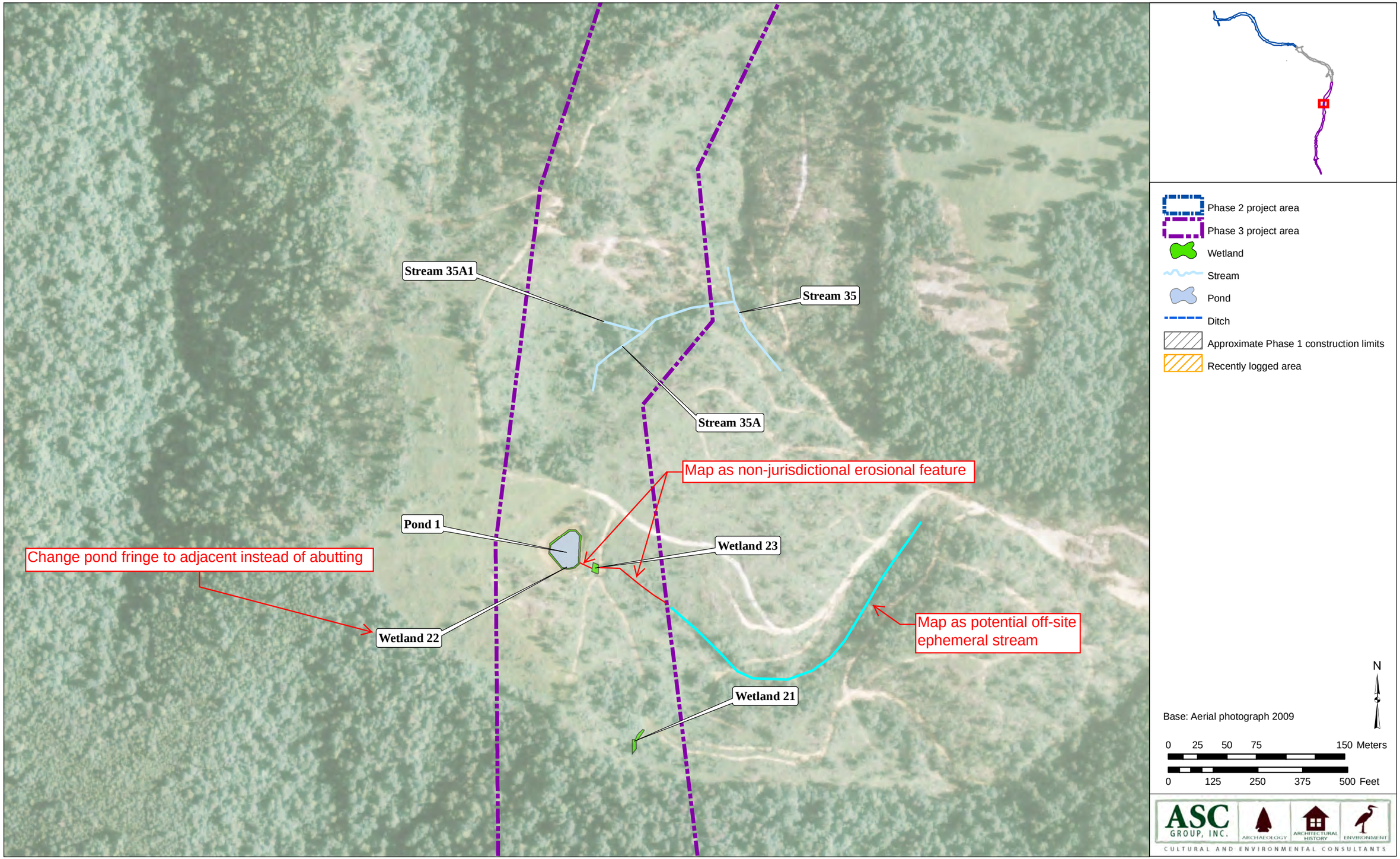

Figure 11. Survey Results. (30 sheets)

