



**Section 404 Application for  
Department of Army Permit**

**and**

**Section 401 Application for  
Ohio EPA Water Quality  
Certification**

**SCI-823-0.00  
PID 19415  
Portsmouth Bypass**

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

**By: ASC Group, Inc.  
800 Freeway Drive North  
Columbus OH, 43229  
Phone: 614.238.2514  
Fax: 614.268.7881**

**October 18, 2013**

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

**Section 404 Application for Department of the Army Permit**

**and**

**Section 401 Application for Ohio EPA  
Water Quality Certification**

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**SECTION 1: SECTION 404 APPLICATION FOR DEPARTMENT OF  
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Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public may be made available as part of a public notice as part of Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME		8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)	
First -	Jerry	First -	Adrienne
Middle -		Middle -	E.
Last -	Wray	Last -	Earley
Company	Director - ODOT	Company	Environmental Supervisor - ODOT/OES
E-mail Address -	Tim.Hill@dot.state.oh.us	E-mail Address -	Adrienne.Earley@dot.state.oh.us
6. APPLICANT'S ADDRESS		9. AGENT'S ADDRESS	
Ohio Department of Transportation Office of Environmental Services, Third Floor 1980 West Broad Street Mail Stop #4170 Columbus, Ohio 43223		Ohio Department of Transportation Office of Environmental Services, Third Floor 1980 West Broad Street Mail Stop #4170 Columbus, Ohio 43223	
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE		10. AGENT'S PHONE NUMBERS WITH AREA CODE	
a. Residence		a. Residence	
b. Business	(614) 644-0377 (Office of Tim Hill)	b. Business	(614) 466-2159
c. Fax	(614) 728-7368	c. Fax	(614) 728-7368

11. STATEMENT OF AUTHORIZATION

I hereby authorize Adrienne E. Earley to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE



DATE 10/25/13

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Construction Phases 2 and 3 of the Portsmouth Bypass SCI 823-0.00 (ODOT PID 19415)

13. NAME OF WATERBODY, IF KNOWN (if applicable)

Unnamed wetlands, ponds, ditches, unnamed streams and the Little Scioto River (Appendix C). The proposed project is located within the Lower Scioto (05060002) and Little Scioto - Tygarts (05090103) watersheds.

14. PROJECT STREET ADDRESS (if applicable)

Various: Project entails the construction of Phases 2 and 3 of a new bypass route from US 23 to Lucasville-Minford Road and from SR 335 to US 52 (Appendix A: Figures 1 and 2).

15. LOCATION OF PROJECT	
Latitude:	Approximate Center of Phase 2: 38.887517 °N Approximate Center of Phase 3: 38.786199 °N
Longitude:	Approximate Center of Phase 2: 82.951070 °W Approximate Center of Phase 3: 82.865827 °W

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)			
State Tax Parcel ID-	Various	Municipality-	Various
Sections -	Various	Townships-	Various
		Range -	Various

17. DIRECTIONS TO THE SITE

From Columbus, Ohio: Take US 23 south approximately 77 miles to just north of the intersection with SR 348. This is the northern terminus of Phase 2. The proposed Phase 2 Portsmouth Bypass route extends from this point south/southeast approximately 7.4 miles to Lucasville-Minford Road (Appendix A: Figure 1, Sheets 1-4; Figure 2, Sheets 1-23). The northern terminus of Phase 3 is located just north of Blake Hollow Road near the Scioto County Airport. The proposed Phase 3 of the Portsmouth Bypass extends from this point south to US 52 (Appendix A: Figure 1, Sheets 1 and 5-7; Figure 2, Sheets 24-42).

18. Nature of Activity (Description of project, include all features)

In 1999, ODOT initiated the Portsmouth Transportation Study to investigate alternatives for improving transportation system linkage, safety and capacity in and around the city of Portsmouth. The study recommended an Airport Bypass alternative from US 52 near Wheelersburg to US 23 near Lucasville along a corridor that would serve the Scioto County Airport and encompass SR 78 and SR 335. No specific alignment was identified; rather a one-mile wide corridor was recommended for more detailed analysis.

The Airport Bypass concept was chosen to improve regional mobility and increase the potential for economic development within the region. The study concluded that a general airport bypass alignment would reduce the travel time between Wheelersburg to Lucasville by approximately 16 minutes. More importantly, the study concluded that a proposed airport alignment would be most likely to increase Scioto County's chances of attracting new business investment.

In the fall of 2001, ODOT began project development by examining the impacts and benefits of multiple alternative alignments to determine the best location for the new roadway. In 2004 ODOT selected the "Hill Alignment", which called for the new roadway to be built primarily along the ridge of the hilltop as opposed to the valley option.

On June 9, 2006 FHWA issued the Record of Decision (ROD) for project *SCI 823-0.00 (PID 19415)*. In the final comments to the ROD, ODOT indicated the project would be broken down into three construction Phases, which are same three construction phases as described in this application (Phases 1, 2, and 3). Upon approval of the ROD, ODOT began advance acquisition to purchase right-of-way parcels in all three phases of construction. Although the Project's EIS was approved in 2006, ODOT has undertaken a number of major federal actions since that time and the Project remains current in terms of the National Environmental Policy Act ("NEPA"). A number of ecological re-evaluations were completed in 2013, and the information collected during the ecological re-evaluation was summarized in the *Level 2 Ecological Survey Report SCI-823-0.00 – Construction Phases 2 & 3 (PID 19415)* [ASC Group 2013].

Since the issuance of the ROD, ODOT has determined that the most efficient method to construct the project is to use a Design-Build (DB) approach. Under the DB approach the responsibilities for final designs and construction of the facility are bundled together and transferred to private sector partners. Typically, the DB approach is more efficient than the traditional design-bid-build process, because in the DB process the final design and construction for the project is combined into a single contract. The contract is awarded to a team consisting of a design firm and construction contractor with financial backing to expedite the completion of the project. This method results in significant time savings by eliminating the lead time necessary to contract a design engineer, and then accept bids from contractors to build the design. Under this scenario projects move from design seamlessly into construction in the DB contract. In addition, because the design engineer and the contractor work as a single entity, any design changes can be incorporated into the final design phase, which eliminates the need for costly and time consuming changes once construction has commenced. This also allows for ODOT to estimate the project cost earlier in the

project development process, which allows for a more efficient budgeting process.

After careful evaluation of the Portsmouth Bypass Project ODOT elected to construct the Bypass using the DB process. In the evaluation ODOT developed a set of goals they hope to achieve with the project. ODOT's goals for the Project include:

- Complete construction of a high-quality highway maximizing value for money, taking advantage of innovative approaches from Proposers, and a favorable bidding environment;
- Achieve economies of scale from the Project work;
- Minimize the cost of the Project and the amount of State funds used on the Project to allow a greater proportion of ODOT's work program to be delivered;
- Maximize quality in construction and maintenance approach;
- Project construction within a five year time frame;
- Provide schedule and cost certainty;
- Maximize market interest and competition in the Project; and
- Complete a major section of the Appalachian Development Highway System for which ODOT was previously allocated funds by the Appalachian Region Commission.

In the DB process the Designer and Contractor work together to move the project design from a Stage 2 design to Stage 3 design, incorporating the contractors design changes into the final construction plans. Because design changes are inherent in the DB process, impacts presented in this application were calculated using the ROW limits from the projects Stage 2 design, as the ROW limits in Stage 2 are set and the contractor is required to stay within these limits. Using the Stage 2 Design ROW limits results in a conservative estimate in the amount of resources to be impacted as a result of the proposed project. In order to accommodate the potential for design changes in project, ODOT overestimated the amount of proposed impacts presented in this application. Actual impacts that will result from the project will be less than what is reported in the application.

ODOT decided that in order to meet the projects schedule they needed to permit the Stage 2 project footprint. While the Final Design footprint will be smaller than the Stage 2 footprint, calculating impacts based on a smaller footprint would likely require multiple permit modifications as the final designs are developed to account for the change in impacts. Any permit modifications would likely require the contractor to halt construction in these areas while waiting for the modification to be processed, which would cause project delays and cost overruns from idling equipment, construction delays, and construction staging issues. The inevitable delays that would result from a permit modification would prevent the ODOT from achieving the goals for the project, which would defeat the purpose of using the DB process for the project.

In order to minimize impacts to higher quality wetlands and streams, impacts have been minimized through the use of "no build areas." Mitigation for unavoidable impacts to streams and wetlands also includes the implementation of best management practices (BMPs) to minimize downstream impacts resulting from erosion and sedimentation.

The environmental resources to be impacted as a result of the construction of Phases 2 and 3 of the Preferred Alternative for the Portsmouth Bypass are described in detail in the *Level 2 Ecological Survey Report SCI-823-0.00 – Construction Phases 2 & 3 (PID 19415)* [ASC Group 2013].

ODOT and their agents are currently drafting the Environmental Reevaluation document for Phases 2 and 3. Once the document is drafted it will be submitted to FHWA for their review and concurrence prior to the commencement of construction.

Phase 2 of the Bypass is approximately 7.4 miles long and is located between US 23 and the Phase 1 Interchange at Lucasville-Minford Road (Appendix A: Figure 1, Sheets 1-4; Figure 2, Sheets 1-23). Phase 3 of the Bypass is approximately 5.6 miles long and is located between the interchange north of Shumway Hollow Road, near the Scioto County Airport and US 52 (Appendix A: Figure 1, Sheets 1 and 5-7; Figure 2, Sheets 24-42).

To the greatest extent possible, impacts to wetlands and streams have been minimized throughout the design process. Mitigation for unavoidable impacts to streams and wetlands also includes the implementation of BMPs to minimize downstream impacts resulting erosion and sedimentation.

The environmental resources to be impacted as a result of the construction of Phase 2 and 3 of the Preferred Alternative for the Portsmouth Bypass are described in detail in the *Level 2 Ecological Survey Report SCI-823-0.00 – Construction Phases 2 and 3 (PID 19415)* [ASC Group 2013].

## Purpose and Need

The Portsmouth Bypass is needed because the primary arterial roadways through Portsmouth (US 23/US52) have steep grades, excessive curves, many intersections and numerous direct driveway accesses. These limitations restrict the ability of the roadways to serve their intended function to move through traffic. In addition to US 23 and US 52, traffic throughout Portsmouth is distributed primarily over CR 377, SR 104, CR 28, SR 728 and SR 335. All of these routes suffer from poor alignment. By 2025, 10 intersections within the entire project area are projected to be operating at Level of Service (LOS) D or worse. Safety concerns are also widespread throughout the area. Portions of all six routes mentioned above experience higher than average crash rates for similar facilities in Ohio. The crash rates for some links are more than twice the statewide average for similar roadways.

The primary goals of the bypass are to 1) provide new highway access within the region to make the area more attractive for new business development, and 2) improve the movement of traffic through Portsmouth and reduce the number of crashes in the area by drawing traffic away from congested intersections and high crash rate locations.

Once the corridor was selected, two primary alignments were evaluated as feasible alternatives, namely the Hill and Valley alignments. The Hill and Valley alignments were two completely independent alignments except for a segment in the middle of the project, in which the Hill and Valley alignments shared the same footprint. This segment of common footprint became Phase 1 of the Portsmouth Bypass. Phase 2 is approximately 7.4 miles long and is comprised of Hill Segments 3 and 4. Phase 2 ties into the northern terminus of Phase 1 at Lucasville-Minford Road (Appendix A: Figure 1, Sheets 1-4). Phase 3 is approximately 5.6 miles is comprised of Hill Segment 1 and a portion of Hill/Valley Segment 2. Phase 3 ties into the southern terminus of Phase 1 just west of the Scioto County Airport and SR 335 (Appendix A: Figure 1, Sheets 1 and 5-7). ODOT is currently coordinating the reevaluation of the FEIS for Phases 2 and 3 with FHWA. Approval of reevaluation document is anticipated pending submission to the FHWA.

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### **USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

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#### 20. Reason(s) for Discharge

As proposed, Phases 2 and 3 of the Portsmouth Bypass (SCI-823-0.00 PID 19415) will result in the permanent discharge of fill material into Waters of the US. Permanent fill material will consist of clean hard fill, earthen material, concrete, steel, and riprap. These materials will be discharged into regulated waters in order to achieve the desired elevations for the new bypass, allow for drainage, and to provide scour protection at stream crossings throughout the entire length of the project (Appendix A: Figures 3-1 to 3-130). Impacts to aquatic resources have been minimized to the extent possible during project design.

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#### 21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

The construction of Phases 2 and 3 of the Portsmouth Bypass will result in the permanent discharge of fill material into Waters of the US. All proposed fill material will consist of clean hard fill, steel, earthen material, concrete and/or rip-rap. The proposed project will result in the discharge of approximately 13,909 cubic yards of clean fill material into streams; approximately 10,404 cubic yards of clean fill into wetlands, approximately 134 cubic yards of clean fill material into three potentially jurisdictional ditches (PJDs), and approximately 10,077 cubic yards of clean fill material into two ponds.

Permanent discharges into jurisdictional streams will consist of approximately 288 CY of concrete, 4,201 CY of RCP, 9,398 CY of earthen or embankment fill, and 25 CY steel. (Note that due to the reporting of impact volumes in whole numbers, impacts may not sum to totals reported).

Approximately 3,395 CY of temporary fill (approximately 1,400 feet of temporary impact) will be discharged into jurisdictional streams (including the bridge over the Little Scioto River) in order to construct Phases 2 and 3 of the Portsmouth Bypass. The majority of these temporary impacts result from the installation temporary dewatering measures within the existing channels during the construction of the project. These temporary fill areas, in general, are located within the area of proposed permanent fill and these impacts have been incorporated into the impact calculations reported in this application for permanent fill material.

Detailed drawings of individual impacts to aquatic features are provided in Appendix A: Figures 3-1 through 3-130. Additional information regarding these features are provided in Appendix B: Tables A, B, and C. Summaries of individual impacts to these aquatic features are detailed in Appendix B: Table D.

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22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Approximately 6.449 acres of jurisdictional wetlands will be permanently filled as part of the project.

Approximately 10.767 acres of stream will be permanently filled (67,400 feet of permanent impact) and 0.408 acre will be temporarily filled (1,400 feet of temporary impact) as a result of Phases 2 and 3 of the Portsmouth Bypass. The majority of these temporary impacts result from the installation temporary dewatering measures within the existing channels during the construction of the project. These temporary fill areas, in general, are located within the area of proposed permanent fill and these impacts have been incorporated into the impact calculations reported in this application for permanent fill material.

Phases 2 and 3 will permanently impact approximately 1.041 acres of jurisdictional pond and 0.067 acre of PJDs.

Figures of the individual impacts to jurisdictional waters are provided in Appendix A: Figure 3. Summaries of the individual Waters of the US and the impacts associated with each are detailed in Appendix B: Tables A - D.

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23. Description of Avoidance, Minimization, and Compensation (see instructions)

Avoidance and minimization of impacts to aquatic resources have been incorporated to the greatest extent possible throughout the design for Phases 2 and 3 of the Portsmouth Bypass Project. Due to the size and scope of the undertaking of the project, complete avoidance of all Waters of the US was impracticable. The proposed Portsmouth Bypass project will result in the unavoidable permanent impact to 67,400 feet of jurisdictional stream channel (Appendix C).

In addition to the 67,400 feet of permanent impact, the Preferred Alternative will also entail approximately 1,400 feet of temporary stream impact. The majority (1,250 feet) of the temporary impacts proposed are located in areas that are within the area of permanent impact area. These temporary impacts will be mitigated in conjunction with the permanent impacts. The only temporary impacts not associated with permanent impacts are located at the proposed Little Scioto River Bridge crossing (150 ft) and have been incorporated into the proposed stream mitigation plan.

A summary of impacted streams is provided in Appendix B: Tables A and C and summaries of the proposed mitigation for the project are provided in Tables E and F. Additional information regarding avoidance, minimization, and compensatory mitigation can be found in Section 10 of the OEPA 401 WQC Application, which is provided in Section 3 of this Waterway Permit Package. Supporting documentation and figures for the proposed mitigation projects are included on Appendix D.

Approximately 6.449 acres of unavoidable jurisdictional wetland impact will result from discharge of 10,404 CY of clean fill material during the construction of Phases 2 and 3 of the Portsmouth Bypass Project (Appendix C). A summary of the wetlands impacted are provided in Appendix B; Tables B and D. Additional information regarding avoidance, minimization, and compensatory mitigation can be found in Section 10 of the OEPA 401 WQC Application, which is provided in Section 3 of this Waterway Permit Package. Supporting documentation and figures for the proposed mitigation projects are included on Appendix D.

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24. Is Any Portion of the Work Already Complete? Yes  No  IF YES, DESCRIBE THE COMPLETED WORK

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25. Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

See Appendix E for the List of Adjacent Property Owners for Phases 2 and 3 of the Portsmouth Bypass.

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26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application




AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Ohio EPA	401 WQC	Not yet assigned (PIDs: 19415/77366/79977)	In conjunction with the 404		
Ohio EPA	NPDES	Not yet assigned (PIDs: 19415/77366/79977)	Pending		
Ohio EPA	Isolated Wetland PAN	Not yet assigned (PIDs: 19415/77366/79977)	In conjunction with the 404		
SHPO	Section 106	SCI-823-0.00/10.13	3/21/13	ODOT IOC 5/10/2013	
USFWS/ ODNR	Section 7	03E15000-2012-0581 (PID 19415)	11/9/2011 5/20/2013 6/2013	3/12/2013 6/13/2013 9/18/2013	
USACE	Jurisdictional Determination	2011-00646-OHR	6/2013	Pending	
USACE	Section 10	Not yet assigned (PIDs: 19415/77366/79977)	In conjunction with the 404		
FHWA	Re-evaluation of FEIS/ROD for Phases 2 and 3	SCI-823-0.00 (PID 19415)	Pending		
Scioto County Floodplain Office (ODNR)	Special Flood Hazard Area Development Permit	Not yet assigned (PIDs: 19415/77366/79977)	Pending		

\*Would include but is not restricted to zoning, building and flood plain permits

27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

  
SIGNATURE OF APPLICANT

10/25/13  
DATE

  
SIGNATURE OF AGENT

10/25/2013  
DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States, knowingly and willfully falsifies, conceals, or covers up any trick scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**SECTION 2: SECTION 401 APPLICATION FOR OHIO EPA WATER  
QUALITY CERTIFICATION**

**APPLICATION FOR OHIO EPA  
SECTION 401 WATER QUALITY CERTIFICATION**

**Effective October 1, 1996  
Revised August, 1998**

This application must be completed whenever a proposed activity requires an individual Clean Water Act Section 401 Water Quality Certification (Section 401 certification) from Ohio EPA. A Section 401 certification from the State is required to obtain a federal Clean Water Act Section 404 permit from the U.S. Army Corps Engineers, or any other federal permits or licenses for projects that will result in a discharge of dredged or fill material to any waters of the State. To determine whether you need to submit this application to Ohio EPA, contact the U.S. Army Corps of Engineers District Office with jurisdiction over your project, or other federal agencies reviewing your application for a federal permit to discharge dredged or fill material to waters of the State, or an Ohio EPA Section 401 Coordinator at (614) 644-2001.

The Ohio EPA Section 401 Water Quality Certification Program is authorized by Section 401 of the Clean Water Act (33 U.S.C. 1251) and the Ohio Revised Code Section 6111.03(P). Ohio Administrative Code (OAC) Chapter 3745-32 outlines the application process and criteria for decision by the Director of Ohio EPA. In order for Ohio EPA to issue a Section 401 certification, the project must comply with Ohio's Water Quality Standards (OAC 3745-1) and not potentially result in an adverse long-term or short-term impact on water quality. Included in the Water Quality Standards is the Antidegradation Rule (OAC Rule 3745-1-05), effective October 1, 1996, revised October, 1997 and May, 1998. The Rule includes additional application requirements and public participation procedures. Because there is a lowering of water quality associated with every project being reviewed for Section 401 certification, every Section 401 certification applicant must provide the information required in Part 10 (pages 3 and 4) of this application. In addition, applications for projects that will result in discharges of dredged or fill material to wetlands must include a wetland delineation report approved by the Corps of Engineers, a wetland assessment with a proposed assignment of wetland category (ies), official documentation on evaluation of the wetland for threatened or endangered species, and appropriate avoidance, minimization, and mitigation as prescribed in OAC 3745-1-50 to 3745-1-54. Ohio EPA will evaluate the applicant's proposed wetland category assignment and make the final assignment.

Information provided with the application will be used to evaluate the project for certification and is a matter of public record. If the Director determines that the application lacks information necessary to determine whether the applicant has demonstrated the criteria set forth in OAC Rule 3745-32-05(A) and OAC Chapter 3745-1, Ohio EPA will inform the applicant in writing of the additional information that must be submitted. The application will not be accepted until the application is considered complete by the Section 401 Coordinator. An Ohio EPA Section 401 Coordinator will inform you in writing when your application is determined to be complete.

Please submit the following to "Section 401 Supervisor, Ohio EPA/DSW, P.O. Box 1049, Columbus, Ohio 43216-1049:

- Four (4) sets of the completed application form, including the location of the project (preferably on a USGS quadrangle) and 8-1/2 x 11 scaled plan drawings and sections.
- One (1) set of original scaled plan drawings and cross-sections (or good reproducible copies).

**(See Application Primer for detailed instructions)**

1. The federal permitting agency has determined this project: (check appropriate box and fill in blanks)

- a.  requires an individual 404 permit/401 certification- Public Notice # (if known)
- b.  requires a Section 401 certification to be authorized by Nationwide Permit #
- c.  requires a modified 404 permit/401 certification for original Public Notice #
- d.  requires a federal permit under \_\_\_\_\_ jurisdiction identified by #
- e.  requires a modified federal permit under \_\_\_\_\_ jurisdiction identified by #

2. Application number (to be assigned by Ohio EPA):

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3. Name and address of applicant: Telephone number during business hours:

Mr. Jerry Wray, Director of Transportation (614) 644-0377 (Office of Tim Hill)  
 Ohio Department of Transportation (614) 728-7368 (Fax)  
 1980 West Broad Street, Mailstop #4170  
 Columbus, Ohio 43223

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3a. Signature of Applicant: Date: 10/25/13

4. Name, address and title of authorized agent: Telephone number during business hours:

Mrs. Adrienne E. Earley (614) 466-2159 (Office)  
 Ohio Department of Transportation (614) 728-7368 (Fax)  
 1980 West Broad Street, Mailstop #4170  
 Columbus, Ohio 43223

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4a. Statement of Authorization: I hereby designate and authorize the above-named agent to act in my behalf in the processing of this permit application, and to furnish, upon request, supplemental information in support of the application.

Signature of Applicant: Jerry Wray Date: 10/25/13

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5. Location on land where activity exists or is proposed. Indicate coordinates of a fixed reference point at the impact site (if known) and the coordinate system and datum used.

The Portsmouth Bypass project (SCI-823-0.00) is a proposed limited-access, four-lane divided highway around the city of Portsmouth in central Scioto County. Phases 2 and 3 of the proposed bypass are proposed in this permit application. Phase 2 extends from just north of the intersection of US 23 and SR 728 to Lucasville-Minford Road where it will tie into the proposed intersection, which is part of Phase 1 of the Project (Appendix A: Figure 1, Sheets 1-4; Figure 2, Sheets 1-23). Phase 3 ties into Phase 1 of the project to just south of Shumway Hollow Road and continues southeast to the proposed intersection with US 52 (Appendix A: Figure 1, Sheets 1 and 5-7; Figure 2, Sheets 24-42). Phase 2 of the proposed bypass is approximately 7.4 miles in length and Phase 3 is approximately 5.6 miles in length.

See Appendix B: Tables A, B, and C for additional location information for impacted streams, wetlands, ponds and potentially jurisdictional ditches (PJDs).

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Street, Road, Route, and Coordinates, or other descriptive location

**Watershed(s): Lower Scioto (05060002) and Little Scioto-Tvgarts (05090103) County: Scioto**  
**Township(s): Valley, Jefferson, Madison, Harrison and Porter City: Lucasville, Portsmouth, and Sciotoville**  
**State: Ohio Zip Code: Various**

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6. Is any portion of the activity for which authorization is sought complete?  Yes  No  
 If answer is "yes," give reasons, month and year activity was completed. Indicate the existing work on the drawings.

7. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharge or other activities described in this application.

Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial
USACE	Section 404	2011-00646-OHR	Concurrently with 401		
Ohio EPA	NPDES	Not yet assigned (PIDs: 19415/77366/79977)	Pending		
Ohio EPA	General Isolated Wetland Permit Application (Level One Review)	Not yet assigned (PIDs: 19415/77366/79977)	Concurrently with 401		
SHPO	Section 106 – “No Historic Properties Affected”	SCI-823/10.13 (Phases 2 & 3 Portsmouth Bypass) PIDs: 19415/77366/79977	March 21, 2013	SHPO October 28, 2004 and December 3, 2004 and ODOT IOC April 24, 2006 and May 10, 2013	
USFWS/ODNR	Section 7	03E15000-2012-0581 (PID 19415)	11/9/2011 5/20/2013	3/12/2012 6/13/2013 9/12/2013	
USACE	Jurisdictional Determination	2011-00646-OHR	6/2013	Pending	
FHWA	Re-evaluation of FEIS	SCI-823-0.00 (PID 19415)	Pending		
Scioto County Floodplain Office (ODNR)	Special Flood Hazard Area Development Permit	Not yet assigned (PIDs: 19415/77366/79977)	Pending		

8. **DESCRIPTION OF THE ACTIVITY (fill in information in the following four blocks - 8a, 8b, 8c & 9)**

1. Activity: Describe the Overall Activity:

### Project History and Current Status

In 1999, ODOT initiated the Portsmouth Transportation Study to investigate alternatives for improving transportation system linkage, safety and capacity in and around the city of Portsmouth. The study recommended an Airport Bypass alternative from US 52 near Wheelersburg to US 23 near Lucasville along a corridor that would serve the Scioto County Airport and encompass SR 78 and SR 335. No specific alignment was identified; rather a one-mile wide corridor was recommended for more detailed analysis.

The Airport Bypass concept was chosen to improve regional mobility and increase the potential for economic development within the region. The study concluded that a general airport bypass alignment would reduce the travel time between Wheelersburg to Lucasville by approximately 16 minutes. More importantly, the study concluded that a proposed airport alignment would be most likely to increase Scioto County's chances of attracting new business investment.

In the fall of 2001, ODOT began project development by examining the impacts and benefits of multiple alternative alignments to determine the best location for the new roadway. In 2004 ODOT selected the "Hill Alignment", which called for the new roadway to be built primarily along the ridge of the hilltop as opposed to the valley option.

On June 9, 2006 FHWA issued the Record of Decision (ROD) for project *SCI 823-0.00 (PID 19415)*. In the final comments to the ROD, ODOT indicated the project would be broken down into three construction Phases, which are same three construction phases as described in this application (Phases 1, 2, and 3). Upon approval of the ROD, ODOT began advance acquisition to purchase right-of-way parcels in all three phases of construction. Although the Project's EIS was approved in 2006, ODOT has undertaken a number of major federal actions since that time and the Project remains current in terms of the National Environmental Policy Act ("NEPA"). A number of ecological re-evaluations were completed in J13, and the information collected during the ecological re-evaluation was summarized in the *Level 2 Ecological Survey*

Since the issuance of the ROD, ODOT has determined that the most efficient method to construct the project is to use a Design-Build (DB) approach. Under the DB approach the responsibilities for final designs and construction of the facility are bundled together and transferred to private sector partners. Typically, the DB approach is more efficient than the traditional design-bid-build process, because in the DB process the final design and construction for the project is combined into a single contract. The contract is awarded to a team consisting of a design firm and construction contractor with financial backing to expedite the completion of the project. This method results in significant time savings by eliminating the lead time necessary to contract a design engineer, and then accept bids from contractors to build the design. Under this scenario projects move from design seamlessly into construction in the DB contract. In addition, because the design engineer and the contractor work as a single entity, any design changes can be incorporated into the final design phase, which eliminates the need for costly and time consuming changes once construction has commenced. This also allows for ODOT to estimate the project cost earlier in the project development process, which allows for a more efficient budgeting process.

After careful evaluation of the Portsmouth Bypass Project ODOT elected to construct the Bypass using the DB process. In the evaluation ODOT developed a set of goals they hope to achieve with the project. ODOT's goals for the Project include:

- Complete construction of a high-quality highway maximizing value for money, taking advantage of innovative approaches from Proposers, and a favorable bidding environment;
- Achieve economies of scale from the Project work;
- Minimize the cost of the Project and the amount of State funds used on the Project to allow a greater proportion of ODOT's work program to be delivered;
- Maximize quality in construction and maintenance approach;
- Project construction within a five year time frame;
- Provide schedule and cost certainty;
- Maximize market interest and competition in the Project; and
- Complete a major section of the Appalachian Development Highway System for which ODOT was previously allocated funds by the Appalachian Region Commission.

In the DB process the Designer and Contractor work together to move the project design from a Stage 2 design to Stage 3 design incorporating the contractors design changes into the final construction plans. Because design changes are inherent in the DB process, impacts presented in this application were calculated using the ROW limits from the projects Stage 2 design, as the ROW limits in Stage 2 are set and the contractor is required to stay within these limits. Using the Stage 2 Design ROW limits results in a conservative estimate in the amount of resources to be impacted as a result of the proposed project. In order to accommodate the potential for design changes in project, ODOT overestimated the amount of proposed impacts presented in this application. Actual impacts that will result from the project will be less than what is reported in the application.

ODOT decided that in order to meet the project's schedule they needed to permit the Stage 2 project footprint. While the Final Design footprint will be smaller than the Stage 2 footprint, calculating impacts based on a smaller footprint would likely require multiple permit modifications as the final designs are developed to account for the change in impacts. Any permit modifications would likely require the contractor to halt construction in these areas while waiting for the modification to be processed, which would cause project delays and cost overruns from idling equipment, construction delays, and construction staging issues. The inevitable delays that would result from a permit modification would prevent the ODOT from achieving the goals for the project, which would defeat the purpose of using the DB process for the project.

In order to minimize impacts to higher quality wetlands and streams, impacts have been minimized through the use of "no build areas." Mitigation for unavoidable impacts to streams and wetlands also includes the implementation of best

management practices (BMPs) to minimize downstream impacts resulting from erosion and sedimentation.

The environmental resources to be impacted as a result of the construction of Phases 2 and 3 of the Preferred Alternative for the Portsmouth Bypass are described in detail in the *Level 2 Ecological Survey Report SCI-823-0.00 – Construction Phases 2 & 3 (PID 19415)* [ASC Group 2013].

8b. Purpose: Describe the purpose, need and intended use of the activity:

**Purpose and Need**

The Portsmouth Bypass is needed because the primary arterial roadways through Portsmouth (US 23/US52) have steep grades, excessive curves, many intersections and numerous direct driveway accesses. These limitations restrict the ability of the roadways to serve their intended function to move through traffic. In addition to US 23 and US 52, traffic throughout Portsmouth is distributed primarily over CR 377, SR 104, CR 28, SR 728 and SR 335. All of these routes suffer from poor alignment. By 2025, 10 intersections within the entire project area are projected to be operating at Level of Service (LOS) D or worse. Safety concerns are also widespread throughout the area. Portions of all six routes mentioned above experience higher than average crash rates for similar facilities in Ohio. The crash rates for some links are more than twice the statewide average for similar roadways.

The primary goals of the bypass are to 1) provide new highway access within the region to make the area more attractive for new business development, and 2) improve the movement of traffic through Portsmouth and reduce the number of crashes in the area by drawing traffic away from congested intersections and high crash rate locations.

Once the corridor was selected, two primary alignments were evaluated as feasible alternatives, namely the Hill and Valley alignments. The Hill and Valley alignments were two completely independent alignments except for a segment in the middle of the project, in which the Hill and Valley alignments shared the same footprint. This segment of common footprint became Phase 1 of the Portsmouth Bypass. Phase 2 is approximately 7.4 miles long and is comprised of Hill Segments 3 and 4. Phase 2 ties into the northern terminus of Phase 1 at Lucasville-Minford Road (Appendix A: Figure 1, Sheets 1-4). Phase 3 is approximately 5.6 miles is comprised of Hill Segment 1 and a portion of Hill/Valley Segment 2. Phase 3 ties into the southern terminus of Phase 1 just west of the Scioto County Airport and SR 335 (Appendix A: Figure 1, Sheets 1 and 5-7). ODOT is currently coordinating the reevaluation of the FEIS for Phases 2 and 3 with FHWA. Approval of reevaluation document is anticipated pending submission to the FHWA.

8c. Discharge of dredged or fill material: Describe type, quantity of dredged material (in cubic yards), and quantity of fill material (in cubic yards). **(OAC 3745-1-05(B)(2)(a))**

Two ponds, 126 jurisdictional stream channels, 37 jurisdictional wetlands, and three PJDs will be impacted by Phases 2 and 3 of the Preferred Alternative of the SCI 823-0.00 Portsmouth Bypass (Appendix C).

One hundred and twenty-six jurisdictional streams will be impacted as a result of the construction of Phases 2 and 3 of the Preferred Alternative for the Portsmouth Bypass. The total length of unavoidable permanent impacts for jurisdictional streams is approximately 67,400 feet. These impacts require the discharge of 13,909 cubic yards of clean fill material and the excavation of approximately 4,514 cubic yards of material.

In addition, approximately 1,400 feet of jurisdictional stream will be temporarily impacted during the construction of the Portsmouth Bypass. The majority of these temporary impacts result from the installation temporary dewatering measures within the existing channels during the construction of the project. These temporary fill areas, in general, are located within the area of proposed permanent fill and these impacts have been incorporated into the impact calculations reported in this application for permanent fill material. Once construction is completed, those areas where temporary impacts are not incorporated into the permanent fill, the contractor will remove the fill material and return the area to pre-construction conditions.

Impacts to jurisdictional stream channel total approximately 10.767 acres. Detailed information of impacts to individual streams is provided in Appendix B: Table D.

Thirty-seven jurisdictional wetlands will be impacted by the construction of Phases 2 and 3 of the Preferred Alternative of the Portsmouth Bypass. Unavoidable impacts to wetlands result from the filling and excavation of the wetlands to establish the proper elevations to facilitate the construction of the bypass route and to maintain positive drainage along the proposed bypass. Unavoidable wetland impacts total approximately 6.449 acres. The project will require approximately 10,404 cubic yards of clean fill material to be permanently discharged into wetlands as a result of this project. Impacts to individual wetlands are detailed in Appendix B: Table D.

Two ponds will be impacted by the construction of Phases 2 and 3 of the Portsmouth Bypass project. Impacts to the ponds are a direct result from the filling of the ponds to establish the proper elevations for the construction of the new roadway. Approximately 10,077 cubic yards of clean fill material will be discharged into the ponds. The proposed pond impact is 1.041 acres. Impacts as they relate to individual ponds are detailed in Appendix B: Table D.

Three PJDs will be impacted by the construction of Phases 2 and 3 of the Portsmouth Bypass project. Impacts to the PJDs are a direct result from the filling of these features to establish the proper elevations for drainage new roadway. Approximately 134 cubic yards of clean fill material will be discharged into these features. The proposed PJD impact is 0.067 acre. Impacts as they relate to PJDs are detailed in Appendix B: Table D.

9. Waterbody and location of water body or upland where activity exists or is proposed, or location in relation to a stream, lake, wetland, wellhead or water intake (if known). Indicate the distance to, and the name of any receiving stream, if appropriate.

The proposed construction of Phases 2 and 3 of the SCI 823-0.00 Portsmouth Bypass project will result in the unavoidable impact to 126 streams (66 in Phase 2 and 60 in Phase 3), two ponds (both in Phase 3), 37 jurisdictional wetlands (17 in Phase 2 and 20 in Phase 3), and three PJDs (one in Phase 2 and three in Phase 3).

Tables A and B (Appendix B) provide detailed information regarding these features including location, narrative descriptions, drainage conditions, and other details regarding these impacted features. Field data collected for each of the impacted features and photographs of these resources are included in the *Level 2 Ecological Survey Report SCI-823-0.00 – Construction Phases 2 & 3 (PID 19415)* [ASC Group 2013].

- 10. To address the requirements of the Antidegradation Rule, your application must include a report evaluating the:**
- o Preferred Design (your project) and Mitigative Techniques
  - o Minimal Degradation Alternative(s) (scaled-down version(s) of your project) and Mitigative Techniques
  - o Non-Degradation Alternative(s) (project resulting in avoidance of all waters of the state)

At a minimum, item a) below must be completed for the Preferred Design, the Minimal Degradation Alternative(s), and the Non-Degradation Alternative(s), followed by completion of item b) for each alternative, and so on, until all items have been discussed for each alternative (see Primer for specific instructions). (Application and review requirements appear at **OAC 3745-1-05(B)(2), OAC 3745-1-05(C)(6), OAC 3745-1-05(C)(1) and OAC 3745-1-54**).

10a) Provide a detailed description of any construction work, fill or other structures to occur or to be placed in or near the surface water. Identify all substances to be discharged, including the cubic yardage of dredged or fill material to be discharged to the surface water. (**OAC 3745-1-05(B)(2)(b)**)

10b) Describe the magnitude of the proposed lowering of water quality. Include the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species (include written comments from Ohio Department of Natural Resources and U.S. Fish and Wildlife Service), important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function. Include a Corps of Engineers approved wetland delineation. (**OAC 3745-1-05(C)(6)(a, b) and OAC 3745-1-54**)




- 10c) Include a discussion of the technical feasibility, cost effectiveness, and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.) (OAC 3745-1-05(C)(6)(h, j-k) and OAC 3745-1-54)
- 10d) For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents. (OAC 3745-1-05(C)(6)(i))
- 10e) To the extent that information is available, list and describe any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource. (OAC 3745-1-05(B)(2)(g))
- 10f) Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project. (OAC 3745-01-05(C)(6)(g))
- 10g) Describe any impacts on human health and the overall quality and value of the water resource. (OAC 3745-1-05(C)(6)(c) and OAC 3745-1-54)
- 10h) Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and tax revenues generated and a brief discussion on the condition of the local economy. (OAC 3745-1-5(B)(2)(e), and OAC 3745-1-05(C)(6)(i))
- 10i) Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans. (OAC 3745-1-05(B)(2)(e,f), and OAC 3745-1-05(C)(6)(e))
- 10j) Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened or endangered species. (OAC 3745-1-05 (B)(2)(e,f), OAC 3745-1-05 (C)(6)(b) and OAC 3745-1-54)
- 10k) Describe mitigation techniques proposed (except for the Non-Degradation Alternative):
  - o Describe proposed Wetland Mitigation (see OAC 3745-1-54 and Primer)
  - o Describe proposed Stream, Lake, Pond Mitigation (see Primer)

11. Application is hereby made for a Section 401 Water Quality Certification. I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.

  
Signature of Applicant

10/25/13  
Date

 10-25-2013  
Signature of Agent

*The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed.*

**Do not send a certification processing fee with this application. The appropriate fee will be assessed when a certification is issued.**

**SECTION 3: ALTERNATIVES ANALYSIS**

**10. To address the requirements of the Antidegradation Rule, your application must include a report evaluating the:**

- **Preferred Design (your project) and Mitigative Techniques**
- **Minimal Degradation Alternative(s) (scaled-down version(s) of your project) and Mitigative Techniques**
- **Non-Degradation Alternative(s) (project resulting in avoidance of all waters of the state)**

**At a minimum, item a) below must be completed for the Preferred Design, the Minimal Degradation Alternative(s), and the Non-Degradation Alternative(s), followed by completion of item b) for each alternative, and so on, until all items have been discussed for each alternative (see Primer for specific instructions). (Application and review requirements appear at OAC 3745-1-05(B)(2), OAC 3745-1-05(C)(6), OAC 3745-1-05(C)(1) and OAC 3745-1-54).**

**10a) Provide a detailed description of any construction work, fill or other structures to occur or to be placed in or near the surface water. Identify all substances to be discharged, including the cubic yardage of dredged or fill material to be discharged to the surface water. (OAC 3745-1-05(B)(2)(b))**

**Preferred Alternative (To be constructed):**

Phases 2 and 3 of the Preferred Alternative for the Portsmouth Bypass consists of approximately 13 miles of a new four-lane, limited-access highway along a new alignment. The typical roadway section for the Preferred Alternative consists of four lanes (two in each direction) that are 12 feet wide, with a 22-foot wide median with concrete barrier and 10-foot shoulders.

The Preferred Alternative is a modified version of the Selected Alternative or “Hill Alignment” from the 2005 Final Environmental Impact Statement (FEIS). The Hill Alignment was selected as the Preferred Alternative based on consideration of the project’s overall impacts to the environment, including wetlands and streams, while still meeting the goals of the Appalachian Highway Program by providing an improved transportation system that could spur economic development within the surrounding community.

The Preferred Alternative was selected in 2005, after the evaluation of eight Feasible Alternatives for the project. In order to develop the eight Feasible Alternatives, the proposed bypass was broken down into four sections. There were two alternatives considered in three of the four sections and only one in the remaining section. Different combinations of the seven segments were ultimately arranged to develop the eight Feasible Alternatives. The selection of the “Hill Alignment” as the Preferred Alternative was done after careful evaluation of the environmental impacts for each of the Feasible Alternatives.

After the selection of the Preferred Alternative, the Portsmouth Bypass was divided into three separate design and construction phases. This application seeks authorization for the impacts to regulated waters that will occur during Phases 2 and 3 of the Portsmouth Bypass. Phase 1 has already been permitted. Figures depicting the impacts to individual resources are provided in Appendix A: Figures 3-1 to 3-130.

Minimization of potential impacts to higher quality jurisdictional waterways was incorporated into several crossings in the Preferred Alternative selection process. Avoidance and minimization at these areas was accomplished through the use of “no build areas”. These “no build areas” have been applied to Streams 5, 6, 6B, 29, 34, 48, and Wetlands 24 and 24B. In addition, the piers of the bridge over the Little Scioto River have been placed outside the OHWM of the river, eliminating permanent impacts to this stream (Appendix A: Figure 3-85).

Because the project is being constructed using Design Build (DB), applying additional “no build areas” on lower quality resources would be counterproductive to the cost saving benefits of this construction method. Prior to the decision to let the project as DB and early in the project development process, the initial study area boundaries were revised to allow for the design of perpendicular stream crossings and to allow for additional opportunities for avoidance of lateral encroachments or channel modifications during the final design of the roadway. Other roadway design elements utilized to minimize impacts included the reduction of the proposed median width within the Preferred Alternative from 60 feet to 22 feet.

All stream crossings proposed in the Preferred Alternative were designed using Optimum Culvert Design and adhered to the methods and standards outlined in ODOT’s *Location and Design Manual: Volume Two Drainage Design* and the *Bridge Design Manual* and included the incorporation of oversized culverts at stream crossings. Each crossing was designed using sound engineering judgment and life cycle cost analysis to develop feasible crossings of each jurisdictional waterway. The estimated total cost to construct the Preferred Alternative for Phases 2 and 3 is approximately \$292.6 million. This includes approximately \$152.0 million for Phase 2 and approximately \$140.6 million for Phase 3. This estimate includes costs for construction, design, utilities relocation and construction engineering services.

During the development of the Preferred Alternative, additional alignment shifts and adjustments were made to avoid and/or minimize impacts to resources. Construction of the Preferred Alternative for the Portsmouth Bypass will result in the unavoidable impact to 126 jurisdictional stream channels. Permanent stream impacts total 67,400 feet and result from the discharge of 13,909 CY of clean fill material.

- 2,355 feet of Warmwater Habitat (WWH)
- 1,722 feet of Class III PHWH
- 34,623 feet of Class II PHWH
- 28,700 feet of Class I PHWH

Construction of Phases 2 and 3 of the Portsmouth Bypass will require the temporary discharge of fill material into streams during construction. Temporary impacts total 1,400 feet and are generally located in the area of proposed permanent impacts. Temporary stream impacts can be further refined as:

- 170 feet of Warmwater Habitat (WWH)
- 30 feet of Class III PHWH
- 400 feet of Class II PHWH
- 800 feet of Class I PHWH

Detailed stream impacts are presented in Appendix B: Tables A and C.

Thirty-seven jurisdictional wetlands will be impacted during the construction of Phases 2 and 3 of the Preferred Alternative. A total of 6,449 acres of jurisdictional wetland will be impacted as a result of the project. Specifically these wetland impacts include:

- 0.839 acre of ORAM Category 3, non-forested wetland
- 0.827 acre of ORAM Category 2, forested wetland
- 2.719 acres of ORAM Category 2, non-forested wetland
- 2.064 acres of ORAM Category 1, non-forested wetland

Detailed wetland impacts are presented in Appendix B: Table D.

Two jurisdictional ponds are located within the right-of-way for the construction of the Preferred Alternative. Unavoidable impacts to ponds for the Preferred Alternative total 1.041 acres that are the result of the discharge of 10,077 CY of clean fill material. A summary of the pond impacts is provided in Appendix B: Table D.

Unavoidable impacts to PJDs total 0.067 acre and result from the discharge of 134 CY of clean fill material. A summary of the PJD impacts is provided in Appendix B: Table D.

A summary of the proposed impacts for the Preferred Alternative are provided in Table 1 below.

**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

Feature ID	Quality (ORAM or QHEI/HHEI <sup>1</sup> )/ Score	Proposed Impact Amount (feet or acre)	Volume of Fill Required (Cubic Yards)
<b>Phase 2 Streams</b>			
Stream 1	Modified Class II PHWH/ 30	2,187	122
Stream 2	Modified Class I PHWH/ 26	1,472	149
Stream 3	Modified Class II PHWH/ 34	1,098	1,313
Stream 4	Modified Class II PHWH/ 38	218	40
Stream 5 <sup>2</sup>	Modified Class IIIA PHWH/ 59	469	126
Stream 5A	Class I PHWH/ 21	237	13
Stream 5B	Class I PHWH/ 12	249	14
Stream 5C	Modified Class I PHWH/ 11	153	6
Stream 6 <sup>2</sup>	Class II PHWH/ 50	731	224
Stream 6A	Class II PHWH/ 45	620	141
Stream 6B <sup>2</sup>	Class IIIA PHWH/ 45	689	179
Stream 6B1	Class I PHWH/ 10	198	11
Stream 6B2	Class I PHWH/ 18	294	25
Stream 7	Modified Class I PHWH/ 20	441	64
Stream 8	Modified Class I PHWH/ 10	1,170	124
Stream 9	Class II PHWH/ 34	777	98
Stream 10	Modified Class II PHWH/ 37	1,020	93

**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI<sup>1</sup>)/ Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 10A	Modified Class I PHWH/ 22	229	49
Stream 10B	Modified Class I PHWH/ 10	708	64
Stream 10C	Modified Class I PHWH/ 12	112	6
Stream 10D	Modified Class I PHWH/ 23	128	9
Stream 11	Class II PHWH/ 46	1,050	278
Stream 11A	Class I PHWH/ 22	606	45
Stream 11B	Class I PHWH/ 18	379	21
Stream 11C	Class I PHWH/ 28	431	24
Stream 11D	Class I PHWH/ 13	570	32
Stream 11E	Class II PHWH/ 32	317	23
Stream 11F	Class I PHWH/ 12	742	41
Stream 12	Class II PHWH/ 32	671	99
Stream 13	Class II PHWH/ 44	624	81
Stream 14	Modified Class I PHWH/ 23	697	39
Stream 15	Class I PHWH/ 22	1,040	77
Stream 15A	Class I PHWH/ 21	330	24
Stream 15B	Class I PHWH/ 11	317	18
Stream 16	Class II PHWH/ 41	1,042	128
Stream 16A	Modified Class I PHWH/ 26	310	17
Stream 17	Class II PHWH/ 61	1,018	184
Stream 17A	Class I PHWH/ 29	91	5
Stream 17B	Class II PHWH/ 32	783	81
Stream 17C	Class II PHWH/ 37	551	61
Stream 17C1	Class I PHWH/ 37	130	7
Stream 18	Class II PHWH/ 37	712	79
Stream 18A	Class I PHWH/ 11	79	3
Stream 18B	Class I PHWH/ 24	172	10
Stream 19	Class II PHWH/ 37	917	129
Stream 19A	Class I PHWH/ 12	210	8
Stream 19B	Class I PHWH/ 27	631	35
Stream 20	Modified Class II PHWH/ 43	1,014	108
Stream 20-1	Modified Class I PHWH/ 12	204	11
Stream 21	Modified Class II PHWH/ 41	717	93
Stream 21A	Class I PHWH/ 12	102	6
Stream 22	Class II PHWH/ 46	913	193

**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI<sup>1</sup>)/ Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 22A	Modified Class I PHWH/ 22	710	53
Stream 22B	Modified Class I PHWH/ 12	189	11
Stream 22C	Class I PHWH/ 12	382	21
Stream 23	Class II PHWH/ 46	863	183
Stream 23A	Class I PHWH/ 22	467	35
Stream 23B	Class I PHWH/12	231	13
Stream 24	Class II PHWH/ 46	775	132
Stream 24A	Class I PHWH/ 11	66	2
Stream 25	Modified Class I PHWH/ 12	298	25
Stream 26	Modified Class I PHWH/ 12	934	58
Stream 26A	Modified Class I PHWH/ 12	472	17
Stream 27	Modified Class II PHWH/ 46	727	162
Stream 27B	Class I PHWH/ 22	652	36
Stream 28	Class I PHWH/ 23	231	17
<b>Phase 2 Stream Subtotal</b>		<b>37,567 feet</b>	<b>5,595 CY</b>
<b>Phase 3 Streams</b>			
Stream 29 <sup>2</sup>	Class IIIA PHWH/ 83	564	583
Stream 30	Class II PHWH/ 38	440	63
Stream 31	Modified Class II PHWH/ 52	511	81
Stream 31A	Modified Class I PHWH/ 27	189	28
Stream 32	Class II PHWH/ 32	830	102
Stream 32A	Class I PHWH/ 24	160	15
Stream 32B	Class I PHWH/ 13	142	5
Stream 32C	Class I PHWH/ 24	186	10
Stream 32D	Class I PHWH/ 22	245	9
Stream 32D1	Class I PHWH/ 22	245	9
Stream 33	Class II PHWH/ 51	999	267
Stream 33A	Class I PHWH/ 23	145	13
Stream 33A1	Class I PHWH/ 13	3	0
Stream 33A2	Class I PHWH/ 13	106	6
Stream 33B	Class I PHWH/ 12	41	2
Stream 34 <sup>2</sup>	WWH/ 65	2,084	2,718
Stream 34A	Class II PHWH/ 56	405	1,308
Stream 34B	Class I PHWH/ 19	391	22
Stream 34B1	Class I PHWH/ 13	348	6

**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI<sup>1</sup>)/ Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 34B2	Class I PHWH/ 13	309	11
Stream 35A	Class II PHWH/ 33	435	40
Stream 35A1	Class I PHWH/ 10	111	2
Stream 36	Class II PHWH/ 50	1,054	581
Stream 36A	Class I PHWH/ 21	1,233	91
Stream 36A1	Modified Class I PHWH/ 13	86	2
Stream 36C	Class II PHWH/ 36	1,146	171
Stream 36C2	Modified Class II PHWH/ 43	386	36
Stream 36C3	Class I PHWH/ 24	184	17
Stream 36C4	Class I PHWH/ 13	41	2
Stream 37	Class II PHWH/ 32	691	80
Stream 37A	Class I PHWH/ 19	549	41
Stream 38	Class II PHWH/ 48	1,600	526
Stream 38A	Class II PHWH/ 33	1,755	244
Stream 38A1	Class I PHWH/ 12	247	9
Stream 38A2	Class I PHWH/ 11	72	3
Stream 38A3	Class I PHWH/ 12	111	4
Stream 38A4	Class I PHWH/ 23	161	12
Stream 38A5	Modified Class I PHWH/ 13	134	5
Stream 38A6	Class I PHWH/ 12	107	2
Stream 38B	Modified Class II PHWH/ 47	681	117
Stream 38B1	Modified Class I PHWH/ 23	398	37
Stream 38D	Modified Class II PHWH/ 32	548	32
Stream 39	Modified Class II PHWH/ 30	1,095	213
Stream 39A	Modified Class I PHWH/ 12	925	34
Little Scioto River	Designated WHH in OAC-3745/ N/A	0	0
Stream 40	Class I PHWH/ 14	810	38
Stream 40A	Class I PHWH/ 11	188	7
Stream 40B	Class I PHWH/ 11	183	3
Stream 41	Modified Class I PHWH/ 12	215	11
Stream 42	Modified Class I PHWH/ 18	510	28
Stream 42A	Modified Class I PHWH/ 10	142	3
Stream 43	Modified Class I PHWH/ 22	1,044	39
Stream 44	Modified Class II PHWH/ 44	1,436	441
Stream 45	Modified Class I PHWH/ 13	438	24



**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI<sup>1</sup>)/ Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 46	Class II PHWH/ 57	1,231	68
Stream 46A	Modified Class I PHWH/ 12	205	8
Stream 47	Modified Class II PHWH/ 48	470	35
Stream 48 <sup>2</sup>	WWH/ 61.5	271	38
Stream 48A	Modified Class I PHWH/ 17	247	9
Stream 49	Class I PHWH/ 25	350	3
<b>Phase 3 Stream Subtotal</b>		<b>29,833 feet</b>	<b>8,314 CY</b>
<b>Stream Impact Total (Phase 2 + Phase 3)</b>		<b>67,400 feet</b>	<b>13,909 CY</b>
<b>Phase 2 Wetlands</b>			
Wetland 1	Category 2/ 45	1.007	1,625
Wetland 2	Category 1/ 21	0.270	436
Wetland 3	Category 2/ 30	0.610	984
Wetland 4	Modified Category 2/ 41	0.019	31
Wetland 5	Modified Category 2/ 41	0.038	61
Wetland 6	Modified Category 2/ 38	0.003	5
Wetland 7	Category 1/ 24	0.188	303
Wetland 9	Category 1/ 21	0.237	382
Wetland 10	Category 1/ 17	0.028	45
Wetland 11	Category 1/ 24	0.018	29
Wetland 12	Category 2/ 32	0.074	119
Wetland 13	Modified Category 2/ 43	0.013	21
Wetland 14	Modified Category 2/ 41	0.004	6
Wetland 15	Category 1/ 28	0.012	19
Wetland 16	Category 2/31	0.051	82
Wetland 17	Category 2/ 45.5	0.041	66
Wetland 18	Category 2/	0.827	1,334
<b>Phase 2 Wetland Subtotal</b>		<b>3.440 acres</b>	<b>5,548 CY</b>
<b>Phase 3 Wetlands</b>			
Wetland 20	Category 2/ 53.5	0.057	92
Wetland 22	Modified Category 2/ 43	0.031	50
Wetland 23	Category 1/ 27	0.010	16
Wetland 24 <sup>2</sup>	Category 3/65.5	0.053	86
Wetland 24A	Category 3/ 65.5	0.006	10
Wetland 24B <sup>2</sup>	Category 3/ 65.5	0.780	1,258
Wetland 25	Category 2/ 53	0.175	282

**Table 1. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 of the Preferred Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI<sup>1</sup>)/ Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Wetland 25A	Category 2/ 53	0.041	66
Wetland 27	Category 1/ 23	0.063	102
Wetland 28A	Category 1/ 24	0.009	15
Wetland 28B	Category 1/ 24	0.027	44
Wetland 28C	Category 1/ 24	0.031	50
Wetland 28D	Category 1/ 24	0.037	60
Wetland 29	Modified Category 2/ 36.5	0.261	421
Wetland 30	Category 2/ 48.5	0.294	474
Wetland 31	Category 1/ 28.5	0.003	5
Wetland 33	Category 1/ 26.5	0.009	15
Wetland 34	Category 1/ 26	0.317	511
Wetland 35	Category 1/ 25	0.794	1,281
Wetland 36	Category 1/ 19.5	0.011	18
<b>Phase 3 Wetland Subtotal</b>		<b>3.009 acres</b>	<b>4,856 CY</b>
<b>Wetland Impact Total (Phase 2 + Phase 3)</b>		<b>6.449 acres</b>	<b>10,404 CY</b>
<b>Phase 2 PJDs</b>			
PJD 3	N/A	0.023 acre/ 405 feet	47
PJD 2	N/A	0.029 acre/ 504 feet	58
<b>Phase 2 PJD Subtotal</b>		<b>0.052 acre/ 909 feet</b>	<b>105 CY</b>
<b>Phase 3 PJDs</b>			
PJD 1	N/A	0.015 acre/254 ft	29
<b>Phase 3 PJD Subtotal</b>		<b>0.015 acre/254 ft</b>	<b>29 CY</b>
<b>PJD Impact Total (Phase 2 + Phase 3)</b>		<b>0.067 acre/1,163 ft</b>	<b>134 CY</b>
<b>Phase 2 and 3 Ponds</b>			
Pond 1 (Phase 3)	N/A	0.141	1,365
Pond 3 (Phase 3)	N/A	0.900	8,712
<b>Pond Impact Total (Phase 2 + Phase 3)</b>		<b>1.041 acres</b>	<b>10,077 CY</b>

<sup>1</sup> QHEI – Qualitative Habitat Evaluation Index, HHEI – Headwater Habitat Evaluation Index

<sup>2</sup> Impacts minimized through use of “no build areas”.