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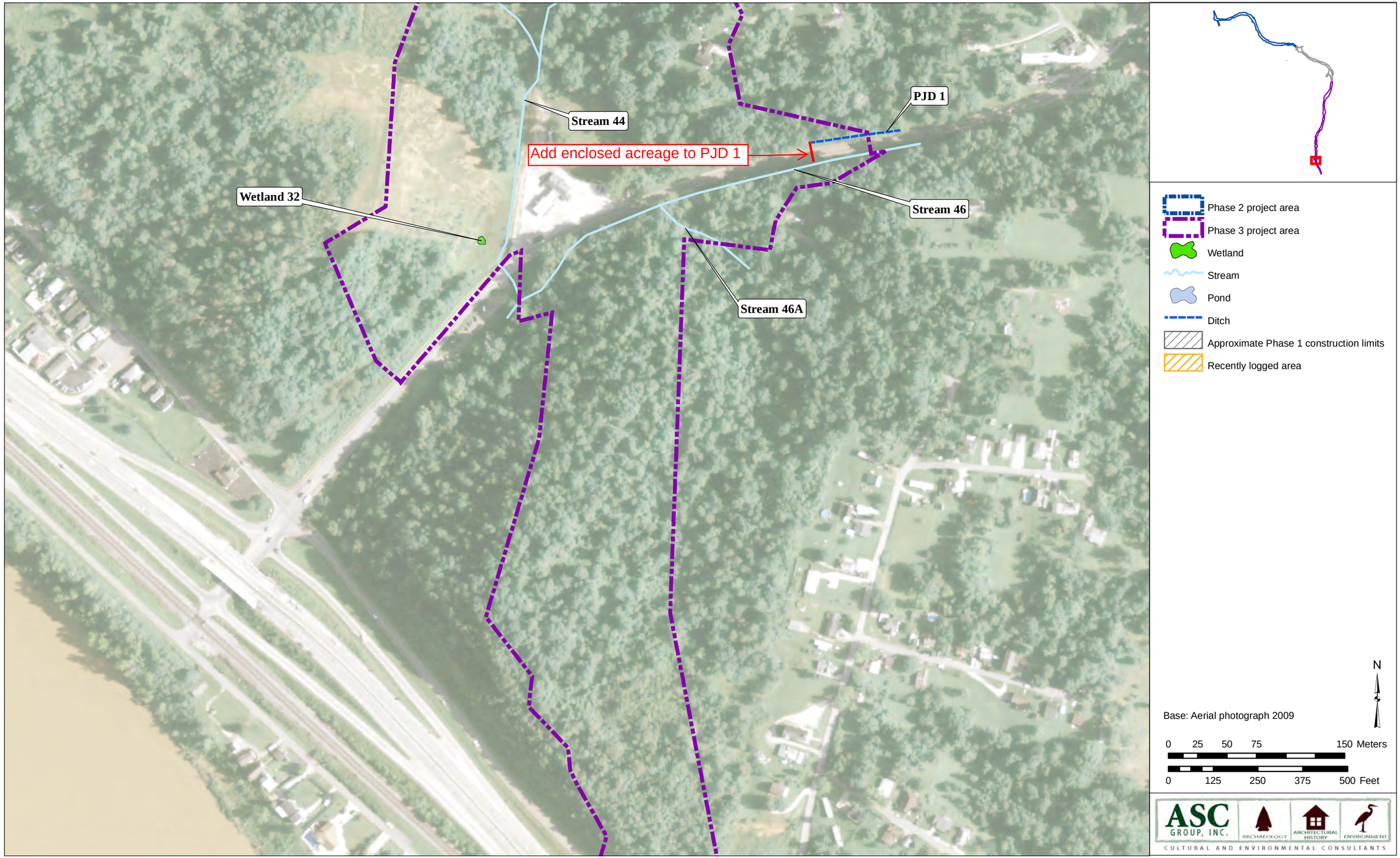

Figure 11. Survey Results. (30 sheets)