### **Minimal Degradation Alternative:**

As with the Preferred Alternative, the Minimal Degradation Alternative for Phases 2 and 3 of the SCI-823 Portsmouth Bypass entails the construction of approximately 13 miles (Phase 2–7.4 miles and Phase 3–5.6 miles) of new four-lane, limited-access highway along the same alignment. The typical roadway section for the Minimal Degradation Alternative is the same as in the Preferred Alternative and consists of four lanes (two in each direction) that are 12 feet wide, a 22-foot wide median with concrete barrier and 10-foot wide shoulders.

The goal of the Minimal Degradation Alternative is to reduce impacts to Waters of the US. During the design stages of the project it was ODOT's intention to avoid and minimize impacts to Waters of the U.S. The design of the Portsmouth Bypass has already incorporated the use of oversized culverts at every stream crossing throughout the design process. Comments generated during the Agency Review of the original Draft Environmental Impact Statement (DEIS) requested that ODOT investigate the feasibility of bridging additional water resources.

The Minimal Degradation Alternative is essentially on the same alignment as the Preferred Alternative, however 25 additional bridge structures have been incorporated into the design (Appendix A: Figures 4-1 through 4-25). These 25 bridges have been added at various locations along the mainline and at some interchange ramps. The cost of the additional bridges would increase the overall cost of the Portsmouth Bypass Project by approximately \$248.8 million (Table 2). The substantial increase in cost of the Minimal Degradation Alternative is due to the expense associated with design and construction of the structures and the substantial earthwork required to construct the bridge approaches at the desired elevation. The total cost of the Minimal Degradation Alternative is over 80 percent more than the \$292.6 million it will cost to construct the Preferred Alternative with an approximate cost of approximately \$541.3 million. A summary of the proposed bridges is included in Table 2.

**Table 2. Summary of Bridges for Minimal Degradation Alternative.**

<b>Bridge ID (Figure)</b>	<b>Avoided Resource(s)</b>	<b>Cost</b>
Bridge 1 (4-1, 1A)	Stream 11 Complex	\$15,750,000
Bridge 2 (4-2)	Stream 12	\$1,575,000
Bridge 3 (4-3)	Stream 13	\$1,800,000
Bridge 4 (4-4, 4A)	Stream 16 and 16A	\$15,525,000
Bridge 5 (4-5, 5A)	Stream 17 and 17A	\$9,900,000
Bridge 6 (4-6, 6A)	Stream 18 Complex	\$4,950,000
Bridge 7 (4-7, 7A)	Stream 19 Complex	\$10,800,000
Bridge 8 (4-8, 8A)	Stream 22 Complex	\$9,225,000
Bridge 9 (4-9, 9A)	Stream 23 Complex	\$8,100,000
Bridge 10 (4-10, 10A)	Stream 24 and 24A	\$6,975,000
Bridge 11 (4-11)	Stream 30	\$900,000
Bridge 12 (4-12, 12A)	Stream 32 Complex and Wetland 20	\$8,100,000
Bridge 13 (4-13)	Stream 33 and 33B	\$13,725,000
Bridge 14 (4-14, 14A)	Stream 34 Complex	\$27,675,000
Bridge 15 (4-15, 15A)	Stream 36 Complex	\$24,300,000
Bridge 16 (4-16)	Stream 37 and 37A	\$6,750,000
Bridge 17 (4-17, 17A)	Stream 38 Complex	\$8,775,000
Bridge 18 (4-18)	Stream 46	\$5,625,000
Bridge 19 (4-19, 19A)	Wetland 1	\$7,650,000
Bridge 20 (4-20)	Wetland 12	\$10,800,000
Bridge 21 (4-21, 21A)	Wetlands 15 and 16	\$12,150,000
Bridge 22 (4-22)	Wetland 17	\$7,650,000
Bridge 23 (4-23)	Wetland 18	\$15,750,000
Bridge 24 (4-24)	Wetlands 25 and 25A	\$10,575,000
Bridge 25 (4-25)	Wetlands 30 and 31	\$3,750,000
<b>Additional Cost of Minimal Degradation Bridges</b>		<b>\$248,775,000</b>

Because the Minimal Degradation Alternative is on essentially the same alignment as the Preferred Alternative, the Minimal Degradation Alternative will also cross 126 jurisdictional stream channels, impacting approximately 43,492 feet, which is 23,908 feet less than the Preferred Alternative. Impacts result from the discharge of approximately 6,265 cubic yards of clean fill material (7,644 CY less than the Preferred Alternative). Stream impacts can be further refined as:

- 271 feet of WWH (2,084 feet less than the Preferred Alternative)
- 1,722 feet of Class III PHWH (same as the Preferred Alternative– impacts were minimized through the use of “no build areas” in both alternatives)
- 17,325 feet of Class II PHWH (17,298 feet less than the Preferred Alternative)
- 24,174 feet of Class I PHWH (4,526 feet less than the Preferred Alternative)

Only 26 jurisdictional wetlands would be impacted during the construction of the Minimal Degradation Alternative for Phases 2 and 3 of the Portsmouth Bypass Project. A total of 3.867 acres of wetland would be directly impacted as a result of the project. This is a reduction of 2.582 acres of impact compared with the Preferred Alternative. Impacts result from the discharge of approximately 6,240 CY of clean fill material. The inclusion of 25 additional bridge structures as part of the Minimal Degradation Alternative resulted in the complete avoidance of 11 jurisdictional wetlands that were impacted in the Preferred Alternative. Specifically, these wetland impacts include:

- 0.839 acre of ORAM Category 3, non-forested wetland (same as the Preferred Alternative–impacts were minimized through the use of “no build areas” in both alternatives)
- 0.000 acre of ORAM Category 2, forested wetland (0.827 acre less than the Preferred Alternative)
- 0.979 acre of ORAM Category 2, non-forested wetland (1.740 acres less than the Preferred Alternative)
- 2.049 acres of ORAM Category 1, non-forested wetland (0.015 acre less than the Preferred Alternative)

Impacts to PJDs and ponds are the same for the construction of the Minimal Degradation Alternative for Phases 2 and 3 as the Preferred Alternative for the Portsmouth Bypass Project. A total of 0.067 acre of PJDs will be impacted by the discharge of 134 CY of clean fill material. Impacts to ponds total 1.041 acres and are the result of the discharge of 10,077 CY of clean fill material.

A summary of the impacts for Minimal Degradation Alternative are provided in Table 3 below.

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

Feature ID	Quality (ORAM or QHEI/HHEI)/Score	Proposed Impact Amount (feet or acre)	Volume of Fill Required (Cubic Yards)
<b>Phase 2 Streams</b>			
Stream 1	Modified Class II PHWH/ 30	2,187	122

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 2	Modified Class I PHWH/ 26	1,472	149
Stream 3	Modified Class II PHWH/ 34	1,098	1,313
Stream 4	Modified Class II PHWH/ 38	218	40
Stream 5	Modified Class IIIA PHWH/ 59	469	126
Stream 5A	Class I PHWH/ 21	237	13
Stream 5B	Class I PHWH/ 12	249	14
Stream 5C	Modified Class I PHWH/ 11	153	6
Stream 6	Class II PHWH/ 50	731	224
Stream 6A	Class II PHWH/ 45	620	141
Stream 6B	Class IIIA PHWH/ 45	689	179
Stream 6B1	Class I PHWH/ 10	198	11
Stream 6B2	Class I PHWH/ 18	294	25
Stream 7	Modified Class I PHWH/ 20	441	64
Stream 8	Modified Class I PHWH/ 10	1,170	124
Stream 9	Class II PHWH/ 34	777	98
Stream 10	Modified Class II PHWH/ 37	1,020	93
Stream 10A	Modified Class I PHWH/ 22	229	49
Stream 10B	Modified Class I PHWH/ 10	708	64
Stream 10C	Modified Class I PHWH/ 12	112	6
Stream 10D	Modified Class I PHWH/ 23	128	9
Stream 11*	Class II PHWH/ 46	0	0
Stream 11A*	Class I PHWH/ 22	390	29
Stream 11B	Class I PHWH/ 18	379	21
Stream 11C*	Class I PHWH/ 28	330	13
Stream 11D*	Class I PHWH/ 13	0	0
Stream 11E*	Class II PHWH/ 32	0	0
Stream 11F*	Class I PHWH/ 12	318	18
Stream 12*	Class II PHWH/ 32	0	0
Stream 13*	Class II PHWH/ 44	0	0
Stream 14	Modified Class I PHWH/ 23	697	39
Stream 15	Class I PHWH/ 22	1,040	77
Stream 15A	Class I PHWH/ 21	330	24
Stream 15B	Class I PHWH/ 11	317	18
Stream 16*	Class II PHWH/ 41	0	0
Stream 16A*	Modified Class I PHWH/ 26	0	0
Stream 17*	Class II PHWH/ 61	0	0

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 17A*	Class I PHWH/ 29	0	0
Stream 17B	Class II PHWH/ 32	783	81
Stream 17C	Class II PHWH/ 37	551	61
Stream 17C1	Class I PHWH/ 37	130	7
Stream 18*	Class II PHWH/ 37	0	0
Stream 18A*	Class I PHWH/ 11	0	0
Stream 18B*	Class I PHWH/ 24	0	0
Stream 19*	Class II PHWH/ 37	0	0
Stream 19A*	Class I PHWH/ 12	71	3
Stream 19B*	Class I PHWH/ 27	601	33
Stream 20	Modified Class II PHWH/ 43	1,014	108
Stream 20-1	Modified Class I PHWH/ 12	204	11
Stream 21	Modified Class II PHWH/ 41	717	93
Stream 21A	Class I PHWH/ 12	102	6
Stream 22*	Class II PHWH/ 46	0	0
Stream 22A*	Modified Class I PHWH/ 22	541	40
Stream 22B*	Modified Class I PHWH/ 12	0	0
Stream 22C*	Class I PHWH/ 12	306	17
Stream 23*	Class II PHWH/ 46	0	0
Stream 23A*	Class I PHWH/ 22	395	29
Stream 23B*	Class I PHWH/12	0	0
Stream 24*	Class II PHWH/ 46	0	0
Stream 24A*	Class I PHWH/ 11	0	0
Stream 25	Modified Class I PHWH/ 12	298	25
Stream 26	Modified Class I PHWH/ 12	934	58
Stream 26A	Modified Class I PHWH/ 12	472	17
Stream 27	Modified Class II PHWH/ 46	727	162
Stream 27B	Class I PHWH/ 22	652	36
Stream 28	Class I PHWH/ 23	231	17
<b>Phase 2 Stream Subtotal</b>		<b>25,730</b>	<b>3,913</b>
<b>Phase 3 Streams</b>			
Stream 29	Class IIIA PHWH/ 83	564	583
Stream 30*	Class II PHWH/ 38	0	0
Stream 31	Modified Class II PHWH/ 52	511	81
Stream 31A	Modified Class I PHWH/ 27	189	28
Stream 32*	Class II PHWH/ 32	0	0

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 32A*	Class I PHWH/ 24	0	0
Stream 32B	Class I PHWH/ 13	142	5
Stream 32C*	Class I PHWH/ 24	176	10
Stream 32D*	Class I PHWH/ 22	211	8
Stream 32D1	Class I PHWH/ 22	245	9
Stream 33*	Class II PHWH/ 51	0	0
Stream 33A	Class I PHWH/ 23	145	13
Stream 33A1	Class I PHWH/ 13	3	0
Stream 33A2	Class I PHWH/ 13	106	6
Stream 33B*	Class I PHWH/ 12	0	0
Stream 34*	WWH/ 65	0	0
Stream 34A*	Class II PHWH/ 56	0	0
Stream 34B*	Class I PHWH/ 19	0	0
Stream 34B1*	Class I PHWH/ 13	0	0
Stream 34B2*	Class I PHWH/ 13	0	0
Stream 35A	Class II PHWH/ 33	435	40
Stream 35A1	Class I PHWH/ 10	111	2
Stream 36*	Class II PHWH/ 50	0	0
Stream 36A*	Class I PHWH/ 21	1,033	77
Stream 36A1	Modified Class I PHWH/ 13	86	2
Stream 36C*	Class II PHWH/ 36	0	0
Stream 36C2	Modified Class II PHWH/ 43	386	36
Stream 36C3	Class I PHWH/ 24	184	17
Stream 36C4*	Class I PHWH/ 13	0	0
Stream 37*	Class II PHWH/ 32	0	0
Stream 37A*	Class I PHWH/ 19	492	36
Stream 38*	Class II PHWH/ 48	0	0
Stream 38A	Class II PHWH/ 33	1,755	244
Stream 38A1	Class I PHWH/ 12	247	9
Stream 38A2	Class I PHWH/ 11	72	3
Stream 38A3	Class I PHWH/ 12	111	4
Stream 38A4	Class I PHWH/ 23	161	12
Stream 38A5	Modified Class I PHWH/ 13	134	5
Stream 38A6	Class I PHWH/ 12	107	2
Stream 38B	Modified Class II PHWH/ 47	681	117
Stream 38B1	Modified Class I PHWH/ 23	398	37

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Stream 38D	Modified Class II PHWH/ 32	548	32
Stream 39	Modified Class II PHWH/ 30	1,095	213
Stream 39A	Modified Class I PHWH/ 12	925	34
Little Scioto River	Designated WWH in OAC-3745/ N/A	0	0
Stream 40	Class I PHWH/ 14	810	38
Stream 40A	Class I PHWH/ 11	188	7
Stream 40B	Class I PHWH/ 11	183	3
Stream 41	Modified Class I PHWH/ 12	215	11
Stream 42	Modified Class I PHWH/ 18	510	28
Stream 42A	Modified Class I PHWH/ 10	142	3
Stream 43	Modified Class I PHWH/ 22	1,044	39
Stream 44	Modified Class II PHWH/ 44	1,436	441
Stream 45	Modified Class I PHWH/ 13	438	24
Stream 46*	Class II PHWH/ 57	0	0
Stream 46A	Modified Class I PHWH/ 12	205	8
Stream 47	Modified Class II PHWH/ 48	470	35
Stream 48	WWH/ 61.5	271	38
Stream 48A	Modified Class I PHWH/ 17	247	9
Stream 49	Class I PHWH/ 25	350	3
<b>Phase 3 Stream Subtotal</b>		<b>17,762</b>	<b>2,352</b>
<b>Stream Impact Total (Phase 2 + Phase 3)</b>		<b>43,492</b>	<b>6,265</b>
<b>Phase 2 Wetlands</b>			
Wetland 1*	Category 2/ 45	0	0
Wetland 2	Category 1/ 21	0.270	436
Wetland 3	Category 2/ 30	0.610	984
Wetland 4	Modified Category 2/ 41	0.019	31
Wetland 5	Modified Category 2/ 41	0.038	61
Wetland 6	Modified Category 2/ 38	0.003	5
Wetland 7	Category 1/ 24	0.188	303
Wetland 9	Category 1/ 21	0.237	382
Wetland 10	Category 1/ 17	0.028	45
Wetland 11	Category 1/ 24	0.018	29
Wetland 12*	Category 2/ 32	0	0
Wetland 13	Modified Category 2/ 43	0.013	21
Wetland 14	Modified Category 2/ 41	0.004	6



**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Wetland 15*	Category 1/ 28	0	0
Wetland 16*	Category 2/31	0	0
Wetland 17*	Category 2/ 45.5	0	0
Wetland 18*	Category 2/	0	0
<b>Phase 2 Wetland Subtotal</b>		<b>1.428</b>	<b>2,303</b>
<b>Phase 3 Wetlands</b>			
Wetland 20*	Category 2/ 53.5	0	0
Wetland 22	Modified Category 2/ 43	0.031	50
Wetland 23	Category 1/ 27	0.010	16
Wetland 24	Category 3/65.5	0.053	86
Wetland 24A	Category 3/ 65.5	0.006	10
Wetland 24B	Category 3/ 65.5	0.780	1,258
Wetland 25*	Category 2/ 53	0	0
Wetland 25A*	Category 2/ 53	0	0
Wetland 27	Category 1/ 23	0.063	102
Wetland 28A	Category 1/ 24	0.009	15
Wetland 28B	Category 1/ 24	0.027	44
Wetland 28C	Category 1/ 24	0.031	50
Wetland 28D	Category 1/ 24	0.037	60
Wetland 29	Modified Category 2/ 36.5	0.261	421
Wetland 30*	Category 2/ 48.5	0	0
Wetland 31*	Category 1/ 28.5	0	0
Wetland 33	Category 1/ 26.5	0.009	15
Wetland 34	Category 1/ 26	0.317	511
Wetland 35	Category 1/ 25	0.794	1,281
Wetland 36	Category 1/ 19.5	0.011	18
<b>Phase 3 Wetland Subtotal</b>		<b>2.678</b>	<b>4,323</b>
<b>Wetland Impact Total (Phase 2 + Phase 3)</b>		<b>4.106</b>	<b>6,626</b>
<b>Phase 2 PJDs</b>			
PJD 3	N/A	0.023 acre/ 405 feet	47
PJD 2	N/A	0.029 acre/ 504 feet	58
<b>Phase 2 PJD Subtotal</b>		<b>0.052 acre/ 909 feet</b>	<b>105 CY</b>
<b>Phase 3 PJDs</b>			
PJD 1	N/A	0.015 acre/ 254 feet	29
<b>Phase 3 PJD Subtotal</b>		<b>0.015 acre/ 254 feet</b>	<b>29 CY</b>
<b>Phase 3 Ponds</b>			

**Table 3. Summary of Permanent Fill Areas and Volumes SCI 823-0.00  
Portsmouth Bypass - Phases 2 and 3 for the Minimal Degradation Alternative.**

<b>Feature ID</b>	<b>Quality (ORAM or QHEI/HHEI)/Score</b>	<b>Proposed Impact Amount (feet or acre)</b>	<b>Volume of Fill Required (Cubic Yards)</b>
Pond 1	N/A	0.141	1,365
Pond 3	N/A	0.900	8,712
<b>Phase 3 Pond Subtotal</b>		<b>1.041 acres</b>	<b>10,077 CY</b>

\*Impacts have been reduced compared to the Preferred Alternative.

**Non-Degradation Alternative:**

The No-Build Alternative is the Non-Degradation Alternative for the SCI 823-0.00 Portsmouth Bypass Project. This alternative is not a viable alternative to avoid impacts to Waters of the US because it fails to meet the Purpose and Need of the project. The No-Build Alternative does not correct any of the existing deficiencies of the existing transportation network. Implementation of the Non-Degradation Alternative would not improve regional mobility or increase the potential for economic development and would continue to put the motoring public’s safety at risk within the community.

- 10b) Describe the magnitude of the proposed lowering of water quality. Include the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species (include written comments from Ohio Department of Natural Resources and U.S. Fish and Wildlife Service), important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function. Include a Corps of Engineers approved wetland delineation. (OAC 3745-1-05(C)(6)(a, b) and OAC 3745-1-54)**

**Preferred Alternative (To be constructed):**

During the refinement of the Preferred Alternative, attempts to avoid and minimize impacts to Waters of the US were incorporated into the overall design of the project. As part of the project development, representatives of ODOT assessed the functions and values of the aquatic resources identified within Phases 2 and 3 of the Preferred Alternative. These assessments were conducted using methods developed by the Ohio EPA and included the ORAM v. 5.0. Streams were assessed using either the QHEI or the HHEI. Copies of the field data forms, including routine wetland delineation forms, ORAM, QHEI, and HHEI, are provided in the *Level 2 Ecological Survey Report SCI-823-0.00 – Phases 2 and 3 (PID 19415)* [ASC Group 2013].

Phases 2 and 3 of the Preferred Alternative will impact Waters of the US, which will result in the lowering of water quality and may possibly affect aquatic life and wildlife. Impacts include the placement of culverts, permanent erosion control, bridging, and the relocation of existing stream channels within Phases 2 and 3. During the installation of these culverts, aquatic organisms at the impact site and downstream of the impacts could be adversely affected by the relocation of portions of the stream channels and temporary increase in sediments in the water column from the construction activities. These impacts are expected to be minor and localized around the area of impact. Impacts will be minimized through the use of construction BMPs for sediment and erosion controls that include the installation of silt fencing and adherence to the project’s Stormwater Pollution Prevention Plan (SWPPP). Culverts have been designed so as not to

impede flow or alter the stream’s ability to transport sediment. All proposed bridge structures were designed using BMPs and will be installed above the OHWM of the streams when feasible, so as not to impact these features. In addition, ODOT and the FHWA believe that the standard ODOT design procedures provide culverts that are wide enough to accommodate the connection of ecological systems, as the proposed culverts were designed using culverts 1 foot diameter larger than what is typically specified. In addition, the proposed culverts have been designed for a 50-year flood, but will allow the conveyance of a 100-year flood without causing any significant damage.

**Threatened/Endangered Species:**

Threatened and endangered species for the Portsmouth Bypass were originally coordinated with the USFWS and ODNR in 2004. Due to the time elapsed between the original species coordination and the submittal of this application, the USFWS required additional species coordination for some of the federally listed species. During the summer of 2011, representatives of ODOT conducted additional species surveys for all listed mussels, the Indiana bat (*Myotis sodalis*), the small whorled pogonia (*Isotria medeoloides*), running buffalo clover (*Trifolium stoloniferum*), and the eastern hellbender (*Cryptobranchus alleganiensis*). Additional threatened and endangered species information is provided in Appendix F.

In a letter dated November 6, 2012, from the ODNR Division of Wildlife (DOW), reported records from the Natural Heritage Database for 19 state-listed species within 1 mile of Phases 2 and 3 of the Portsmouth Bypass (Appendix F). Records of the 19 listed species included in this letter are designated in Table 4 below.

The ODNR also provided review comments on the *Level 2 Ecological Survey Report SCI-823-0.00 – Phases 2 and 3 (PID 19415)* [ASC Group 2013] on June 13, 2013. The letter included an additional review by the ODNR-DOW-Fish and Wildlife that included some additional species whose ranges overlap the Portsmouth Bypass Project Area. Species identified in this letter are indicated in Table 4 and the letter is included in Appendix F.

Surveys for listed species were completed in conjunction with the aquatic and terrestrial surveys completed on various occasions by ODOT and /or their representatives. No federally listed species were identified within the limits of Phases 2 or 3 of the Portsmouth Bypass. During the threatened and endangered species surveys representatives of ODOT identified populations of the state-endangered primrose-leaved violet (*Viola primulifolia*), the state potentially threatened riverbank paspalum (*Paspalum repens*), and the state-threatened black sandshell mussel (*Ligumia recta*). A summary of the federal- and state-listed species is provided in Table 4.

**Table 4. Listed Species with Ranges Overlapping the Limits of the Preferred and Minimal Degradation Alternatives.**

Species		Group	Federal Status	State Status
Scientific Name	Common Name			
<i>Aneides aeneus</i> <sup>1</sup>	Green Salamander	Amphibian	Not Listed	Endangered
<i>Crotalus horridus</i> <sup>1</sup>	Timber Rattlesnake	Reptile	Species of Concern	Endangered
<i>Cryptobranchus a. alleganiensis</i> <sup>1</sup>	Eastern Hellbender	Amphibian	Species of Concern	Endangered

**Table 4. Listed Species with Ranges Overlapping the Limits of the Preferred and Minimal Degradation Alternatives.**

Species		Group	Federal Status	State Status
Scientific Name	Common Name			
<i>Cycleptus elongatus</i> <sup>2</sup>	Blue Sucker	Fish	Not Listed	Threatened
<i>Cyprogenia stegaria</i> <sup>1</sup>	Fanshell	Mollusk	Endangered	Endangered
<i>Ellipsaria lineolata</i> <sup>1, 2</sup>	Butterfly	Mollusk	Not Listed	Endangered
<i>Elliptio crassidens crassidens</i> <sup>1, 2</sup>	Elephant-ear	Mollusk	Not Listed	Endangered
<i>Epioblasma torulosa rangiana</i> <sup>1</sup>	Northern Riffleshell	Mollusk	Endangered	Endangered
<i>Epioblasma triquetra</i> <sup>1</sup>	Snuffbox	Mollusk	Endangered	Endangered
<i>Erythroecia hebardii</i> <sup>1</sup>	Hebard's Noctuid Moth	Insect	Not Listed	Endangered
<i>Fusconaia ebeus</i> <sup>1, 2</sup>	Ebonysell	Mollusk	Not Listed	Endangered
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Bird	Species of Concern	Threatened
<i>Hiodon alosoides</i> <sup>1</sup>	Goldeye	Fish	Not Listed	Endangered
<i>Isotria medeoloides</i>	Small Whorled Pogonia	Plant	Threatened	Endangered
<i>Lampsilis orbiculata (=l. abrupta)</i> <sup>1</sup>	Pink Mucket Pearly Mussel	Mollusk	Endangered	Endangered
<i>Ligumia recta</i> <sup>2, 3</sup>	Black Sandshell	Mollusk	Not Listed	Threatened
<i>Magnolia tripetala</i> <sup>2</sup>	Umbrella Magnolia	Plant	Not Listed	Potentially Threatened
<i>Megaloniais nervosa</i> <sup>1, 2</sup>	Washboard	Mollusk	Not Listed	Endangered
<i>Moxostoma carinatum</i> <sup>2</sup>	River Redhorse	Fish	Not Listed	Concern
<i>Myotis septentrionalis</i> <sup>4</sup>	Northern Long-eared Bat	Mammal	Proposed Endangered	Concern
<i>Myotis sodalis</i> <sup>1</sup>	Indiana Bat	Mammal	Endangered	Endangered
<i>Neotoma magister</i> <sup>1</sup>	Allegheny Woodrat	Mammal	Not Listed	Endangered
<i>Noturus eleutherus</i> <sup>1</sup>	Mountain Madtom	Fish	Not Listed	Endangered
<i>Noturus stigmosus</i> <sup>1</sup>	Northern Madtom	Fish	Not Listed	Endangered
<i>Obliquaria reflexa</i> <sup>2</sup>	Threehorn Wartyback	Mollusk	Not Listed	Threatened
<i>Paspalum repens</i> <sup>3</sup>	Riverbank Paspalum	Plant	Not Listed	Threatened
<i>Phacelia bipinnatifida</i> <sup>2</sup>	Fern-leaved Scorpion-weed	Plant	Not Listed	Potentially Threatened
<i>Plethobasus cyphus</i> <sup>1, 2</sup>	Sheepnose	Mollusk	Endangered	Endangered
<i>Pleurobema clava</i> <sup>1</sup>	Clubshell	Mollusk	Endangered	Endangered
<i>Pleurobema cordatum</i> <sup>1, 2</sup>	Ohio Pigtoe	Mollusk	Not Listed	Endangered
<i>Quadrula metanevra</i> <sup>1, 2</sup>	Monkeyface	Mollusk	Not Listed	Endangered
<i>Quadrula nodulata</i> <sup>1</sup>	Wartyback	Mollusk	Not Listed	Endangered
<i>Quercus falcata</i> <sup>2</sup>	Spanish Oak	Plant	Not Listed	Threatened
<i>Scaphiopus holbrookii</i> <sup>1</sup>	Eastern Spadefoot Toad	Amphibian	Not Listed	Endangered

**Table 4. Listed Species with Ranges Overlapping the Limits of the Preferred and Minimal Degradation Alternatives.**

Species		Group	Federal Status	State Status
Scientific Name	Common Name			
<i>Scaphirhynchus platyrhynchus</i> <sup>1</sup>	Shovelnose Sturgeon	Fish	Not Listed	Endangered
<i>Simpsonaias ambigua</i> <sup>3</sup>	Salamander Mussel	Mollusk	Not Listed	Concern
<i>Spiraea virginiana</i>	Virginia Spiraea	Plant	Threatened	Endangered
<i>Stenanthium gramineum</i> <sup>2</sup>	Feather-bells	Plant	Not Listed	Potentially Threatened
<i>Terrapene carolina carolina</i> <sup>3</sup>	Eastern Box Turtle	Reptile	Not Listed	Concern
<i>Thryomanes bewickii</i> <sup>1</sup>	Bewick's Wren	Bird	Not Listed	Endangered
<i>Trifolium stoloniferum</i>	Running Buffalo Clover	Plant	Endangered	Endangered
<i>Truncilla truncata</i> <sup>2</sup>	Deertoe	Mollusk	Not Listed	Concern
<i>Ursus americanus</i> <sup>1</sup>	Black Bear	Mammal	Not Listed	Endangered
<i>Villosa fabalis</i> <sup>1</sup>	Rayed Bean	Mollusk	Endangered	Endangered
<i>Villosa lienosa</i> <sup>1</sup>	Little Spectaclecase	Mollusk	Not Listed	Endangered
<i>Viola pedata</i> <sup>2</sup>	Birdfoot Violet	Plant	Not Listed	Threatened
<i>Viola primulifolia</i> <sup>2, 3</sup>	Primrose-leaved violet	Plant	Not Listed	Endangered

<sup>1</sup> ODNR-DOW-Fish and Wildlife indicated these species ranges overlap the project area in a letter dated June 13, 2013.

<sup>2</sup> ODNR Natural Heritage Database has indicated that a record of this species is with 1-mile of the Preferred Alternative in letter dated November 6, 2012.

<sup>3</sup> Species identified during ecological or mussel survey.

<sup>4</sup> Species was proposed for listing on October 1, 2013 by USFWS.

During the Ecological Survey completed on November 8, 2012, surveys for both state- and federally listed species were conducted in and around the limits of Phases 2 and 3 of the Portsmouth Bypass. Individual studies were performed during the summer of 2011 for the five federally listed species: the federally endangered Indiana bat; federally listed species of concern/state-listed endangered eastern hellbender; federally threatened small whorled pogonia; federally endangered running buffalo clover and for various listed mussel species. Coordination with the USFWS for the federally listed species concluded on March 12, 2012 (TAILS: 03E15000-2012-0581). A copy of the USFWS coordination is provided in Appendix F.

### **Federally Listed Species**

#### **Bald Eagle (*Haliaeetus leucocephalus*)**

The bald eagle is listed as a federal species of concern and as a state threatened species. As of January 30, 2013, the nearest active bald eagle nest location is located approximately five miles southwest of the center of the Phase 2 project area and approximately nine miles west of the northern terminus of the Phase 3 project area. As such, the USFWS determined that the project is expected to have **no effect** on this species.

#### **Clubshell mussel (*Pleurobema clava*)**

The clubshell mussel is a federal and state-listed endangered species. Although the Little Scioto River may provide potentially suitable habitat for the clubshell, it is not known within the drainage. This species was not encountered during any mussel surveys conducted within the

proposed project area, including the survey of the Little Scioto River. As a result, the USFWS determined that the proposed project should have **no effect** on the species.

Eastern Hellbender (*Cryptobranchus a. alleganiensis*)

The eastern hellbender is a federally listed species of concern and a state-listed endangered species. It was determined that the only stream with potentially suitable habitat in the project area for the hellbender was in the Little Scioto River. Additionally, the eastern hellbender is known from the Little Scioto River, with capture records for the species as recent as 2009. On August 16, 2011, Ohio herpetologist Greg Lipps conducted an eastern hellbender habitat survey in the Little Scioto River at the location of the proposed bridge crossing for the project. The survey did not find any individuals of the species, and determined that this segment of the Little Scioto River did not contain suitable habitat for the species. Due to the lack of suitable habitat for the species within the proposed project area, it was determined by the USFWS that the project will have **no effect** on the species.

Fanshell mussel (*Cyprogenia stegaria*)

The fanshell mussel is listed as an endangered species at both the federal and state level. Within Scioto County the fanshell species is only known from the Ohio River. This species was not encountered during any mussel surveys conducted within the proposed project area, and no suitable habitat for this species was encountered within the proposed project area. As a result, the USFWS determined that the proposed project should have **no effect** on the species.

Indiana Bat (*Myotis sodalis*)

The Indiana bat is listed as an endangered species at both the federal and state level. Mist net surveys for the Indiana bat were conducted between July 1 and August 15, 2011 for the entire Portsmouth Bypass Project area. No Indiana bats were captured during the survey. Due to the forested nature of the project area, potential roosting habitat is prevalent throughout the limits of the project corridor. Potentially suitable habitat for this species will be impacted as part of this project. In a letter dated March 12, 2012, the USFWS determined that the proposed project **may affect but it is not likely to adversely affect** the Indiana Bat and this determination is valid for a period of two years (Appendix F). ODOT will adhere to the seasonal tree cutting restrictions (September 30 to April 1) in order to minimize any potential impacts as part of the proposed project.

Northern Long-eared Bat (*Myotis septentrionalis*)

The northern long-eared bat is a federal proposed endangered and state species of concern. The USFWS listed the northern long-eared bat as a proposed endangered species on October 1, 2013. The range of the northern long-eared bat overlaps Scioto County. During the 2011 Indiana bat survey, the northern long-eared bat were the third most common species collected, with a total of 31 individuals. ODOT will adhere to the seasonal tree cutting restrictions (September 30 to April 1) in order to minimize any potential impacts to this species as part of the proposed project. Additional coordination between ODOT-OES and the USFWS regarding the northern long-eared bat is currently underway.

Northern riffleshell mussel (*Epioblasma torulosa rangiana*)

The northern riffleshell mussel is listed as an endangered species at both the federal and state level. Within Scioto County the northern riffleshell is only known from the Scioto River. This species was not encountered during any mussel surveys conducted within the proposed project

area, and no suitable habitat for this species was encountered within the proposed project area. As a result, the proposed project was determined by the USFWS to have **no effect** on this species.

Pink mucket pearly mussel (*Lampsilis abrupta*)

The pink mucket pearly mussel is listed as an endangered species at both the federal and state level. Within Scioto County the pink mucket pearly mussel is only known from the Ohio River. This species was not encountered during any mussel surveys conducted within the proposed project area, and no suitable habitat for this species was encountered within the proposed project area. As a result, the USFWS determined the proposed project should have **no effect** on the species.

Rayed bean mussel (*Villosa fabalis*)

The rayed bean mussel is listed as an endangered species at both the federal and state level. Within Scioto County the rayed bean mussel is known from the Scioto River and the Scioto Brush Creek. However, the species is considered potentially present within any streams in the county that possess its preferred habitat, including the Little Scioto River. Although suitable habitat for the species was present, no specimens of rayed bean were found during the survey of the Little Scioto River or any other mussel surveys conducted during the ecological surveys of the project area. It is unlikely that the species is present within the proposed project area and that it will be impacted by proposed construction activities. As a result, the USFWS determined that the proposed project **may affect, but is not likely to adversely affect** the species.

Running Buffalo Clover (*Trifolium stoloniferum*)

Running buffalo clover is listed as an endangered species at both the federal and state level. The nearest record for the running buffalo clover is located approximately 11 miles from the project area within Lawrence County. A survey for this species was conducted in 2011. Although this species was not identified within the project study area during any of the survey, suitable habitats for the species, including partially shaded woodlots along streams and maintained lawns and trails, were present within the project area. Due to the absence of the species, but the presence of potentially suitable habitat within the project area, the USFWS determined that the project **may affect but is not likely to adversely affect** the running buffalo clover.

Sheepnose mussel (*Plethobasus cyphus*)

The sheepnose mussel is listed as an endangered species at both the federal and state level. Within Scioto County the sheepnose mussel is only known from the Ohio River. This species was not encountered during any mussel surveys conducted within the proposed project area, and no suitable habitat for this species was encountered within the proposed project area. As a result, the proposed project should have **no effect** on the species.

Small Whorled Pogonia (*Isotria medeoloides*)

The small whorled pogonia is a federally threatened species and a state-listed endangered species. During the ecological surveys, small whorled pogonia was not identified within the Preferred Alternative project area. No direct impacts to small whorled pogonia are anticipated as a result of this project. Potentially suitable habitat for this species will likely be impacted as part of the construction of Phases 2 and 3 of the Portsmouth Bypass. Due to the presence of potentially suitable habitat for the species, the proximity to a known location for the plant, and the potential difficulties associated with surveying for this species (short flowering period, similarity in appearance to sterile plants of Indian cucumber-root, and potential periods of dormancy) the species cannot be completely discounted from being present within the study area. As a result,

USFWS determined that the proposed project **may affect, but is not likely to adversely affect** the species.

Snuffbox mussel (*Epioblasma triquetra*)

The snuffbox mussel is listed as an endangered species at both the federal and state level. Within Scioto County the snuffbox mussel is known from the Ohio River, Scioto Brush Creek, and the South Fork Scioto Brush Creek. While the Little Scioto River may provide potentially suitable habitat for this species, it is not known within the drainage. This species was not encountered during any mussel surveys conducted within the proposed project area. As a result, the proposed project should have **no effect** on the species as determined by the USFWS.

Timber rattlesnake (*Crotalus horridus horridus*)

The timber rattlesnake is a federal species of concern and a state-listed endangered species. A survey for this species was conducted by herpetologist Doug Wynn during 2003. The USFWS and Doug Wynn both concurred that updated surveys for this species were unnecessary to make an effect determination for this species. The 2003 survey found that suitable habitat for this species is present within the proposed project area; however, signs of major human disturbance were common, and it was determined to be very unlikely that the species inhabits or utilizes the surveyed area. This species was not encountered during the species specific survey (conducted in 2003) or during any of the previous or updated ecological surveys. Due to the presence of suitable habitat for the species, but the lack of evidence of timber rattlesnakes using the habitat, the USFWS determined that the proposed project **may affect, but is not likely to adversely affect** the species.

Virginia Spirea (*Spiraea virginiana*)

Virginia spirea is a federally threatened species and a state endangered species. The original survey for the Virginia spirea did not identify any individuals within the survey area. The USFWS agreed that this species is not likely found within the project area and an additional species survey was not requested in 2011. Due to the presence of suitable habitat for the species, but the lack of evidence that the plant is within the proposed project area, the USFWS determined that the project **may affect, but is not likely to adversely affect** the species.

**State-Listed Species**

Allegheny Woodrat (*Neotoma magister*)

The project is within the range of the Allegheny woodrat, a state endangered mammal. This mammal has experienced marked declines in its Ohio distribution and is presumed to occupy forested areas with rock outcrops primarily in Adams County and extreme western portions of Scioto County. Based on known locality records and habitat utilized by this species, the project is not likely to impact this species.

Bewick's Wren (*Thryomanes bewickii*)

The project is within the range of the Bewick's wren, a state endangered bird. A statewide survey has not been completed for this species and a lack of records does not indicate the species is absent from the area. Therefore, the ODNR-DOW recommends that tree removal should not occur during the species' nesting period of April 1 to August 31.



Birdfoot Violet (*Viola pedata*)

Preferred habitat for the state threatened birdfoot violet includes well-drained, sunny, open situations, on rocky or sandy, often acidic, soil; open woods, fields, prairie remnants; along paths and roadsides, especially on road cuts through shale and sandstones. Potential habitat for this species is common in the project area; however, this species was not identified during the ecological survey of the project area.

Black Bear (*Ursus americanus*)

The project is within the range of the black bear, a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

Black Sandshell Mussel (*Ligumia recta*)

Two live specimens and one dead specimen of the state-threatened black sandshell mussel were collected upstream and downstream of the proposed Little Scioto River Bridge crossing during the 2011 mussel survey. The presence of this species was a new record for the Little Scioto River. The mussel survey report indicates that this “*species appears to be increasing its range and abundance in the state, apparently including its distribution in the Little Scioto River.*” Impacts to individuals and habitat may occur as a result of this project; however, due to the increasing abundance of this species in Ohio and amount of potentially suitable habitat for this species upstream and downstream of the impact area, these impacts would likely be insignificant.

Blue Sucker (*Cycleptus elongatus*)

The state threatened blue sucker was reported from the Scioto River, east of the project area. Suitable habitat for this species is not likely present in the project area as their preferred habitat includes deep, swiftly flowing chutes or channels of large rivers.

Butterfly Mussel (*Ellipsaria lineolata*)

The state endangered butterfly mussel’s preferred habitat includes sand and gravel in large rivers. Suitable habitat may be present in the Little Scioto River if it is determined to be large enough. This species was not collected during the mussel survey in 2011.

Deertoe Mussel (*Truncilla truncata*)

Suitable habitat for the state species of concern deertoe mussel includes mud, sand, or gravel substrates in medium to large rivers. Potential habitat is likely present in the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey.

Eastern Box Turtle (*Terrapene carolina carolina*)

During the ecological survey, several individuals of the eastern box turtle were identified throughout the project area. It is likely impacts will occur to this species as a result of the project; however, the impact is negligible since the eastern box turtle is abundant throughout the project area and southern Ohio.

Eastern Spadefoot Toad (*Scaphiopus holbrookii*)

The project is within the range of the Eastern spadefoot toad, a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. The ODNR-DOW recommended that an Eastern spadefoot toad habitat survey be done to determine the potential for impacts to this species. No suitable habitat for the spadefoot toad was identified during this survey and additional presence/absence surveys were not recommended.

Ebonyshell Mussel (*Fusconaia ebenus*)

Suitable habitat for the state endangered ebonyshell mussel includes sand and gravel in large rivers. Suitable habitat may be present within the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey.

Elephant-ear Mussel (*Elliptio crassidens*)

Suitable habitat for the state endangered elephant-ear mussel includes mud, sand, or fine gravel in large rivers. Potentially suitable habitat was identified within the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey of the project area.

Feather-bells (*Stenanthium gramineum*)

The habitat preference for the state potentially threatened feather-bells includes moist rocky woods and rich wooded slopes; it is most frequently found on acid soils. Potential habitat for this species is present within the project area; however, it was not identified during the ecological survey of the project area.

Fern-leaved Scorpion-weed (*Phacelia bipinnatifida*)

The most common habitat of the state potentially threatened fern-leaved scorpion-weed is deciduous alluvial woods, generally on basic soils. However, Ohio collections have also been made from fields and roadsides. Suitable habitat for this species is abundant throughout the project area; however, it was not identified during the ecological survey of the project area.

Goldeye (*Hiodon alosoides*)

The project is within the range of the goldeye, a state endangered fish. The ODNR-DOW recommends no in-water work in perennial WWH streams and Class III primary headwater streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.

Green Salamander (*Aneides aeneus*)

The project is within the range of the green salamander, a state endangered amphibian. Based on known locality records, habitat utilized by this species and that this species was not identified during the ecological survey, the project is not likely to impact this species.

Hebard's noctuid moth (*Erythroecia hebardei*)

The project is within the range of the Hebard's noctuid moth, a state endangered moth. Due to the habitat used by this species and the type of work proposed the project is not likely to impact this species.

Little Spectaclecase (*Villosa lienosa*)

The project is within the range of the little spectaclecase, a state endangered mussel. Potential habitat is likely present in the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey.

Monkeyface Mussel (*Quadrula metanevra*)

Suitable habitat for the state endangered monkeyface mussel consists of mud, sand, or gravel substrates in medium to large rivers. Potential habitat is likely present within the project area at the Little Scioto River. This species was not collected during the mussel survey at this location in 2011.

Mountain Madtom (*Noturus eleutherus*)

The project is within the range of the mountain madtom, a state endangered fish. The ODNR-DOW recommends no in-water work in perennial WWH streams and Class III primary headwater streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.

Northern Madtom (*Noturus stigmosus*)

The project is within the range of the northern madtom, a state endangered fish. The ODNR-DOW recommends no in-water work in perennial WWH streams and Class III primary headwater streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.

Ohio Pigtoe Mussel (*Pleurobema cordatum*)

Suitable habitat for the state endangered Ohio pigtoe mussel includes medium to large rivers in sand or gravel in areas with moderate flow. Potentially suitable habitat is likely present within the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey.

Primrose-leaved Violet (*Viola primulifolia*)

During the ecological surveys, several individuals of the primrose-leaved violet were identified along the edges of several logging roads. It was also identified in adjacent areas outside of the project area. It is likely impacts will occur to this species as a result of this project.

River Redhorse (*Moxostoma carinatum*)

The state species of concern river redhorse was reported from the Scioto River, east of the project area. Suitable habitat for this species is not likely present in the project area as the river redhorse are found in only the largest rivers of the Ohio River drainage systems. They are typically found in deep pools with moderate current over bedrock or gravel substrate. The Little Scioto River within the project area did not appear to provide suitable habitat for this species.

Riverbank Paspalum (*Paspalum repens*)

Several individuals of the state threatened riverbank paspalum were identified in the Wetland 24 complex along the Little Scioto River. Southern Ohio is the northern extent of this species. Impacts to individuals will likely occur where the project crosses the Little Scioto River; however, there is suitable habitat in the immediate vicinity of the crossing.

Salamander Mussel (*Simpsonaias ambigua*)

Suitable habitat for the state species of concern salamander mussel includes mud or gravel bars in medium to large rivers. Potential habitat is likely present in the project area at the Little Scioto River. However, this species was not collected during the mussel survey at this location in 2011.

Shovelnose Sturgeon (*Scaphirhynchus platorynchus*)

The project is within the range of the shovelnose sturgeon, a state endangered species. The ODNR-DOW recommends no in-water work in perennial WWH streams and Class III primary headwater streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.

Spanish Oak (*Quercus falcata*)

A record for the state-threatened Spanish oak was returned within 1 mile of the Portsmouth Bypass Project Area. During the ecological survey no Spanish oaks were identified within the proposed project area. Suitable habitat for the Spanish oak will be impacted as a result of this project; however, this project should not have an adverse effect on this species due to the potential habitat located in the vicinity of the project area.

Threehorn Wartyback Mussel (*Obliquaria reflexa*)

Suitable habitat for the state threatened threehorn wartyback mussel includes sand and gravel in large rivers. Suitable habitat may be present within the project area at the Little Scioto River. However, this species was not collected during the 2011 mussel survey.

Umbrella Magnolia (*Magnolia tripetala*)

The state potentially threatened umbrella magnolia was observed during the T&E survey in 2011 by representatives of ASC Group in a second-growth upland forest. Suitable habitat for this species is abundant throughout the area; however, it was not identified during the ecological survey for Phases 2 and 3 of the Portsmouth Bypass.

Washboard Mussel (*Megaloniaias nervosa*)

Suitable habitat for the state endangered washboard mussel includes mud, sand, or gravel primarily in large rivers or medium-sized streams with a good current. Suitable habitat may be present in the project area at the Little Scioto River. However, this species was not collected during the 2011 mussel survey.

Wartyback (*Quadrula nodulata*)

The project is within the range of the wartyback, a state endangered mussel. Potential habitat is likely present in the project area at the Little Scioto River. This species was not collected during the 2011 mussel survey.

**Minimal Degradation Alternative:**

The impacts and the resulting effects to water quality would be less as fewer streams and wetlands will be impacted. Impacts to wildlife associated with the construction of the Minimal Degradation Alternative are similar to the effects of the Preferred Alternative as the two alternatives are on the same alignment and both utilize “no build areas”. Impacts to aquatic species utilizing smaller streams and terrestrial wildlife found in areas adjacent to these streams would likely be less as the inclusion of bridge structures result in fewer stream channels being impacted by culverts in the Minimal Degradation Alternative.

**Non-Degradation Alternative:**

Because the Non-Degradation is a No-Build Alternative, there would be no impacts to water quality resulting from construction.

- 10c) **Include a discussion of the technical feasibility, cost effectiveness and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.) (OAC 3745-1-05(C)(6)(h, j-k) and OAC 3745-1-54)**

**Preferred Alternative (To be constructed):**

The Preferred Alternative is available, cost effective, and technically feasible. The construction techniques and associated BMPs that will be used to construct the Preferred Alternative have been used on numerous ODOT projects. The techniques to construct culverts and embankments have been proven to be both reliable and cost effective. There are no foreseeable operational or maintenance difficulties that would have a detrimental impact to water quality within the project area. The project utilizes oversized culverts which can reduce the overall maintenance cost when the proposed pipes are due for rehabilitation or replacement, since new pipes can be placed inside the proposed pipes to maintain proper drainage. Any possible impacts to water quality during the construction phase of the Preferred Alternative will be minimized through implementation of the BMPs specified in the Contractor's SWPPP.

The estimated total cost to construct the Preferred Alternative for Phases 2 and 3 is approximately \$292.6 million. This includes approximately \$152.0 million for Phase 2 and approximately \$140.6 million for Phase 3. This estimate includes costs for construction, design, utilities relocation and construction engineering services.

**Minimal Degradation Alternative:**

The Minimal Degradation Alternative is also available and technically feasible. This Alternative is not feasible as to the cost effectiveness compared to the ecological benefit. The cost of adding the 25 bridges is over 80 percent more than the cost of the Preferred Alternative. The cost to construct the Minimal Degradation Alternative is approximately \$541.3 million while the cost to construct the Preferred Alternative is approximately \$292.6 million, an increase of approximately \$248.8 million. These 25 additional bridges have been included in the Minimal Degradation Alternative even though the hydrologic calculations at these locations do not warrant bridge structures to be constructed. The use of standard culverts at these locations provide an efficient means of crossing the streams and wetlands while meeting or exceeding current ODOT design standards for hydraulic design. In addition, replacing the standard culverts with bridges also increases the maintenance costs associated with the project over the life span of the structures. While the construction techniques and associated BMPs that would be used to construct the Minimal Degradation Alternative have been successfully used on numerous occasions on other ODOT projects, the substantial increase in cost (approximately \$248.8 million) is not an efficient way to construct a project of this magnitude.

The primary difference between the Preferred Alternative and the Minimal Degradation Alternative is the construction of bridges in lieu of standard culverts. The difference in the project costs between the Preferred Alternative and the Minimal Degradation Alternative is approximately \$248.8 million. The use of bridge structures at these locations is neither cost effective nor feasible when factoring in the recurring costs associated with the operation and maintenance of bridge structures. Using bridges at these crossings is even less appropriate from a design standpoint when the replacement expenditures and the installation costs are included over the entire life of the project.

### **Non-Degradation Alternative:**

Since the Non-Degradation Alternative is the No-Build Alternative, there are no construction costs associated with this alternative.

- 10d) For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents. (OAC 3745-1-05(C)(6)(i))**

The proposed project does not involve regional sewage collection or treatment facilities.

- 10e) To the extent that information is available, list and describe any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource. (OAC 3745-1-05(B)(2)(g))**

According to the list of active watershed groups provided by the Ohio Watershed Network (available at <http://ohiowatersheds.osu.edu/groups>), only one watershed group, the Scenic Salt Creek Valley Association, is reported in the Lower Scioto (HUC 05060002) watershed. An internet search did not find any additional information on this watershed group. Salt Creek is located upstream of the proposed project and its confluence with the Scioto River is located in Ross County. No additional watershed groups currently exist within Scioto County or within the Little Scioto – Tygarts (HUC 05090103) watershed.

The proposed Portsmouth Bypass Project is located within the target area of the **Scioto River Watershed Conservation Reserve Enhancement Program (CREP)**, which is a voluntary land retirement program that helps agricultural producers protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water. This program is a partnership between the Ohio Department of Natural Resources, the United States Department of Agriculture, and local Soil and Water Conservation Districts. The goal of this program is to enroll 70,000 acres of crop land to be converted for use as filter strips, riparian buffers, wildlife habitat, wetlands, and tree plantings in order to prevent and reduce the amount of nutrient-laden sediment runoff from entering the Scioto River and its tributaries. It is anticipated that as a result of this program the biodiversity and the water quality of the entire watershed will benefit.

**Friends of Scioto Brush Creek** is an organization whose mission includes “Helping maintain and improve the water quality of Scioto Brush Creek through education, awareness and the involvement of local residents.” Scioto Brush Creek is recognized as one of the highest quality streams in Ohio, which is due to the stream’s ability to support much of the original fish fauna and also because the watershed surrounding this stream is home to more than 30 rare plant and animal species, including federally threatened and endangered species. To help preserve this natural resource, the Friends of Scioto Brush Creek has in recent years has increased its involvement in the community as the group has worked to inform residents of the significance of the stream.

- 10f) Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project. (OAC 3745-01-05(C)(6)(g))

**Preferred Alternative (To be constructed):**

BMPs to control run-off and erosion will be implemented during project development and construction in accordance with ODOT’s *Construction Materials and Specifications*. More than \$4.5 million will be spent on protection of water quality during construction of the Preferred Alternative. These water pollution controls include but are not limited to diversion structures, silt fence, and retention structures. Additional water pollution controls may be implemented on an as needed basis during the construction of the project. These BMPs are generally temporary in nature and will be used during the construction phases of the project. Table 5 provides a breakdown of the estimated costs for water pollution control during construction of the Preferred Alternative.

**Table 5. Cost Estimate for Water Pollution Controls for the Preferred Alternative for Phases 2 and 3 of the Portsmouth Bypass.**

Item	Quantity	Unit	Unit Cost	Total Cost
Sediment Basins	29,000	Cubic Yard	\$10.00	\$290,000
Sediment Removal	15,000	Cubic Yard	\$4.50	\$67,500
Construction Seeding and Mulching	3,069,000	Square Yard	\$0.96	\$2,946,240
Filter Fabric Ditch Check	101,000	Linear Foot	\$3.00	\$303,000
Perimeter Filter Fabric Fence	5,000	Linear Foot	\$10.00	\$50,000
Rock Channel Protection with Filter	179	Cubic Yard	\$83.00	\$14,857
Existing Stream Protection	126	Each	\$4,500.00	\$567,000
Inlet Protection Catch Basins	4,000	Linear Foot	\$10.00	\$40,000
Construction Entrance	58	Each	\$5,000.00	\$290,000
			<b>Total Cost</b>	<b>\$4,568,597</b>

In addition to the water pollution controls listed in Table 5, the Preferred Alternative for the Portsmouth Bypass also includes between twenty-one and twenty-three (depending on DB Final Design) Extended Detention Basins as part of the Post Construction BMPs. Post Construction Stormwater BMPs are provided for the perpetual management of stormwater runoff quality and quantity so that a receiving stream’s physical, chemical, and biological characteristics are protected and stream functions are maintained. Post Construction BMPs remove pollutants from runoff (water quality treatment) and protect streams by attempting to maintain existing stream conditions or by reducing runoff volumes through structural BMP (water quantity treatment). These Extended Detention Basins captures the first 0.75 inch of stormwater during rain events and slowly meters the captured volume over minimum 48-hour period, with no more than 50 percent of the volume released during the first 16 hours.