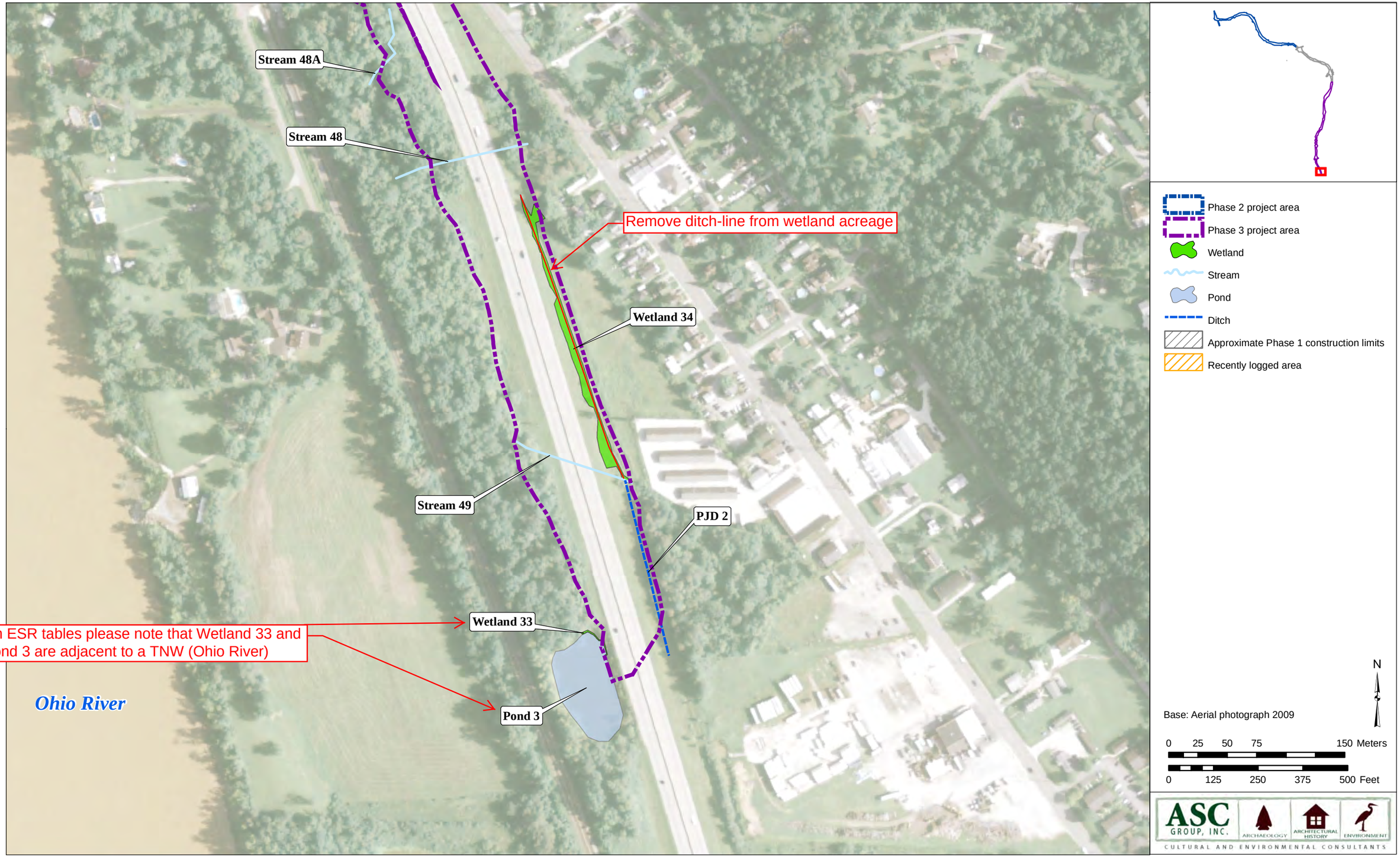

Figure 11. Survey Results. (30 sheets)

APPENDIX E: DATA FORMS AND ORAMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 2 City/County: Portsmouth/Scioto Co. Sampling Date: 6.25.12 to 11.8.12

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 50

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

Landform (hillslope, terrace, etc.): Foot Slope Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA: LRR N Lat: 38.8678 Long: -82.9063 Datum: NAD 27

Soil Map Unit Name: SfE – Shelocta-Wharton-Latham association, steep NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**Wetland 19**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		**X** Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No

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

Remarks:

Wetland hydrology Indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **50**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Agrostis gigantea*	40	Yes	FACW
2. *Eutrochium fistulosum*	30	Yes	FACW
3. *Dichanthelium clandestinum*	30	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= Total Cover	

Dominance Test Worksheet:

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

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

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index Worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is > 50%
3 - Prevalence Index is ≤3.0[1]
4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – 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.)

The Dominance Test is greater than 50 percent. This observation satisfies the vegetation criterion.