Additional BMPs incorporated into the design of the project to protect water quality include vegetated filter strips and vegetated bio-filters. Vegetated filter strips and vegetated bio-filters are two different methods used to passively treat runoff for the improvement of water quality. Vegetated filter strips and bio-filters are both essentially vegetated surfaces that are designed to initially treat stormwater by slowing runoff, which allows for the settling and filtering out of sediment and pollutants prior to entering adjacent waterways. In addition, both of these practices

provide some infiltration of runoff into underlying soils, which further reduces impacts to adjacent waters.

**Minimal Degradation Alternative:**

The cost of water pollution controls for the Minimal Degradation Alternative is approximately \$6.1 million. The increase in cost over the Preferred Alternative is due to the greater amount of labor and materials required to avoid resources as part of the Minimal Degradation Alternative. Table 6 provides a breakdown of the estimated costs for water pollution control during construction of the Minimal Degradation Alternative.

**Table 6. Cost Estimate for Water Pollution Controls for the Minimal Degradation Alternative for Phases 2 and 3 of the Portsmouth Bypass.**

Item	Quantity	Unit	Unit Cost	Total Cost
Sediment Basins	38,657	Cubic Yard	\$10.00	\$386,570
Sediment Removal	19,995	Cubic Yard	\$4.50	\$89,978
Construction Seeding and Mulching	4,090,977	Square Yard	\$0.96	\$3,927,338
Perimeter Filter Fabric Fence	134,633	Linear Foot	\$3.00	\$403,899
Filter Fabric Ditch Check	6,665	Linear Foot	\$10.00	\$66,650
Rock Channel Protection with Filter	239	Cubic Yard	\$83.00	\$19,804
Existing Stream Protection	168	Each	\$4,500.00	\$755,811
Inlet Protection Catch Basins	5,332	Linear Foot	\$10.00	\$53,320
Construction Entrance	77	Each	\$5,000.00	\$386,570
			<b>Total Cost</b>	<b>\$6,089,940</b>

**Non-Degradation Alternative:**

Since the Non-Degradation Alternative is the No-Build, there are no water pollution costs associated with construction.

**10g) Describe any impacts on human health and the overall quality and value of the water resource. (OAC 3745-1-05(C)(6)(c) and OAC 3745-1-54)**

**Preferred Alternative (To be constructed):**

Overall, impacts to human health are expected to be positive as a result of the construction of the Portsmouth Bypass Project. The main purposes of the proposed project are to improve transportation system linkage, safety, and the current and future capacity through Portsmouth, Ohio for the efficient movement of people and goods. The construction of the Portsmouth Bypass is warranted by several factors. These include identified needs that relate to safety, regional mobility, economics, traffic volumes, and level of service. Additional details of these identified needs are provided below.

- **Safety.** In the last three years of accident history on the pertinent segments of CR 28 and SR 335, safety records show a total of 65 crashes of various types ranging from angle, rear-end, overturning and sideswipe to fixed object and animal. Based upon ODOT’s relative crash severity index, this represents a cost to society of over \$2.25 million, which would likely be significantly reduced if not mostly eliminated by the use of the new highway in lieu of existing roads. This is due to the fact that the new highway is designed



per today's roadway design standards, eliminating the need for a user to negotiate the existing substandard roads that were not designed as highways, but simply historically traveled ways that were paved over time and evolved into roads.

- **Regional Mobility.** Appalachian Regional Commission funding of the Appalachian Highway system is intended to provide improved transportation infrastructure to impoverished areas. *Access Ohio*, ODOT's long-range plan, contains similar goals to improve mobility and foster economic development. Within the study area, there exists a "missing link" in the Appalachian corridor from Asheville, North Carolina, to Columbus, Ohio. The goal of the Portsmouth Bypass is to close the gap in a multi-state corridor and provide a nearly controlled access alternative to I-77 and I-75 between Orlando, Florida and Columbus, Ohio.
- **Economic Issues.** Scioto County is economically distressed with above average unemployment rates and below average per capita income compared to the rest of Ohio. This condition results from comparatively low share of manufacturing within the county. Citizens and local economic development officials, supported by surveys of site selection criteria, assert that inadequate transportation infrastructure impedes the area's ability to attract industrial investment. In order to enhance the region's competitive advantage for new and expanding businesses, the goal of the project is to provide improved highway access within the region. While the construction of any Phase of the Portsmouth Bypass does not guarantee that this business investment will occur, the goal is to meet the intent of the Appalachian Highway Development System by providing Scioto County with the necessary transportation infrastructure to help them compete in the marketplace.
- **Traffic Volumes.** The proposed Portsmouth Bypass will reduce the travel time between Wheelersburg to Lucasville by approximately 16 minutes. A motorist making that trip twice each workday would save nearly 140 hours per year. With over 17,000 vehicles per day currently making this trip, that would add up to more than 1.5 million hours saved by motorists each year. The design year traffic is projected to be 26,000 vpd with 14 percent trucks when the project is completed.
- **Levels of Service.** The LOS for the Proposed Portsmouth Bypass is A for both current and design year, using the highest volume of traffic on existing routes. Therefore, the proposed project will provide an improved LOS above the use of existing roads for both current and design year.

The widespread nature of the safety deficiencies inherent in the existing transportation system will be improved by diverting traffic from substandard local roads to the new phases of the bypass route, thereby decreasing the accident rate of the overall system and improving the safety of the motoring public. In addition, the construction of the Preferred Alternative will reduce the amount of fuel used when making the trip along the bypass when compared to the traditional route. A reduction in fuel use would also reduce the amount of methane (CH<sub>4</sub>), carbon monoxide (CO), non-methane volatile organic compounds (NMVOC), and nitrogen oxides (NO<sub>x</sub>) that are generated from the incomplete combustion of fossil fuels. These compounds are all ozone precursors, and any reduction in the amount of ground level ozone and air pollutants would be a benefit to human health.

The overall water quality and value of the stream resources impacted by this project will largely be temporary in nature, and associated with the construction of the project. Since both Phase 2 and Phase 3 of the Preferred Alternative have been designed in accordance with the guidance provided in ODOT's *Location and Design Manual: Volume Two Drainage Design*, impacts to regulated waterways have been minimized and designed using construction BMPs. Proposed stream crossings have been designed using the methods described in this manual and therefore have only a negligible effect to water quality within the impacted water resource. In addition, all waterway impacts associated with the construction of Phases 2 and 3 of the Portsmouth Bypass will be permitted and constructed in accordance with all federal, state and local regulations intended to protect human health and water quality. In addition, the construction BMPs identified in the projects SWPPP will be implemented during the construction of Phases 2 and 3 of the Preferred Alternative, further minimizing potential impacts to human health resulting from the lowering of water quality.

**Minimal Degradation Alternative:**

Impacts to human health would be similar to the impacts associated with the Preferred Alternative, as this alternative is built on essentially the same alignment and would require the same construction activities including the use of construction BMPs and the contractor's strict adherence to the projects SWPP. Therefore, any impacts to human health resulting from the lowering of water quality would be similar between both the Preferred and Minimal Degradation Alternatives.

**Non-Degradation Alternative:**

The No-Build Alternative would have a negative effect on human health by not addressing the safety issues associated with the deficiencies associated with the existing transportation network. The No-Build Alternative would not address the safety deficiencies and would continue to jeopardize the motoring public's safety. Water resources would likely not be adversely affected by this alternative.

- 10h) Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and tax revenues generated and a brief discussion on the condition of the local economy. (OAC 3745-1-5(B)(2)(e), and OAC 3745-1-05(C)(6)(i))**

Scioto County's economy has come and gone with the success and failures of Portsmouth's economy. Until the 1970s, heavy industry such as steel mills and shoe factories drove the county's economy. Since the closure of these factories, Scioto County has suffered a loss of jobs and revenue. Today, the service industry, such as the Southern Ohio Medical Center (SOMC), is the largest employer in the county. The new Portsmouth Bypass will facilitate the continued growth of the service industry as a result of the overall improvement of the community's transportation system.

Scioto County has also been the benefactor of SunCoke (coke fuel production) and Duke Energy (electricity) facilities near Franklin Furnace. Mitchellace, Inc., the largest manufacturer of shoelaces in the world, is located in Scioto County. Graf Brothers Flooring and Lumber, the world's largest manufacturer of rift and quartered oak products, has two satellite log yards in Scioto County, with the company's main office located across the Ohio River in South Shore,

Kentucky. The new Portsmouth Bypass will facilitate the continued growth of these industries due to the overall improvement of the community's transportation system.

One of the main goals of the Portsmouth Bypass is to provide access to potential development areas and increase Scioto County's opportunity for attracting new businesses. Local officials and the Scioto County Economic Development Office support the proposed bypass project because of the economic development potential it will bring to the area, which may help alleviate the high unemployment and poverty rates within Scioto County and the surrounding communities. Building the Portsmouth Bypass will bring this area in line with the goals of the Appalachian Regional Commission, which is to provide "the physical infrastructure necessary for self-sustaining economic development and improved quality of life."

Construction of Phases 2 and 3 of the Portsmouth Bypass with its access points on US 23, SR 335 SR 278, and US 52 will provide access to those areas with improved access to Portsmouth Bypass for potential commercial and industrial development. Once this area has access to the regional transportation system these sites will be well suited for development as these areas are located outside of the floodplain, have access to public and private water supplies, have utility access, and have access to a main CSX line. Proposed infrastructure improvements in these areas include a new \$29,750,000 sanitary sewage treatment plant and sewer line project planned by Scioto County in the Minford area where Phase 1 of the Portsmouth Bypass is located, along with the Greater Portsmouth Regional Airport. The project will be funded by USDA Rural Development Stimulus dollars and other public funds. The county has been told that the funding outlook is favorable. The proposed sanitary sewer system is designed to handle new industrial commercial/industrial park growth as well as serving surrounding communities.

The Portsmouth Bypass holds the economic future for Scioto County, as the county only has several hundred acres left that is out of the floodplain, which is suitable for development. The bypass will open up thousands of new acres for development, creating job opportunities for thousands of citizens in a very depressed area of the state. Local developers and local government have proven capacity to take advantage of infrastructure development and transportation improvements in attracting new industry and in assisting the expansion of existing commercial/industrial businesses.

The 2012 population of Scioto County was 78,477. In 2010, Scioto County's median household income was \$32,812 and the per capita personal income was \$28,888. In 2010, the total number of families living below the poverty line was 16.9 percent or 3,330 families. In May 2013, Scioto County had an unemployment rate of 11.0 percent while the Ohio statewide average was 6.9 percent (Ohio Department of Job and Family Services, Office of Workforce Development, Bureau of Labor Market Information).

The median home value in Scioto County is \$87,500. Environmental Reevaluation for the 2006 Record of Decision (ROD), the construction of Phases 2 and 3 of the Portsmouth Bypass will result in seven residential relocations. These relocations consist of single-family homes. There are also two commercial relocations associated with the construction of the Bypass. Despite these relocations, it has been determined in the Environmental Reevaluation that the Preferred Alternative for the Portsmouth Bypass minimizes the social impacts to the communities in and around the new alignment.

### **Preferred Alternative (To be constructed):**

The primary difference between the Preferred and Minimal Degradation Alternatives is the construction of 25 bridges in lieu of standard culverts; it is likely that the economic benefits for the surrounding community would be similar in nature between the two alternatives. The cost of the Preferred Alternative is approximately \$292.6 million and the cost of the Minimal Degradation Alternative is \$541.3 million. The area surrounding the project area is generally rural in nature. As designed, the Preferred Alternative will cost approximately \$292.6 million to complete. In 2007, the FHWA estimated that for every \$1 billion of federal highway investment, approximately 30,000 employment opportunities were generated. The employment opportunities are not limited to the highway construction but also to the industrial sectors that supply materials for the project. The report provides information on three types of employment effects in the general economy resulting from federally funded highway projects. These three types of employment opportunities include:

- Direct Jobs – jobs held by workers employed directly by the firms working on the project.
- Indirect Jobs – are those jobs held by workers who work at firms supplying materials used in highway construction projects.
- Induced Jobs – are jobs throughout the general economy resulting from direct and indirect employees spending their earnings within the surrounding community.

Based on the employment projections provided in the report, the Portsmouth Bypass Project would help provide approximately 8,797 employment opportunities. This assumption of employment opportunities is based upon the following factors:

- Direct Jobs: 10,300 jobs per \$1 billion invested
- Indirect Jobs: 4,675 jobs per \$1 billion invested
- Induced Jobs: 15,094 jobs per \$1 billion invested

The Portsmouth Bypass project will generate approximately 3,013 direct employment opportunities, approximately 1,368 indirect employment opportunities and approximately 4,416 induced employment opportunities. These new or continued employment opportunities would also provide an additional increase in state and local tax revenues. The economy of Scioto County generates the following tax revenues:

- 5.75 percent State Sales Tax (as of September 1, 2013)
- 1.5 percent County Sales Tax
- 0.587–5.925 percent State Income Tax (varies based on income)

According to data provided by the Ohio Development Services Agency, the education and health service sector is the largest private employment sector within Scioto County, making up approximately 37 percent, or approximately 6,738 private sector jobs within the county. In terms of total jobs, the education and health service sector, the trade, transportation, and utilities sector, local government and the leisure and hospitality sectors provide the top four employers in Scioto County. Undoubtedly employers and their employees will gain some benefit from the construction of the Portsmouth Bypass, either directly benefiting from more efficient travel or indirectly as consumers from the efficient movement of goods and services. The major employers in Scioto County are listed in Table 7.

**Table 7. Major Employers in Scioto County, Ohio<sup>1</sup>.**

Employer	Type
G & J Pepsi-Cola Bottlers, Inc.	Manufacturing
Mitchellace, Inc.	Manufacturing
OSCO Industries	Manufacturing
Portsmouth City Schools	Government
Scioto County Government	Government
Shawnee State University	Government
Southern Ohio Medical Center	Service
State of Ohio	Government
Taylor Lumber, Inc.	Manufacturing
Wal-Mart Stores, Inc.	Trade

<sup>1</sup> Information Obtained from the Ohio Department of Development.

The construction of Phases 2 and 3 is anticipated to take approximately six years to construct and is slated to begin construction sometime in 2014. Assuming that the project will result in the hiring or continued employment of approximately 8,797 individuals at average hourly rate of \$15.00, the proposed project is estimated to generate approximately \$12.8 million annually in state and local revenue. Table 8 presents an estimate of the total state and local revenues that are expected to be generated as a result of this project.

**Table 8. Estimated State and Local Tax Revenues Generated by Preferred and Minimal-Degradation Alternatives.**

Category	Dollars Generated From Construction Project	
	Preferred Alternative	Minimal Degradation Alternative
<b>Total annual income, before taxes</b>	\$274,466,400	\$507,863,143
<b>Annual state income tax receipts<sup>1</sup></b>	\$6,439,404	\$11,915,251
<b>Annual state and local tax income from sales<sup>2</sup></b>	\$6,413,807	\$11,867,887

<sup>1</sup> Figure based on 2013 1040 State Income Tax Tables for Salary of \$31,200.

<sup>2</sup> Figure based on 7.00% State and local sales tax on 33.3% of salary.

**Minimal Degradation Alternative:**

Since the Minimal Degradation costs approximately 80 percent more than the cost of the Preferred Alternative (\$541.3 million vs. \$292.6 million) the economic impact of the Minimal Degradation Alternative is expected to generate more revenue during the construction of this alternative (Table 5). Approximately 16,278 jobs would be created or retained based on the formulas above. This includes approximately 5,576 direct employment opportunities, 2,531 indirect employment opportunities, and approximately 8,171 induced employment opportunities. The Minimal Degradation Alternative would generate approximately \$233.4 million more in wages. The Minimal Degradation Alternative would generate approximately \$5.48 million more in income tax and approximately \$5.45 million more in state and local sales tax.

**Non-Degradation Alternative:**

The Non-Degradation alternative will not create any new jobs or provide increased revenues within the community.

- 10i) **Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans. (OAC 3745-1-05(B)(2)(e,f), and OAC 3745-1-05(C)(6)(e)).**

**Preferred Alternative (To be constructed):**

No irrevocable social or economic benefits are expected to be lost as a result of the construction of the Preferred Alternative for the Portsmouth Bypass Project.

The construction of the Preferred Alternative will require the acquisition of additional permanent right-of-way. Some of the right-of-way takes require total takes and the relocation of seven residential properties and two commercial properties. The acquisition of the additional right-of-way will reduce the amount of land that generates property tax in Scioto County. Any loss of tax revenue and economic activity due to the conversion of farmland and residential properties to right-of-way will likely be offset by the improved transportation infrastructure. It is anticipated the improved transportation system will encourage industrial and commercial development in the immediate vicinity of the bypass. The taxes generated from these new commercial and industrial developments should offset any taxes lost by the county from the impacted relocated properties.

The proposed construction of the Portsmouth Bypass will not acquire any property open to public use. Therefore, public access to the impacted waterways will likely have no effect on recreation, tourism, or enjoyment by humans. Any streams that are large enough to support recreation activities have been bridged and should be available for continued use by anyone currently using these streams for recreation.

**Minimal Degradation Alternative:**

No additional social or economic benefits are expected to be lost as a result of the construction of the Minimal Degradation Alternative for the Portsmouth Bypass Project.

The Minimal Degradation Alternative would likely result in similar social and economic impacts as the Preferred Alternative. Since the Minimal Degradation Alternative differs from the Preferred Alternative with the inclusion of an additional 25 bridges, fewer waterways will be impacted. Most of these additional bridges are located over smaller perennial and intermittent streams that are not located on public property and are therefore not open for public recreation activities. Any of the larger perennial streams that can support recreational activities will likely continue to do so.

**Non-Degradation Alternative:**

No social or economic benefits would be lost by the construction of the Non-Degradation Alternative. Conversely, no social or economic benefits would be gained by selecting the Non-

Degradation Alternative. A new bypass route through Scioto County would open up several development opportunities within the county. While the construction of either of the Preferred or Minimal Degradation Alternatives for the Portsmouth Bypass does not guarantee that business investment will occur, the goal is to meet the intent of the Appalachian Highway Development System by providing Scioto County with the necessary transportation infrastructure to help them compete in the marketplace. In addition, the selection of the Non-Degradation Alternative would do nothing to correct the existing deficiencies of existing infrastructure and the motoring public would still be exposed to the various safety issues that are the direct result of the congestion and poor LOS along the existing routes.

- 10j) Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened or endangered species. (OAC 3745-1-05 (B)(2)(e, f), OAC 3745-1-05 (C)(6)(b) and OAC 3745-1-54)**

**Preferred Alternative (To be constructed):**

The Preferred Alternative will be constructed in accordance with all federal, state and local regulations that are designed to protect the environment, including regulations applicable to water quality, aquatic life, wildlife, and threatened and endangered species. All stream crossings have been designed based on the guidance provided in ODOT's *Location and Design Manual: Volume Two Drainage Design*. Proposed stream crossings have been designed using the methods described in this manual and include aligning crossing at right angles to the stream when feasible, the use of oversized culverts, and the inclusion of bank stabilization measures at the proposed crossings. All of the proposed stream crossings have been designed using the manual and should therefore not have an impact on the stream's ability to move sediment downstream and should minimize any downstream impacts to aquatic life.

The Preferred Alternative for the Portsmouth Bypass will impact 37 jurisdictional wetlands. Seventeen of these wetlands are emergent or emergent scrub/shrub ORAM Category 1 Wetlands that exhibit varying degrees of degraded quality. Fourteen are emergent or emergent scrub/shrub Category 2 wetlands. Two are emergent forested Category 2 wetlands. There is one lacustrine emergent Category 2 wetland associated with an excavated pond. The remaining three wetlands are emergent Category 3 wetlands associated with the riparian corridor of the Little Scioto River. Unimpacted portions of the remaining wetlands will continue to provide pollutant filtering prior to discharging into adjacent drainages. The pollutant filtering capacity of the impacted wetlands will be compensated for through the inclusion of sediment basins, as required by ODOT's *Location and Design Manual: Volume Two Drainage Design*. It is anticipated that any effects to wildlife will be mitigated as part of the proposed wetland mitigation plan.

Impacts during construction will likely impact aquatic life from filling of streams and increased sedimentation; however, any lowering of water quality will likely be temporary and have no significant impact to populations of aquatic organisms. Also, the majority of the wildlife present on the site will have the ability to migrate to undisturbed areas.

The construction of the Preferred Alternative is not expected to have an adverse impact on any state- or federally listed species (Appendix F). While several state-listed species were identified within the project vicinity, it does not appear that the construction of this project will have any permanent adverse impact to these species, as potential habitat for these species is common

throughout the surrounding area. See Section 10b for details regarding threatened and endangered species impacts.

### **Minimal Degradation Alternative:**

As in the Preferred Alternative, the Minimal Degradation Alternative will be constructed in accordance with all federal, state and local regulations that are designed to protect the environment, including regulations applicable to water quality, aquatic life, wildlife, and threatened and endangered species. The Minimal Degradation Alternative only differs from the Preferred Alternative in that it includes an additional 25 bridges over several streams and wetlands (Appendix A: Figures 4-1 to 4-25). Therefore, the impacts to the bridged streams and wetlands in the Minimal Degradation Alternative are significantly reduced when compared to the impacts of the Preferred Alternative. All of the additional bridge structures have been designed using the methods described in ODOT's *Location and Design Manual: Volume Two Drainage Design* and as such should not have an impact on the bridged resources ability to move sediment downstream.

As in the Preferred Alternative, the construction of the Minimal Degradation Alternative could impact aquatic life from filling of streams and increased sedimentation; however, any lowering of water quality will likely be temporary and have no significant impact to populations of aquatic organisms. Also, the majority of the wildlife present on the site will have the ability to migrate to undisturbed areas.

The Minimal Degradation Alternative for the Portsmouth Bypass will impact 26 wetlands. Fifteen of these wetlands are classified as emergent ORAM Category 1 Wetlands that exhibit varying degrees of degraded quality. Eight of the remaining 12 wetlands are classified as emergent ORAM Category 2 Wetlands. All of these Category 2 Wetlands are of marginal quality. The remaining three wetlands are classified as ORAM Category 3 Wetlands. Impacts to Category 3 wetlands are the same as the Preferred Alternative, as these impacts were minimized to the greatest extent possible using "no build areas" (Appendix A: Figure 3-46). The unimpacted portions of the wetlands that remain will continue to provide pollutant filtering prior to discharging into adjacent drainages. The pollutant filtering capacity of the impacted wetlands will be compensated for through the inclusion of sediment basins, as required by ODOT's *Location and Design Manual: Volume Two Drainage Design*. Effects to wildlife will be mitigated as part of the proposed wetland mitigation plan.

The construction of the Minimal-Degradation Alternative is also not expected to have an adverse impact on any state- or federally listed species (Appendix F). While several state-listed species were identified within the project vicinity, only five were identified within the limits of Phases 2 and 3 of the Portsmouth Bypass (Table 4). In addition, the ecological field investigation of Phases 2 and 3 did not identify any federally listed species within the project area. See Section 10b for details regarding threatened and endangered species impacts.

Mitigation for the unavoidable impacts associated with the Minimal Degradation Alternative are the same as with the Preferred Alternative with respect to location. Details of the proposed mitigation for the Portsmouth Bypass are provided in Section 10k and Appendix D of this Waterway Permit Package.



**Non-Degradation Alternative:**

The Non-Degradation will not result in any environmental benefits lost or gained.

**10k) Describe mitigation techniques proposed (except for the Non-Degradation Alternative):**

- Describe proposed Wetland Mitigation (see OAC 3745-1-54 and Primer)
- Describe proposed Stream, Lake, Pond Mitigation (see Primer)

Avoidance and minimization of impacts to aquatic resources have been incorporated to the greatest extent possible throughout the design for Phases 2 and 3 of the Portsmouth Bypass Project. Due to the size and scope of the undertaking of the project, complete avoidance of all Waters of the US was impracticable. The proposed Portsmouth Bypass project will result in the unavoidable permanent impact to 67,400 feet of jurisdictional stream channel (Appendix C).

In addition to the 67,400 feet of permanent impact, the Preferred Alternative will also entail approximately 1,400 feet of temporary stream impact. The majority (1,250 feet) of the temporary impacts proposed are located in areas that are within the permanent impact area. These temporary impacts will be mitigated in conjunction with the permanent impacts. The only temporary impacts not associated with permanent impacts are located at the proposed Little Scioto River Bridge crossing (150 feet) and have been incorporated into the proposed stream mitigation plan. ODOT proposes to mitigate the 67,550 feet of permanent and temporary impact by securing a total of 101,325 feet of stream mitigation to offset the unavoidable impacts resulting from the construction of Phases 2 and 3 of the Portsmouth Bypass.

A summary of impacted streams is provided in Appendix B: Tables A and C and summaries of the proposed mitigation for the project are provided in Tables E and F. Additional information regarding avoidance and minimization can be found throughout Section 10 of the OEPA 401 WQC Application, which is provided in Section 3 of this Waterway Permit Package. Supporting documentation and figures for the proposed mitigation projects are included on Appendix D.

Due to the scale of the Portsmouth Bypass and the amount of impacts incurred by the project, on-site mitigation proved to be unfeasible. In order to satisfy the compensatory mitigation requirements for the project, ODOT is working to secure the 101,325 feet of stream mitigation at several locations. A summary of the proposed stream mitigation credits currently being proposed is provided in the Table 9 and summaries of each the proposed mitigation options are provided below.

**Table 9. Summary of Potential Stream Mitigation Credit for Phases 2 and 3 of the Portsmouth Bypass**

<b>Stream Mitigation Site Location</b>	<b>Available Mitigation Credit (feet)</b>
GE Test Facility	36,029
Carmeuse Mitigation Area	67,100
Sunday Creek Coal Company #2 Pooled Mitigation Site	118,902

## **Stream Mitigation: Off Site**

### **GE Test Facility**

Total permanent stream impacts for Phases 2 and 3 of Portsmouth Bypass are 67,400 linear feet and temporary impacts total 150 feet (67,550 feet total impact). ODOT proposes to mitigate 36,029 feet of warmwater habitat (WWH), Class III and a portion of the Class II streams at the GE Test Facility in Adams County, Ohio (Appendix D). ODOT previously mitigated 14,738 linear feet of stream at GE for Phase 1 of the Portsmouth Bypass. A total of 50,767 linear feet of Class 2 and 3 stream mitigation originally existed at the GE mitigation site; therefore, the current proposal would result in a zero balance at the GE site.

The GE facility encompasses approximately 7,000 acres of undisturbed forested land, and is located in the Scioto Brush Creek watershed (Appendix D: Figures 1 and 2). The GE property is adjacent to ODNR's Shoemaker and Davis Memorial State Nature Preserves. Stream mitigation at the GE site is located within the Scioto Brush Creek watershed (HUC 05060002), which is adjacent to the Lower Scioto watershed. The GE mitigation site satisfies (b)(4) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation under a watershed approach.

To partially compensate for stream functions and values lost, ODOT proposes preservation of high quality headwater streams at the GE site. Mitigation is proposed at a 1.5:1 ratio for all WWH and Class III impacts and a portion of Class II impacts. The Portsmouth Bypass will impact 2,505 feet (2,355 permanent and 150 temporary) of WWH and 1,722 feet of Class III PHWH. Impact to WWH and Class III streams total 4,227 and require 6,340.5 feet of mitigation (4,227 feet x 1.5) to be applied to the GE Mitigation Site, which leaves 29,688.5 feet for Class II stream mitigation. After securing the remaining 29,688.5 feet of stream mitigation credit for a portion of the Class II stream impacts, ODOT will still need to secure an additional 65,296 feet (101,325 feet–36,029 feet) of mitigation for the remaining portion of impacts to Class 2 Streams and all of the Class I Streams.