SOIL Sampling Point: **50**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	95	10YR 5/6	5	C	PL	Loamy/Clayey	
>6	IMPENETRABLE							

[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)		Dark Surface (S7)
Histic Epipedon (A2)		Polyvalue Below Surface (S8) **(MLRA 147, 148)**
Black Histic (A3)		Thin Dark Surface (S9) **(MLRA 147, 148)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
2 cm Muck (A10) **(LRR N)**		Redox Dark Surface (F6)
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
Thick Dark Surface (A12)		Redox Depression (F8)
Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**		Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
Sandy Gleyed Matrix (S4)		Umbric Surface (F13) **(MLRA 136, 122)**
Sandy Redox (S5)		Piedmont Floodplain Soils (F19) **(MLRA 148)**
Stripped Matrix (S6)		Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(MLRA 147)**

Coast Prairie Redox (A16) **(MLRA 136, 147)**

Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**

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: Possibly Rock

Depth (inches): 6

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

Remarks:

The soils in this area correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 2 City/County: Portsmouth/Scioto Co. Sampling Date: 6.2.11 to 7.21.11

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 51

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR or MLRA: LRR N Lat: 38.8679 Long: -82.9064 Datum: NAD 27

Soil Map Unit Name: SfE – Shelocta-Wharton-Latham association, steep NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	No	**X**	**Within a Wetland? Yes No X**
Wetland Hydrology Present?	Yes	No	**X**	**Out Point for Wetland 19**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies none of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

Wetland hydrology Indicators were not observed at this sampling point. This observation does not satisfy the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **51**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Agrostis gigantea*	30	Yes	FACW
2. *Solidago canadensis*	20	Yes	FACU
3. *Tridens flavus*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1. *Lonicera japonica*	20	Yes	FAC
2. *Smilax glauca*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30	= 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: 5 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

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

The Dominance Test is 50 percent. This observation does not satisfy the vegetation criterion.

SOIL Sampling Point: **51**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 5/2	100					Loamy/Clayey	
>3	IMPENETRABLE						Rocky Soil	

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depression (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 136, 147)**
- Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**
- 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: Rocky Soil

Depth (inches): 3

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

Remarks:

The soils in this area do not correspond to any of the hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation does not satisfy the soils criterion.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 3 City/County: Portsmouth/Scioto Co. Sampling Date: 6.25.12 to 11.8.12

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 59

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

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

Subregion (LRR or MLRA: LRR N Lat: 38.8063 Long: -82.8631 Datum: NAD 27

Soil Map Unit Name: ScF – Shelocta-Brownsville association, very steep NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**Wetland 21**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
X Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		**X** Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	**X**	No		Depth (inches):	6
Water Table Present?	Yes		No	**X**	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	**X**	No		Depth (inches):	0.5

Wetland Hydrology Present? Yes X No

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

Remarks:

Wetland hydrology Indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **59**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Brasenia schreberi*	25	Yes	OBL
2. *Carex lurida*	10	Yes	OBL
3. *Boehmeria cylindrica*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= 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	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – 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.)

The dominant species have a wetland indicator status of OBL. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	5/N (GLEY)	100					Loamy/Clayey	

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

Hydric Soil Indicators:

Histosol (A1)		Dark Surface (S7)
Histic Epipedon (A2)		Polyvalue Below Surface (S8) **(MLRA 147, 148)**
Black Histic (A3)		Thin Dark Surface (S9) **(MLRA 147, 148)**
Hydrogen Sulfide (A4)	**X**	Loamy Gleyed Matrix (F2)
Stratified Layers (A5)		Depleted Matrix (F3)
2 cm Muck (A10) **(LRR N)**		Redox Dark Surface (F6)
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
Thick Dark Surface (A12)		Redox Depression (F8)
Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**		Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
Sandy Gleyed Matrix (S4)		Umbric Surface (F13) **(MLRA 136, 122)**
Sandy Redox (S5)		Piedmont Floodplain Soils (F19) **(MLRA 148)**
Stripped Matrix (S6)		Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(MLRA 147)**

Coast Prairie Redox (A16) **(MLRA 136, 147)**

Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**

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): N/A

Type:

Depth (inches):

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

Remarks:

The soils in this area correspond to the Loamy Gleyed Matrix (F2) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the soils criterion.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 3 City/County: Portsmouth/Scioto Co. Sampling Date: 6.25.12 to 11.8.12

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 60

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10

Subregion (LRR or MLRA: LRR N Lat: 38.8063 Long: -82.8631 Datum: NAD 27

Soil Map Unit Name: ScF – Shelocta-Brownsville association, very steep NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	No	**X**	**Within a Wetland? Yes No X**
Wetland Hydrology Present?	Yes	No	**X**	**Out Point for Wetland 21**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies none of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

Wetland hydrology Indicators were not observed at this sampling point. This observation does not satisfy the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **60**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Robinia pseudoacacia*	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Rubus allegheniensis*	30	Yes	FACU
2. *Rosa multiflora*	20	Yes	FACU
3. *Corylus americana*	20	Yes	FACU
4.			
5.			
	70	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
		= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1. *Lonicera japonica*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	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: 5 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

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

The Dominance Test is less than 50 percent. This observation does not satisfy the vegetation criterion.