### **Carmeuse Mitigation Area**

The second component of the proposed Portsmouth Bypass stream mitigation plan is the Carmeuse Mitigation Area, which is a 667-acre site adjacent to the Ohio River in Clermont County, near Moscow and Neville, Ohio (Appendix D: Figures 1 and 3). The property is a combination of several individual parcels containing wooded, old field, wetland, and agricultural components. The primary watershed service area for this site would center on Brush Creek and White Oak Creek (05090201), with the Great Miami River, Little Miami River, and Mill Creek in the periphery. There are approximately 10,700 linear feet of Ohio River frontage, 100 acres of potential wetland habitat, and 37,900 linear feet of additional stream footage. The additional stream footage is a combination of perennial (14,200 feet), intermittent (11,400 feet), and ephemeral drainages (12,300 feet).

It is ODOT's intention to mitigate a portion of the remaining stream impacts (the 65,296 feet not accounted for at GE) at Carmeuse using a combination of preservation and out-of-kind restoration. The remaining 65,296 linear feet of stream mitigation would be subtracted from the Carmeuse balance of 48,600 feet. This would still result in a deficit of 16,696 feet of stream mitigation. To compensate, ODOT proposes out-of-kind mitigation through the restoration of 74 acres of wetland at 1 acre of wetland for every 250 linear feet of stream impact, which equates to 18,500 feet of potential mitigation credit. A summary of the potential mitigation credit available at the Carmeuse Site is provided in Table 10.

**Table 10. Mitigation Summary for Carmeuse Mitigation Area**

<b>Stream Type</b>	<b>Potential Mitigation Credit (feet)</b>
Ohio River	10,700
Perennial Stream	14,200
Intermittent Stream	11,400
Ephemeral Streams	12,300
74 Acres of Wetland (250 feet per acre)	18,500
<b>Total</b>	<b>67,100</b>

If approved, the Carmeuse Mitigation Area would partially satisfy (b)(4) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation under a watershed approach, and (b)(6) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation through off-site and/or out-of-kind.

**Sunday Creek Coal Company #2 (SCCC2) Pooled Mitigation Site**

Another potential stream mitigation project is the Sunday Creek Coal Company #2 (SCCC2) Pooled Mitigation Site. SCCC2 is a 3,332-acre site located in Ward Township, Hocking County, Ohio (Appendix D: Figures 1, 4 and 5). The SCCC2 contains approximately 162,051 linear feet of jurisdictional perennial, intermittent and interstitial stream habitat. Approximately 118,902 linear feet of these streams have been found to meet Modified Class II (pH  $\geq$  5 only), Class II, Class III or Warmwater Habitat (WWH) as defined by the OEPA and are proposed for preservation within wide stream setbacks. SCCC2 is located in the Hocking River 8-digit watershed (05030204).

The remaining stream mitigation required for the Portsmouth Bypass could be satisfied at SCCC2, since the Hocking River watershed is adjacent to the Lower Scioto watershed (HUC 05060002); however, it is not adjacent to the Little Scioto-Tygarts watershed (HUC 05090103) where Phase 3 of the Portsmouth Bypass is located. The SCCC2 mitigation site satisfies (b)(4) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation under a watershed approach.

**Third Party Option**

In addition to the options provided above, ODOT has coordinated with a non-profit, third party, conservation-centric organization to determine the level of interest they would have in collaborating in a restoration effort that would serve as permittee-responsible mitigation for the remaining stream mitigation required (67,171 linear feet) for the Portsmouth Bypass (Phase 2 & 3). ODOT would provide funding to the organization that could be used for (but not limited to) critical restoration, enhancement, or preservation of stream habitats and their buffers. With this option, funding would be based on a formula that incorporates the necessary mitigation remaining for the project and the average cost of stream bank credits and restoration costs and preservation costs.

Ten to twelve million dollars is the figure that ODOT estimated would be equivalent/comparable to mitigation of the resources had it been practicable to mitigate onsite or offsite at a pooled or bank area. Assuming mitigation would occur within or adjacent to the Portsmouth Bypass

watersheds, the third party option would satisfy (b)(4) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation under a watershed approach.

**In-lieu Fee Program**

Similar to the Third Party Option, in this scenario, ODOT would pay into a fund in which the program efforts are directly related to the preservation, enhancement, and restoration of stream habitat and riparian buffers. At this time in development, a draft debit and credit system has been reviewed by the USACE and significant progress has been made in discussions between ODOT, OEPA, the USACE, and potential organizations who may maintain the program. ODOT’s contribution could be used to initiate the newly implemented program.

Ten to twelve million dollars is the figure that ODOT estimated would be equivalent/comparable to mitigation of the resources had it been practicable to mitigate onsite or offsite at a pooled or bank area. Mitigating stream impacts via an in-lieu program would satisfy (b)(3) the 2008 USACE mitigation rule, In-lieu fee program credits.

**Wetland Mitigation**

Approximately 6.449 acres of unavoidable jurisdictional wetland impact will result from discharge of 10,404 CY of clean fill material during the construction of Phases 2 and 3 of the Portsmouth Bypass Project (Appendix C). A summary of the wetlands impacted are provided in Appendix B: Tables B and D.

ODOT proposes to mitigate unavoidable impacts to jurisdictional wetlands at the locations. As part of the wetland mitigation plan, ODOT proposes to preserve Category 3 Wetlands at the Rupiper Site, located in Pike County, Ohio (Appendix D: Figures 1, 6, and 7). In addition to the preservation of existing Category 3 wetlands, ODOT will purchase a minimum of 11.4405 credits at the Red Stone Farms Wetland Mitigation Bank (RSFWMB) located in Pike County, Ohio (Appendix D: Figures 1 and 8). A summary of the proposed wetland mitigation is provided in the table below and additional details for each of the mitigation sites are described in the sections below.

**Table 11. Wetland Mitigation Summary**

<b>ORAM Category</b>	<b>Wetland Type</b>	<b>Impact Acre</b>	<b>Mitigation Ratio<sup>1</sup></b>	<b>Required Mitigation</b>
Category 3	Non-Forested	0.839	2.5	2.0975 <sup>2</sup>
Category 2	Forested	0.827	2.5	2.0675
Category 2	Non-Forested	2.719	2.0	5.4380
Category 1	Non-Forested	2.064	1.5	3.0960
Totals	N/A	6.449	N/A	12.6990

<sup>1</sup> From OAC 3745-1-45

<sup>2</sup> ODOT will preserve 2.517 acres of Category 3 wetlands at the Rupiper Property in accordance with OAC 3745-1-54 to meet their mitigation obligations.

**Wetland Mitigation: On-site**

**Lyon Property**

As part of the proposed wetland mitigation for the project, ODOT investigated the area in the immediate vicinity of Wetland 1, which is the Lyon Property (Appendix A: Figure 2-2). The

property is located near the proposed interchange at US 23, at the western terminus of Phase 2 of the project. cursory investigations of the Lyon's Property indicated the property contained potential wetland mitigation opportunities. However, after further review it was determined that this site was not a cost effective means to secure the required wetland mitigation as the purchase and development of the site would have added more than \$1.0 million to the overall cost of the project. In addition, ODOT had concerns about the long-term success of a mitigation site at this location due to the likelihood that the adjacent parcels could be developed in the future due to the proximity to the new interchange.

### **Wetland Mitigation: Off-site**

#### **Red Stone Farm Wetland Mitigation Bank (RSFWMB)**

ODOT proposes to purchase a minimum of 11.4405 wetland mitigation credits at the RSFWMB to satisfy a portion of the required wetland mitigation for the project. The RSFWMB was approved by the Ohio Interagency Review Team (IRT) September 20, 2007. The bank is located in Pike County, Ohio in the adjacent Ohio Brush-White Oak Watershed (HUC 05090201). The IRT recognizes RSFWMB as an appropriate location for the mitigation of Category 2 wetlands within the Lower Scioto River, Paint Creek, Ohio Brush Creek, and East Fork Little Miami River watersheds, and the mitigation of Category 1 wetlands within the Huntington Corps District in Ohio. The IRT has determined that ODOT can utilize the bank for mitigation of Category 3 wetland impacts. ODOT will purchase a minimum of 0.839 credits of Category 3 wetland mitigation at the bank as part of the mitigation for the project (Appendix D).

Purchasing credits at the RSFWMB satisfies (b)(2) of the 2008 USACE Mitigation Rule, Mitigation bank credits.

#### **Rupiper Property**

An additional wetland mitigation project, known as the Rupiper Property, is located in Pike County in the Lower Scioto Watershed (05060002) and will preserve rare, high quality wetlands and streams (Appendix D: Figures 1, 5 and 6). ODOT has entered into an agreement with the Ross County Park District (RCPD) to provide partial funding for acquisition and protection of the 51-acre Rupiper Property. The RCPD is acquiring their funding from the Clean Ohio Fund Green Space Conservation Program and is not utilizing the property for any type of mitigation. The Rupiper Property satisfies (b)(4) of the 2008 USACE Mitigation Rule, permittee-responsible mitigation under a watershed approach.

The estimated wetland acreage at the Rupiper property is 7.4 acres and the estimated stream footage is 1,800 linear feet of exceptional warm water habitat (Kinnikinnick Creek). The property possesses a rare wetland fen and state-listed plants, including the state endangered Rocky Mountain bulrush (*Schoenoplectus saximontanus*), the state endangered Engelmann's spike-rush (*Eleocharis engelmannii*) and the state threatened burhead (*Echinodorus berteroi*). ODOT has scoped a consultant to delineate and conduct the ORAM for on-site wetlands, which will be provided to the USACE and Ohio EPA upon completion. ODOT intends to utilize 2.517 acres of Category 3 preservation as mitigation for Category 3 impacts on Phase 3 of the proposed bypass once the 1:1 restoration ratio is satisfied at the RSFWMB. The preservation of the 2.517 acres of Category 3 wetlands is in accordance with wetland preservation as outlined in OAC 3745-1-54.

## **APPENDIX A: FIGURES**

- **Figure 1 – USGS Topographic Maps (Sheets 1-6)**
- **Figure 2 – Survey Results (Sheets 1 – 42)**
- **Figure 3 – Preferred Alternative Plan Sheets (Sheets 1 – 130)**
- **Figure 4 – Minimal Degradation Alternative (Sheets 1 – 25)**

**FIGURE 1: USGS 7.5' TOPOGRAPHIC MAPS (SHEETS 1-7)**

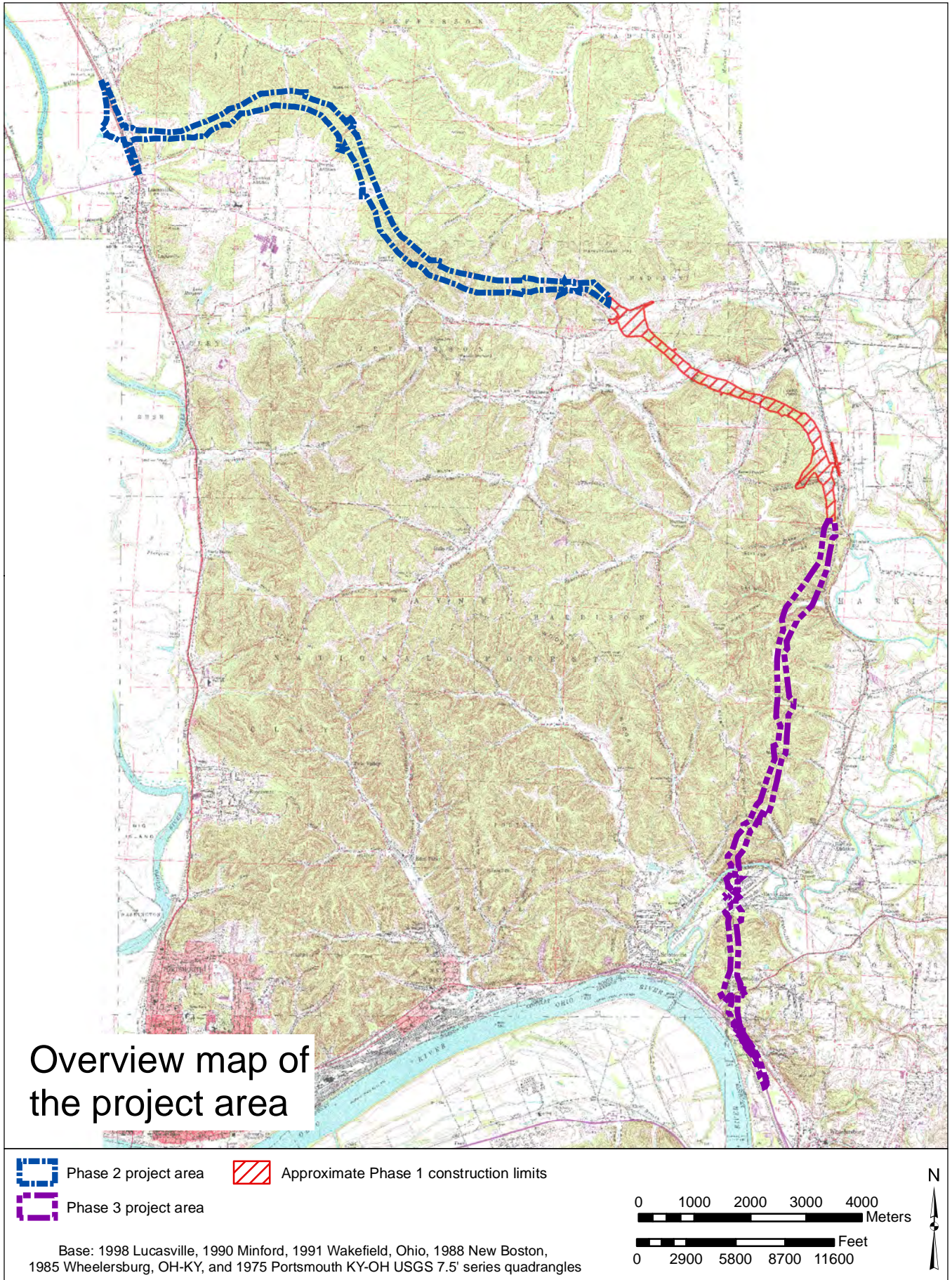


Figure 1. USGS 7.5' topographic maps. (Sheet 1 of 7)



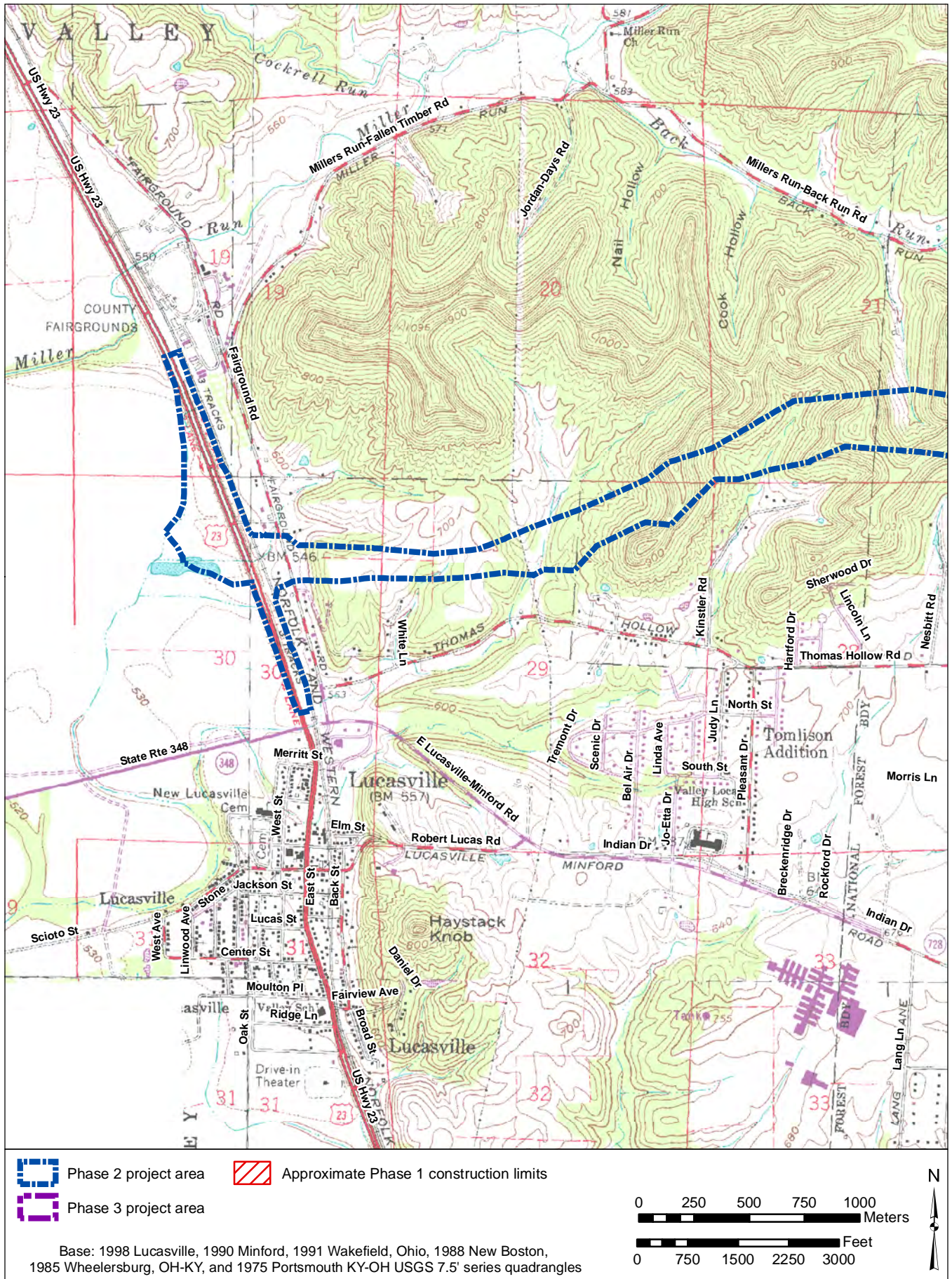


Figure 1. USGS 7.5' topographic maps. (Sheet 2 of 7)

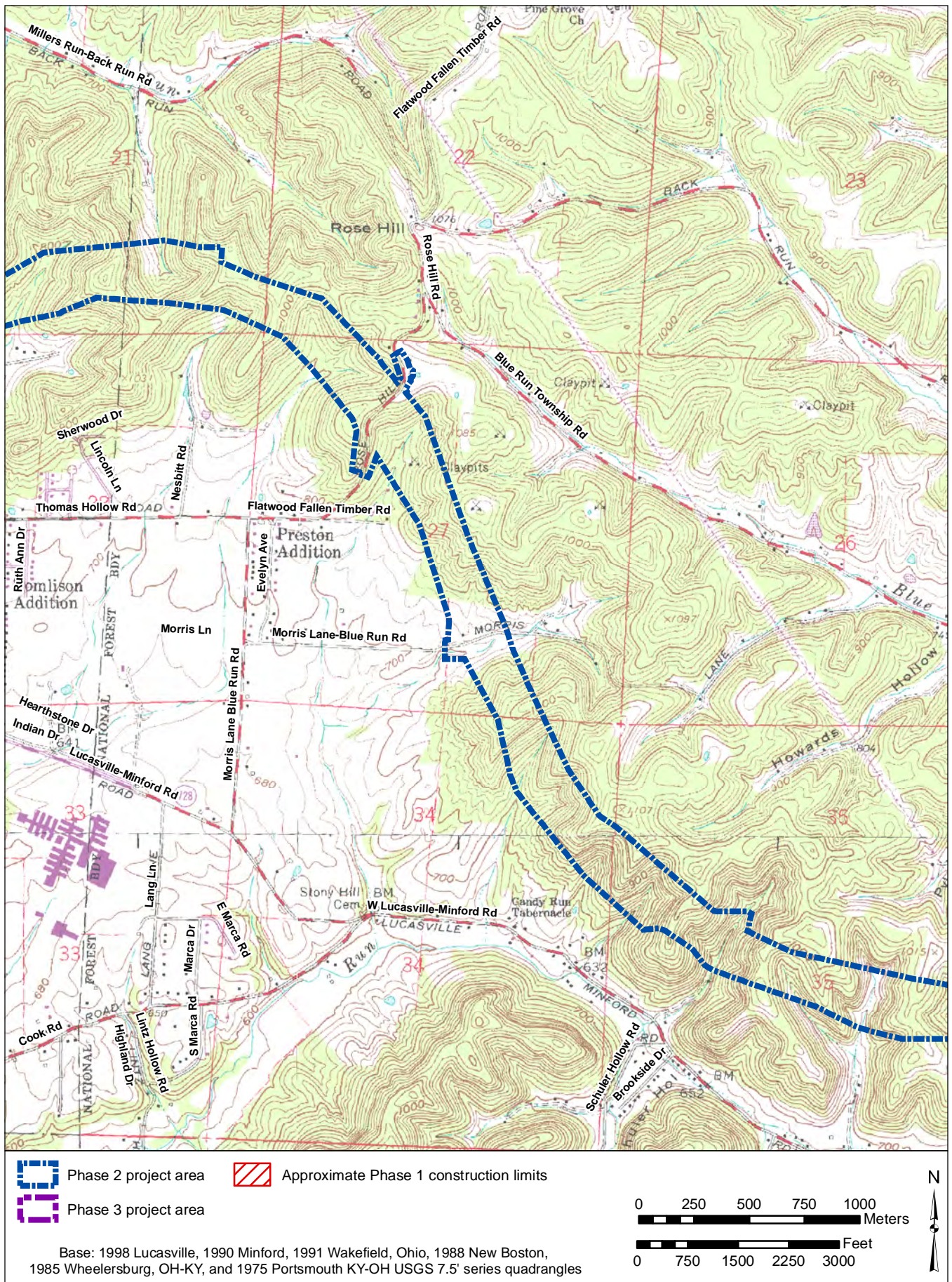


Figure 1. USGS 7.5' topographic maps. (Sheet 3 of 7)

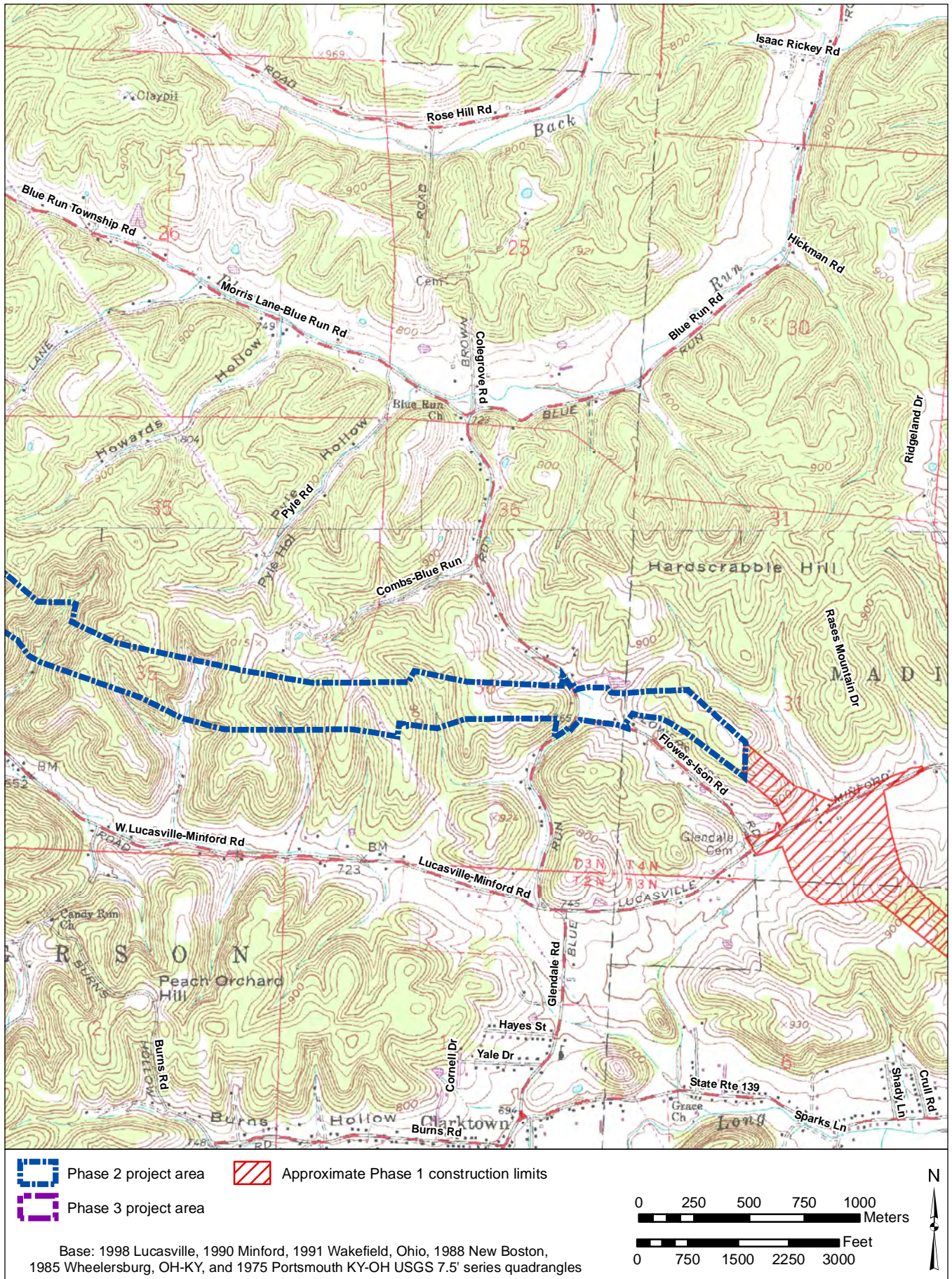


Figure 1. USGS 7.5' topographic maps. (Sheet 4 of 7)

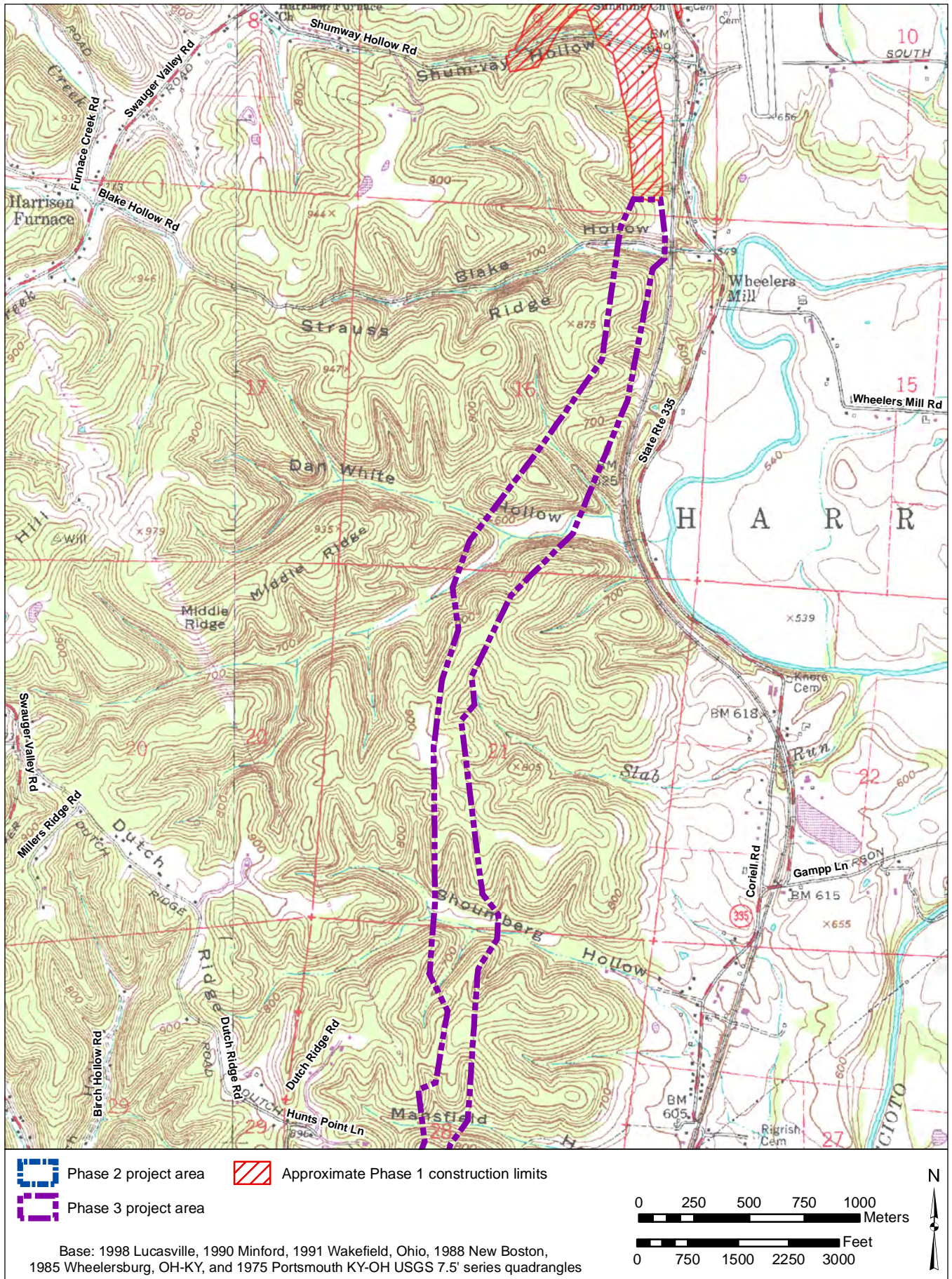


Figure 1. USGS 7.5' topographic maps. (Sheet 5 of 7)

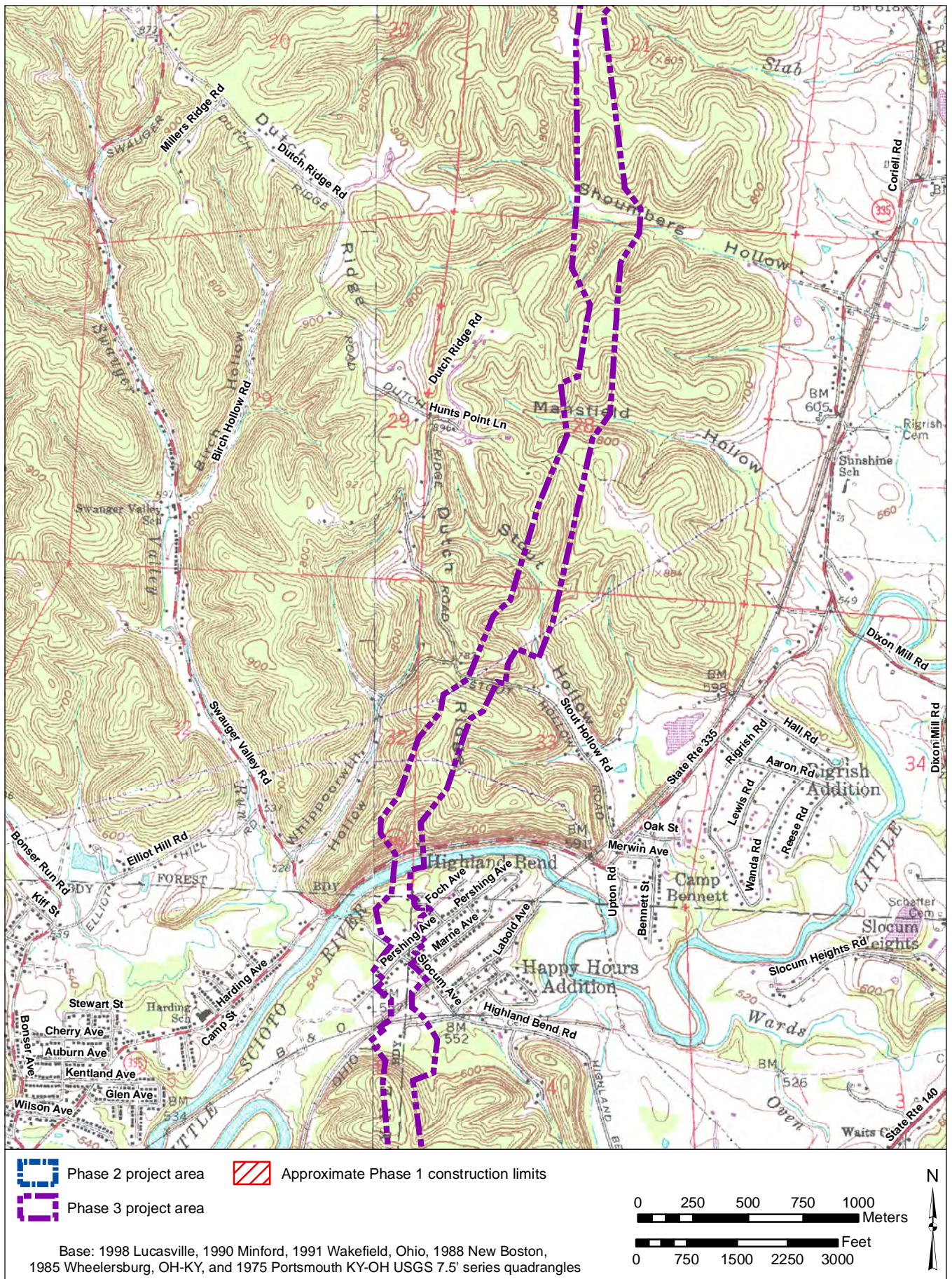


Figure 1. USGS 7.5' topographic maps. (Sheet 6 of 7)

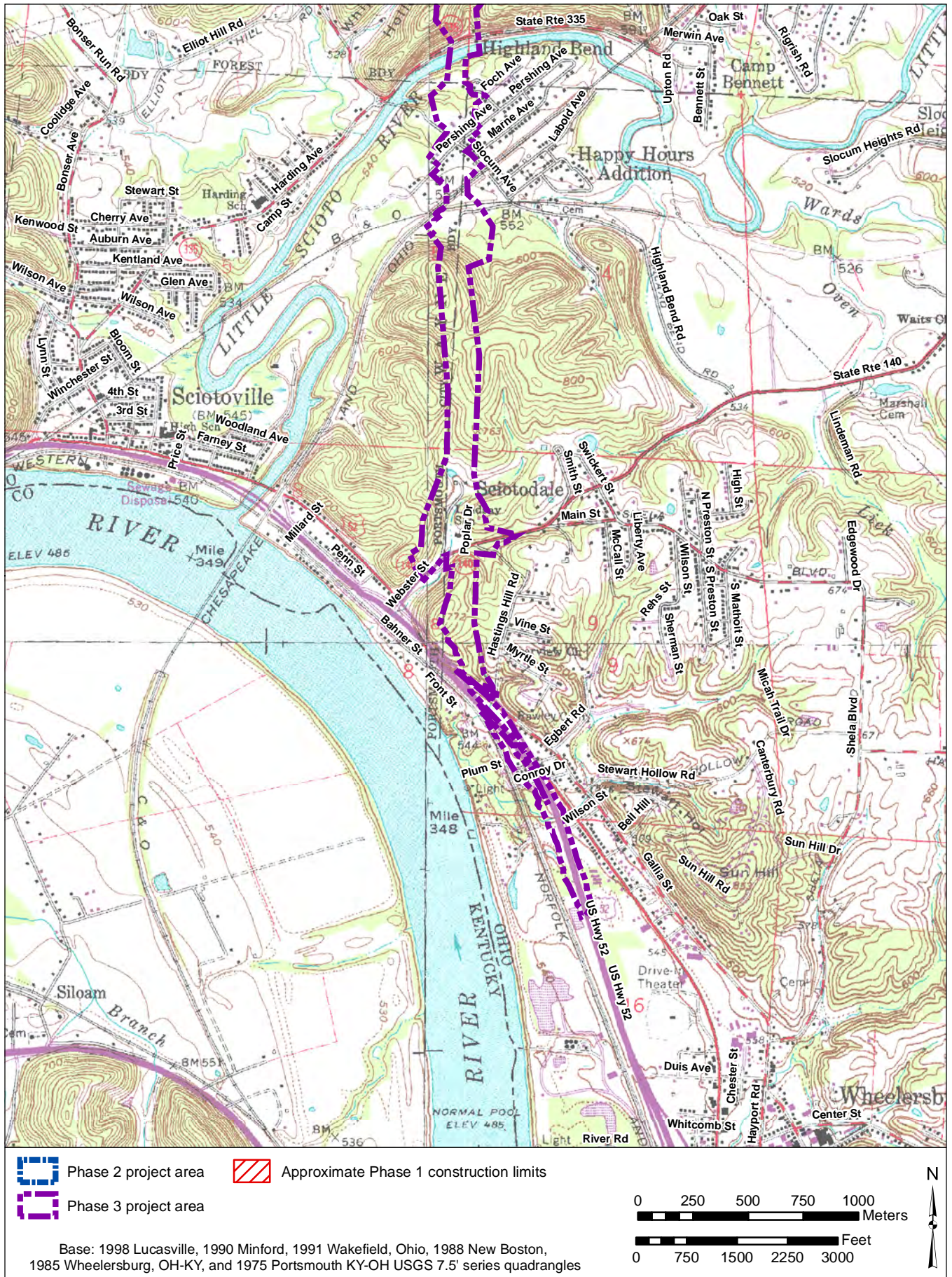


Figure 1. USGS 7.5' topographic maps. (Sheet 7 of 7)

**FIGURE 2: ECOLOGICAL SURVEY RESULTS (SHEETS 1-42)**

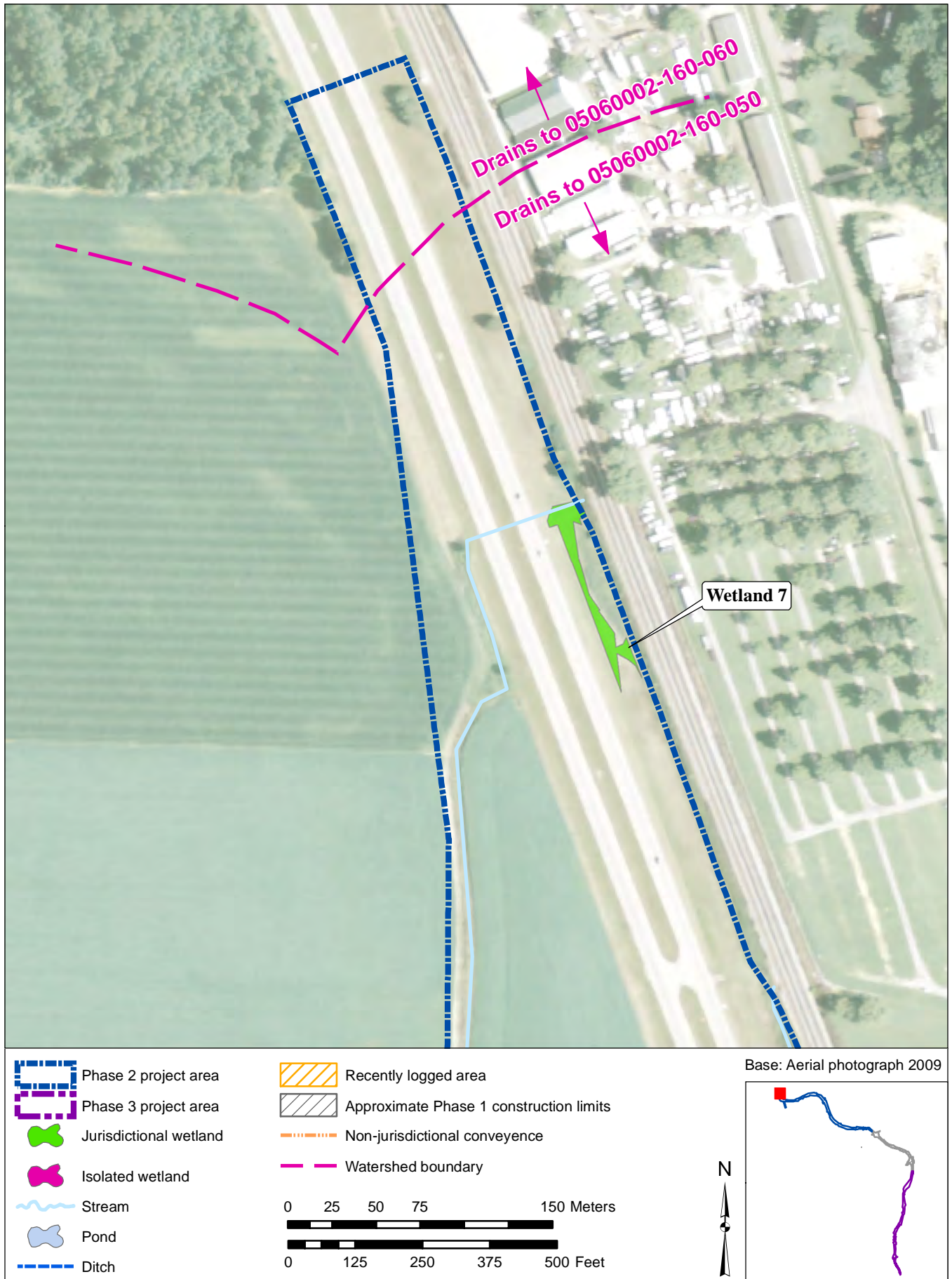


Figure 2. Survey Results. (Sheet 1 of 42)



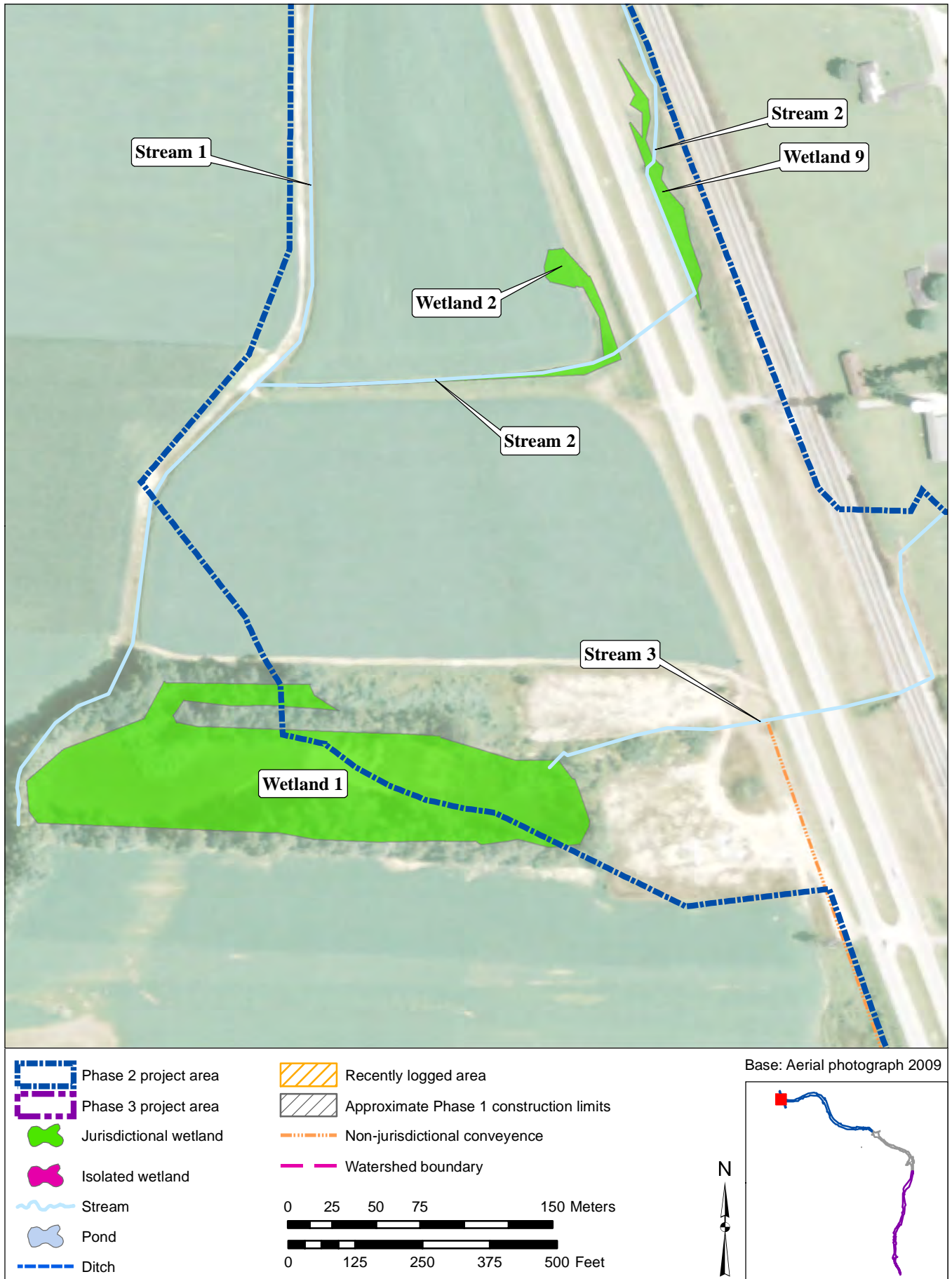


Figure 2. Survey Results. (Sheet 2 of 42)

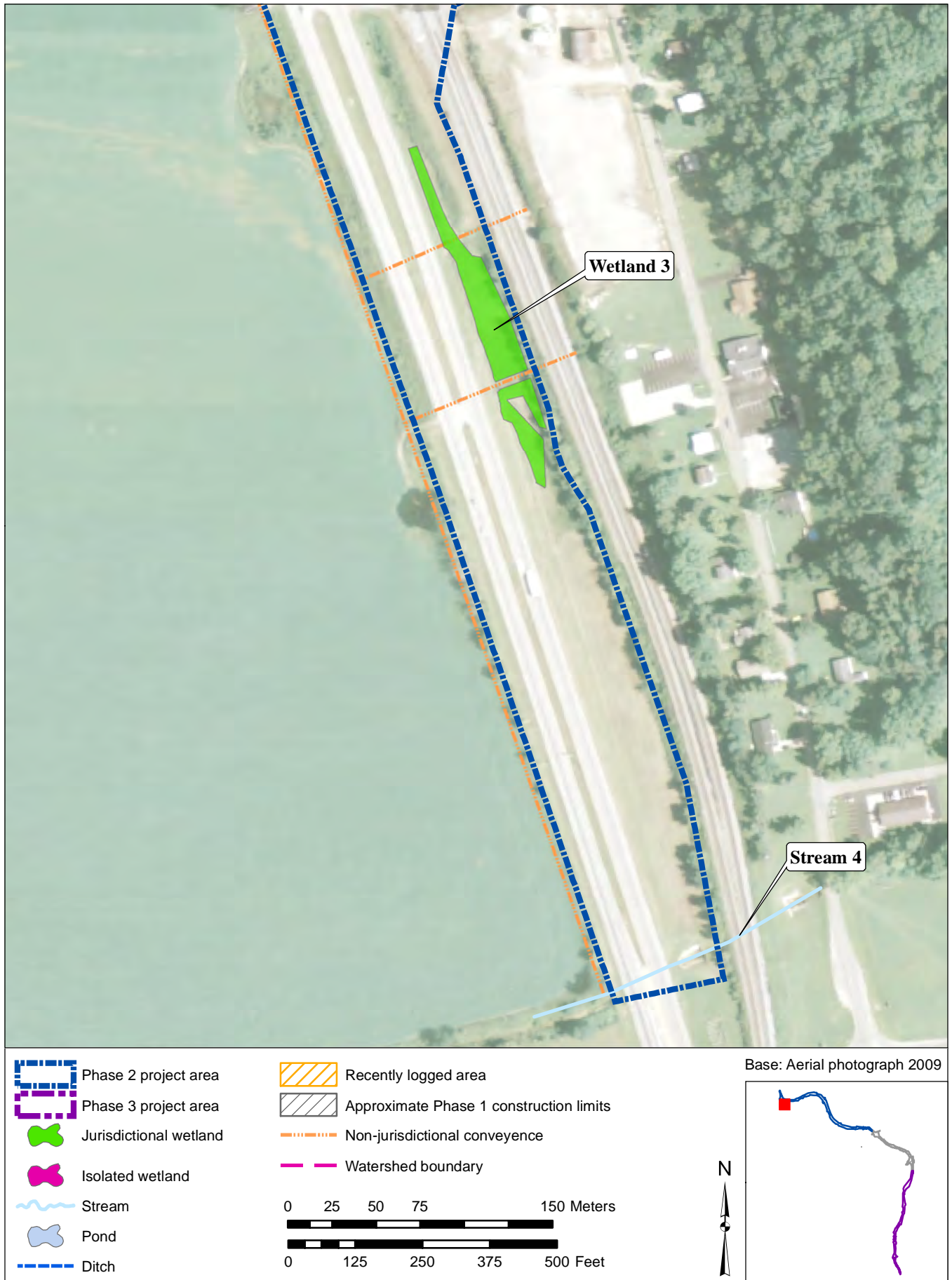


Figure 2. Survey Results. (Sheet 3 of 42)

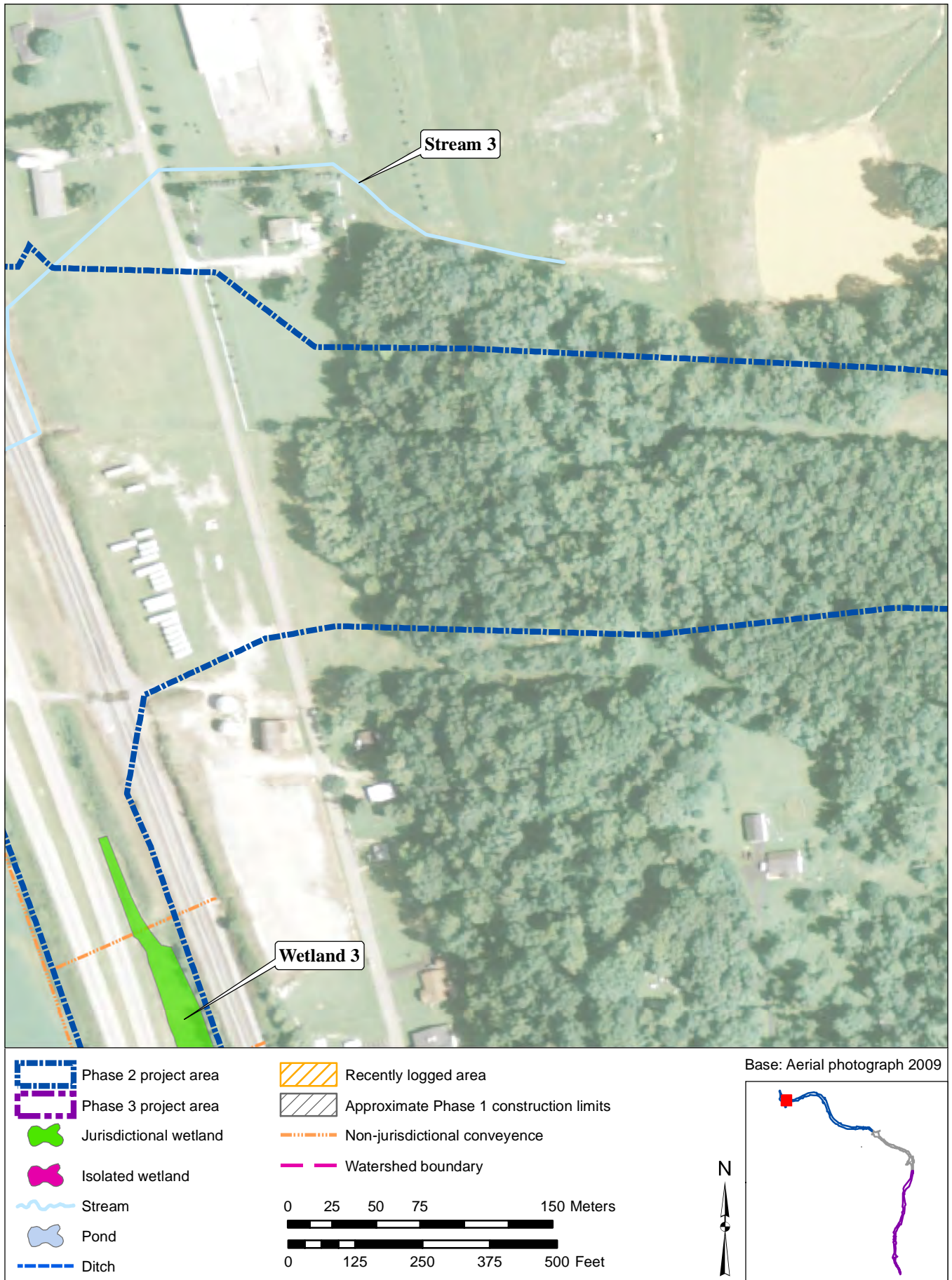


Figure 2. Survey Results. (Sheet 4 of 42)

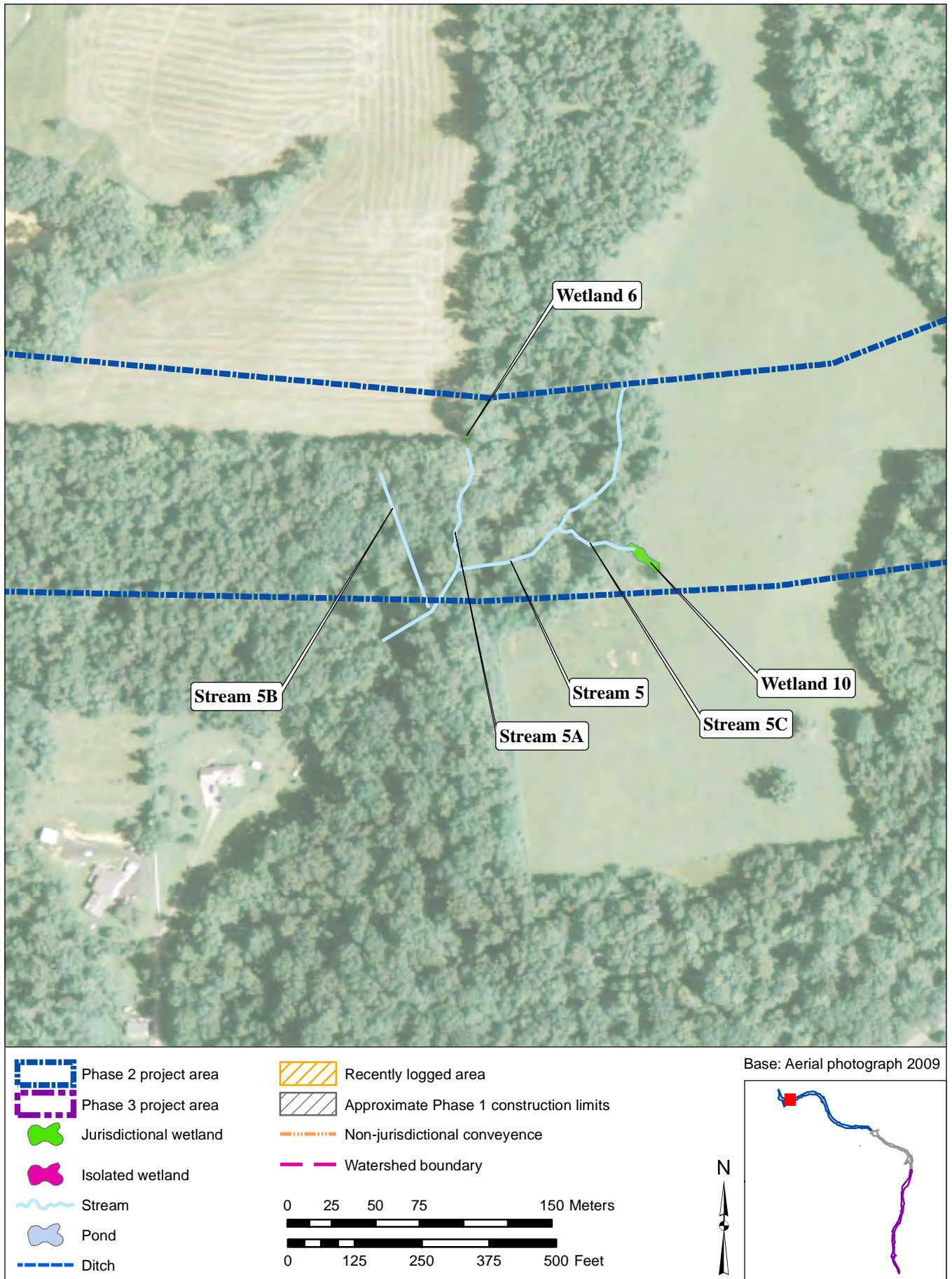


Figure 2. Survey Results. (Sheet 5 of 42)