SOIL Sampling Point: **60**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 5/6	100					Loamy/Clayey	
>7	IMPENETRABLE						Rocky Soil	

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

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depression (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 136, 147)**
- Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**
- 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: Rocky Soil

Depth (inches): 7

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

Remarks:

The soils in this area do not correspond to any of the hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation does not satisfy the soils criterion.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 3 City/County: Portsmouth/Scioto Co. Sampling Date: 6.25.12 to 11.8.12

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 94

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

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

Subregion (LRR or MLRA: LRR N Lat: 38.7537 Long: -82.8742 Datum: NAD 27

Soil Map Unit Name: SbB – Shelocta silt loam, 3 to 8 percent slopes NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	**X**	No	**Is the Sampled Area**
Hydric Soils Present?	Yes	**X**	No	**Within a Wetland? Yes X No**
Wetland Hydrology Present?	Yes	**X**	No	**Wetland 32**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies the three criteria necessary for a positive wetland determination. This area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		**X** Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes X No

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

Remarks:

Wetland hydrology Indicators were observed. This observation satisfies the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **94**

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Typha angustifolia*	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= 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	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – 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.)

The dominant species observed has a wetland indicator status of OBL. This observation satisfies the Rapid Test for Hydrophytic Vegetation.

SOIL Sampling Point: **94**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 6/2	95	10YR 5/6	5	C	PL	Loamy/Clayey	
>8	IMPENETRABLE							

[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)		Dark Surface (S7)
Histic Epipedon (A2)		Polyvalue Below Surface (S8) **(MLRA 147, 148)**
Black Histic (A3)		Thin Dark Surface (S9) **(MLRA 147, 148)**
Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)
Stratified Layers (A5)	**X**	Depleted Matrix (F3)
2 cm Muck (A10) **(LRR N)**		Redox Dark Surface (F6)
Depleted Below Dark Surface (A11)		Depleted Dark Surface (F7)
Thick Dark Surface (A12)		Redox Depression (F8)
Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**		Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
Sandy Gleyed Matrix (S4)		Umbric Surface (F13) **(MLRA 136, 122)**
Sandy Redox (S5)		Piedmont Floodplain Soils (F19) **(MLRA 148)**
Stripped Matrix (S6)		Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

2 cm Muck (A10) **(MLRA 147)**

Coast Prairie Redox (A16) **(MLRA 136, 147)**

Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**

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):N/A

Type: Rocky Soil

Depth (inches): 8

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

Remarks:

The soils observed correspond to the Depleted Matrix (F3) hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation satisfies the vegetation criterion.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Portsmouth Bypass, SCI-823-0.00, Phase 3 City/County: Portsmouth/Scioto Co. Sampling Date: 6.25.12 to 11.8.12

Applicant/Owner: Ohio Department of Transportation State: OH Sampling Point: 95

Investigator(s): Len Mikles, Jason Earley, and Richard Paul

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA: LRR N Lat: 38.7537 Long: -82.8741 Datum: NAD 27

Soil Map Unit Name: SbB – Shelocta silt loam, 3 to 8 percent slopes NWI Classification: N/A

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

Are vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

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

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

Hydrophytic Vegetation Present?	Yes	No	**X**	**Is the Sampled Area**
Hydric Soils Present?	Yes	No	**X**	**Within a Wetland? Yes No X**
Wetland Hydrology Present?	Yes	No	**X**	**Out Point for Wetland 32**

Remarks: NOAA Long Term Palmer Drought Severity Index indicates that the area was experiencing severe to moderate drought conditions at the time of sampling. This area satisfies none of the three criteria necessary for a positive wetland determination. This area is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
Surface Water(A1)	True Aquatic Plants (B14)	Surface Soil Cracks (B6)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Oxidized Rhizospheres on Living Roots (C3)	Drainage Patterns (B10)
Water Marks (B1)	Presence of Reduced Iron (C4)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soils (C6)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Thin Muck Surface (C7)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)		Geomorphic Position (D2)
Water Stained Leaves (B9)		Shallow Aquitard (D3)
Aquatic Fauna (B13)		Microtopographic Relief (D4)
		FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No X

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

Remarks:

Wetland hydrology Indicators were not observed at this sampling point. This observation does not satisfy the hydrology criterion.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: **95**

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Festuca arundinacea*	60	Yes	FACU
2. *Andropogon virginicus*	30	Yes	FACU
3. *Eupatorium serotinum*	5	No	FAC
4. *Juncus anthelatus*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		= 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: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL Species	× 1 =
FACW Species	× 2 =
FAC Species	× 3 =
FACU Species	× 4 =
UPL Species	× 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 Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

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

The Dominance Test is less than 50 percent. This observation does not satisfy the vegetation criterion.

SOIL Sampling Point: **95**

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	IMPENETRABLE						Fill	

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

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

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depression (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils [3]:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 136, 147)**
- Piedmont Floodplain Soils (F19) **(MLRA 147, 148)**
- 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: Fill

Depth (inches): 1

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

Remarks:

The soils in this area do not correspond to any of the hydric soil indicator presented in the Field Indicators of Hydric Soils in the United States, Version 7.0 (2010). This observation does not satisfy the soils criterion.

ORAM v. 5.0 Field Form Quantitative Rating

Site: Wetland 19- SCI- 823- 0.00	Rater(s): LM	Date: 8-29-12

Metric 1. Wetland Area (size).

max 6 pts. | subtotal: 0 | 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. | subtotal: 8 | 8

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

(4)

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

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

(4)

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

Metric 3. Hydrology.

max 30 pts. | subtotal: 16 | 24

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

(1)

- [ ] 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.

(1)

- [ ] 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.

(1)

- [ ] >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.

(1)

- [ ] 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.

(12)

- [X] None or none apparent (12)
- [ ] 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.

max 20 pts. | subtotal: 12 | 36

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

(3.5)

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

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

(1)

- [ ] 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.

(7.5)

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

Check all disturbances observed

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

36

subtotal this page

last revised 1 February 2001 jjm

Site: Wetland 19 - SCI - 0.23 - 0.00	Rater(s): LM	Date: 8-29-12

36
subtotal first page

0 (max 10 pts.) | 36 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2 (max 20 pts.) | 38 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

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

(1)

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

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

(0)

- [ ] 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

(1)

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

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

(0)

- [ ] 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

38

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM v. 5.0 Field Form Quantitative Rating

Site: Wetland 21-SCI-823-0.00	Rater(s): LM	Date: 10-5-12

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 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.

12 (max 14 pts.) | 12 (subtotal)

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

(7)

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

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

(5)

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

Metric 3. Hydrology.

19 (max 30 pts.) | 31 (subtotal)

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

(1)

- [ ] 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.

(1)

- [ ] 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.

(1)

- [ ] >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.

(4)

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

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

(12)

- [X] None or none apparent (12)
- [ ] 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.

7 (max 20 pts.) | 38 (subtotal)

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

(3)

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

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

(2)

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

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

(2)

- [ ] 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
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

38 (subtotal this page)

last revised 1 February 2001 jjm

Site: Wetland 21-SCI-823-0.00	Rater(s): CM	Date: 10-5-12

38
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 38 (subtotal)

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

5 (max 20 pts.) | 43 (subtotal)

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

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

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

- [ ] High (5)
- [ ] Moderately high(4)
- [6] 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

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

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

- [ ] Vegetated hummucks/tussucks
- [2] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [2] 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

43

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland 32 - SC1-823-0.00	Rater(s): LM	Date: 10-24-12

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 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.

9 (max 14 pts.) | 9 (subtotal)

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

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

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

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

Metric 3. Hydrology.

6 (max 30 pts.) | 15 (subtotal)

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

(1)
- [ ] 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.

(1)
- [ ] 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.

(1)
- [ ] >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.

(1)
- [ ] 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.

(2)
- [ ] 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.

6.5 (max 20 pts.) | 21.5 (subtotal)

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

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

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

(1)
- [ ] 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.

(4.5)
- [ ] None or none apparent (9)
- [X] 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

21.5 subtotal this page

last revised 1 February 2001 jjm

Site: Wetland 32 - SC1 - 823 - 0.00	Rater(s): LM	Date: 10-24-12

21.5
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 21.5 (subtotal)

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

2 (max 20 pts.) | 23.5 (subtotal)

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

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

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

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [0] 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

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

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

- [ ] Vegetated hummucks/tussucks
- [0] 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
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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
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Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23.5

End of Quantitative Rating. Complete Categorization Worksheets.

APPENDIX F: PHOTOGRAPHS

Photograph 1. Isolated Wetland 19, facing south.

Photograph 2. Isolated Wetland 21, facing south.

Photograph 3. Isolated Wetland 32, facing southwest.