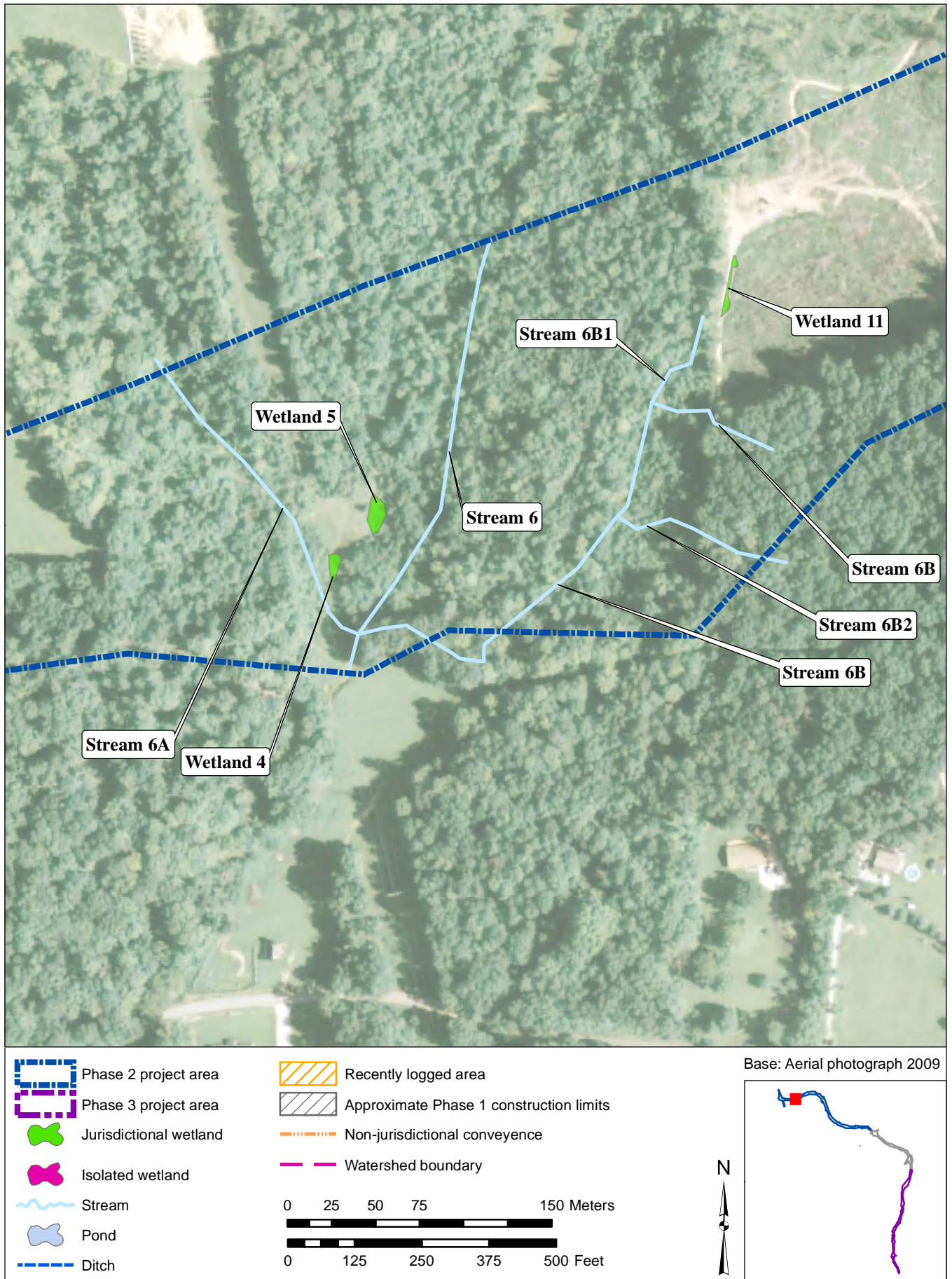


Figure 2. Survey Results. (Sheet 6 of 42)

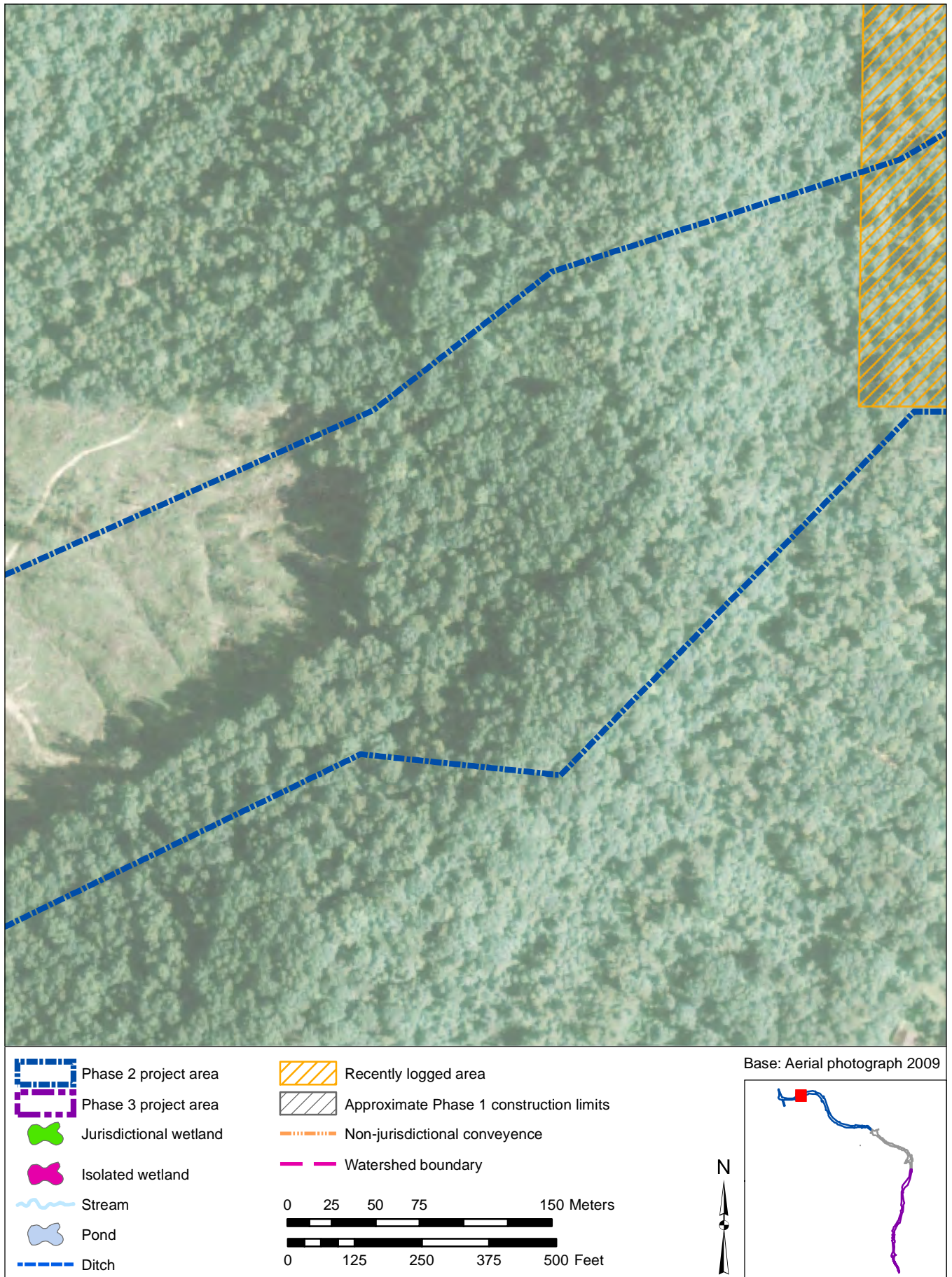


Figure 2. Survey Results. (Sheet 7 of 42)

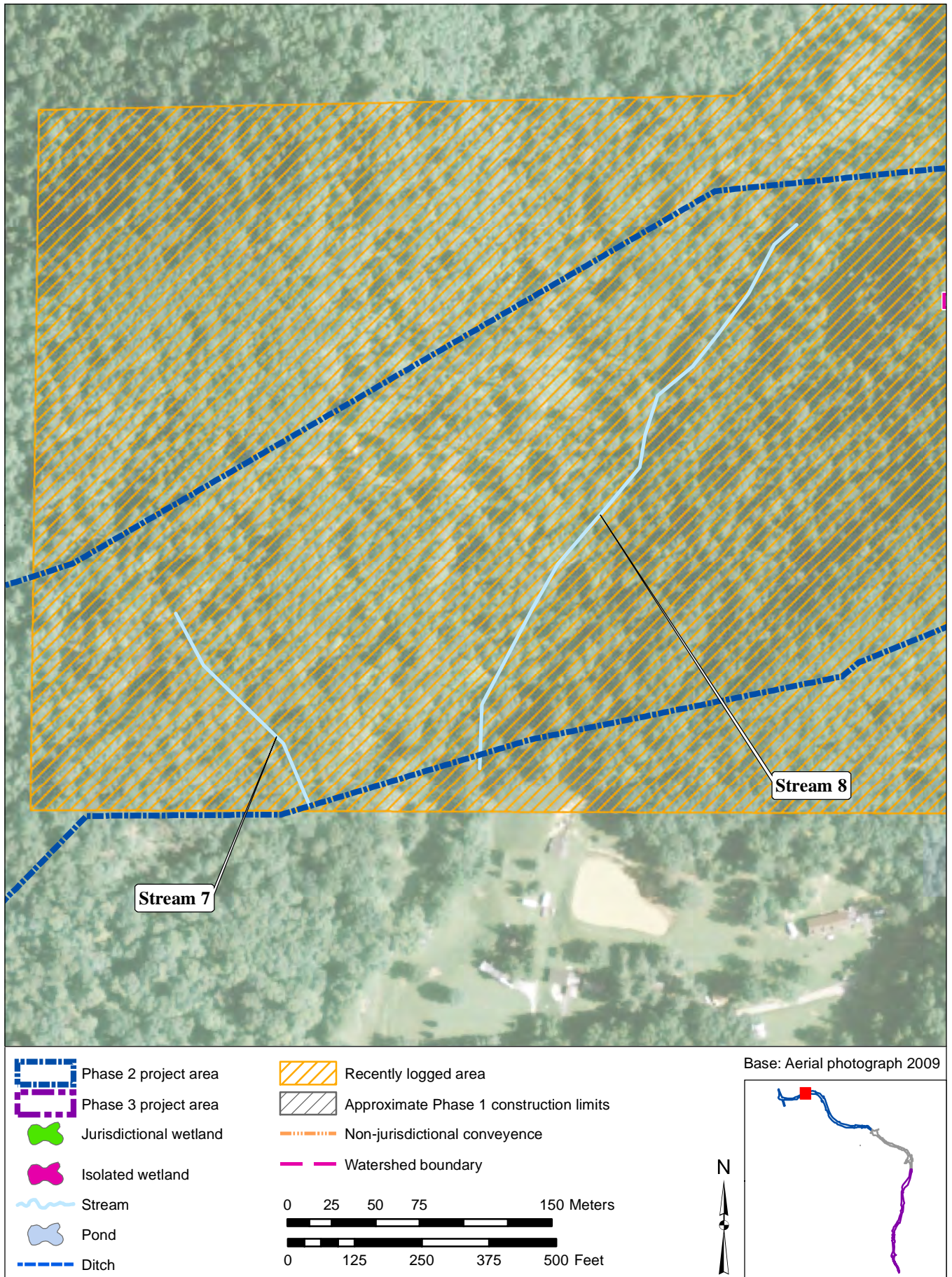


Figure 2. Survey Results. (Sheet 8 of 42)

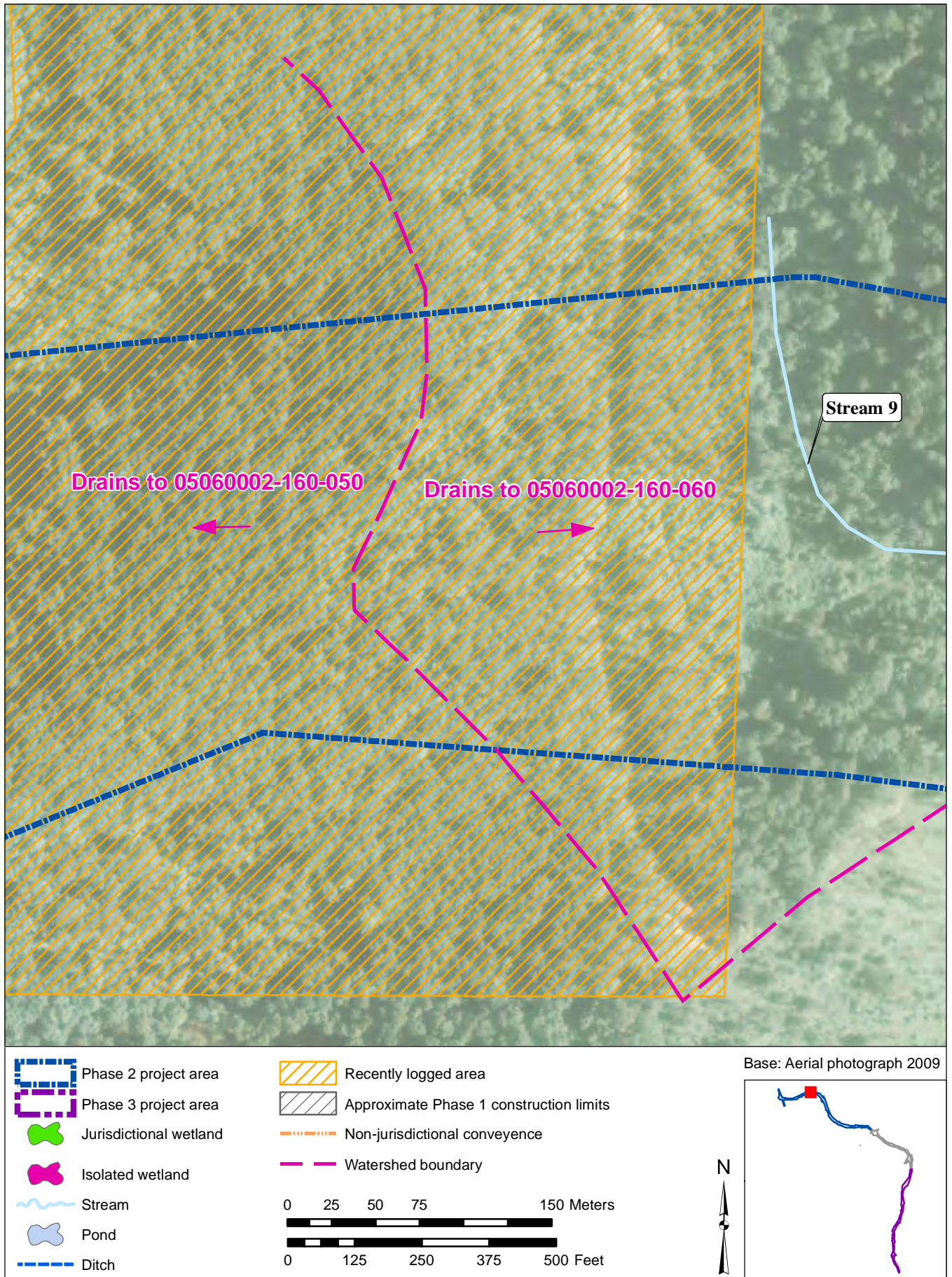


Figure 2. Survey Results. (Sheet 9 of 42)



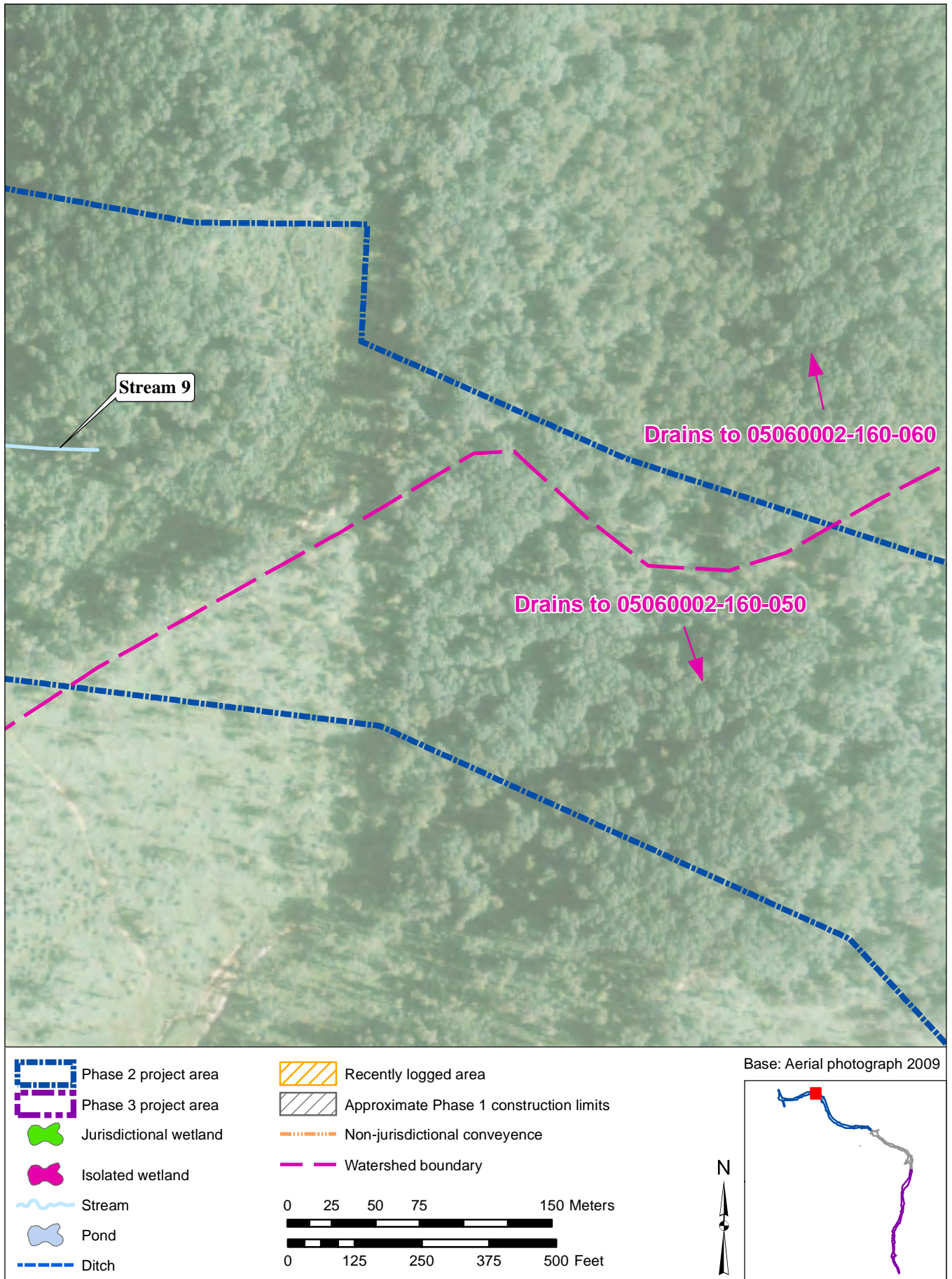


Figure 2. Survey Results. (Sheet 10 of 42)

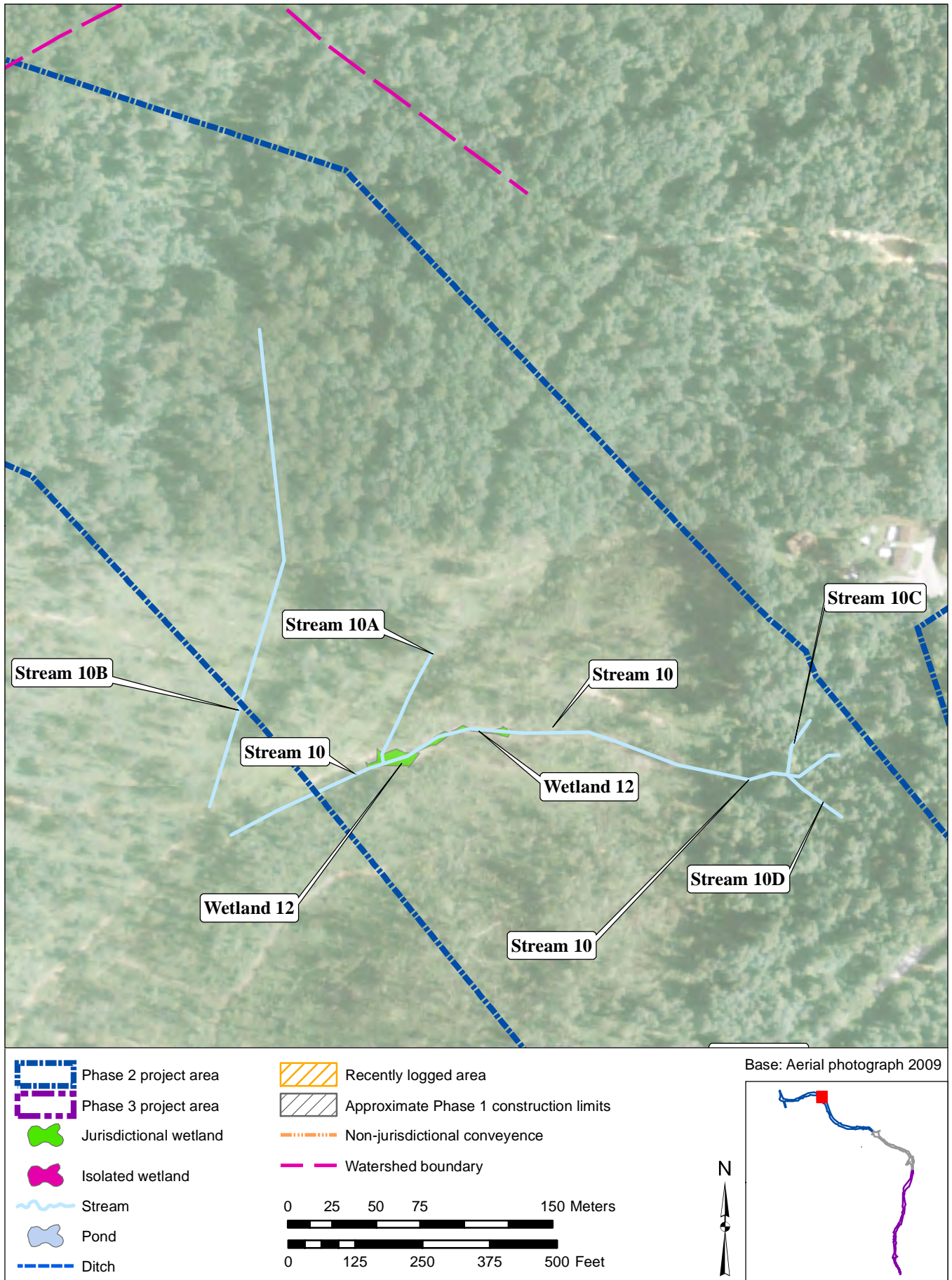


Figure 2. Survey Results. (Sheet 11 of 42)

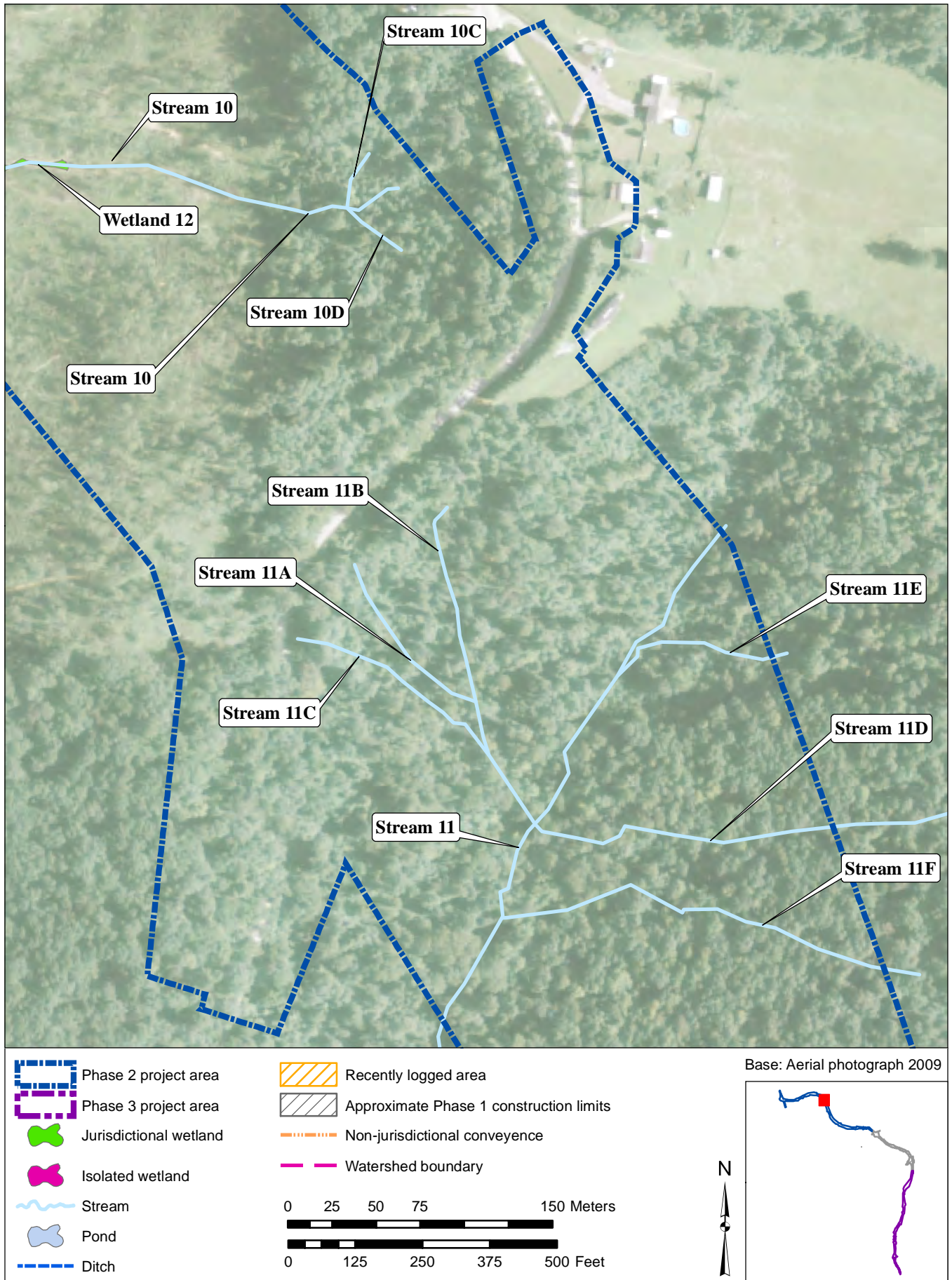


Figure 2. Survey Results. (Sheet 12 of 42)

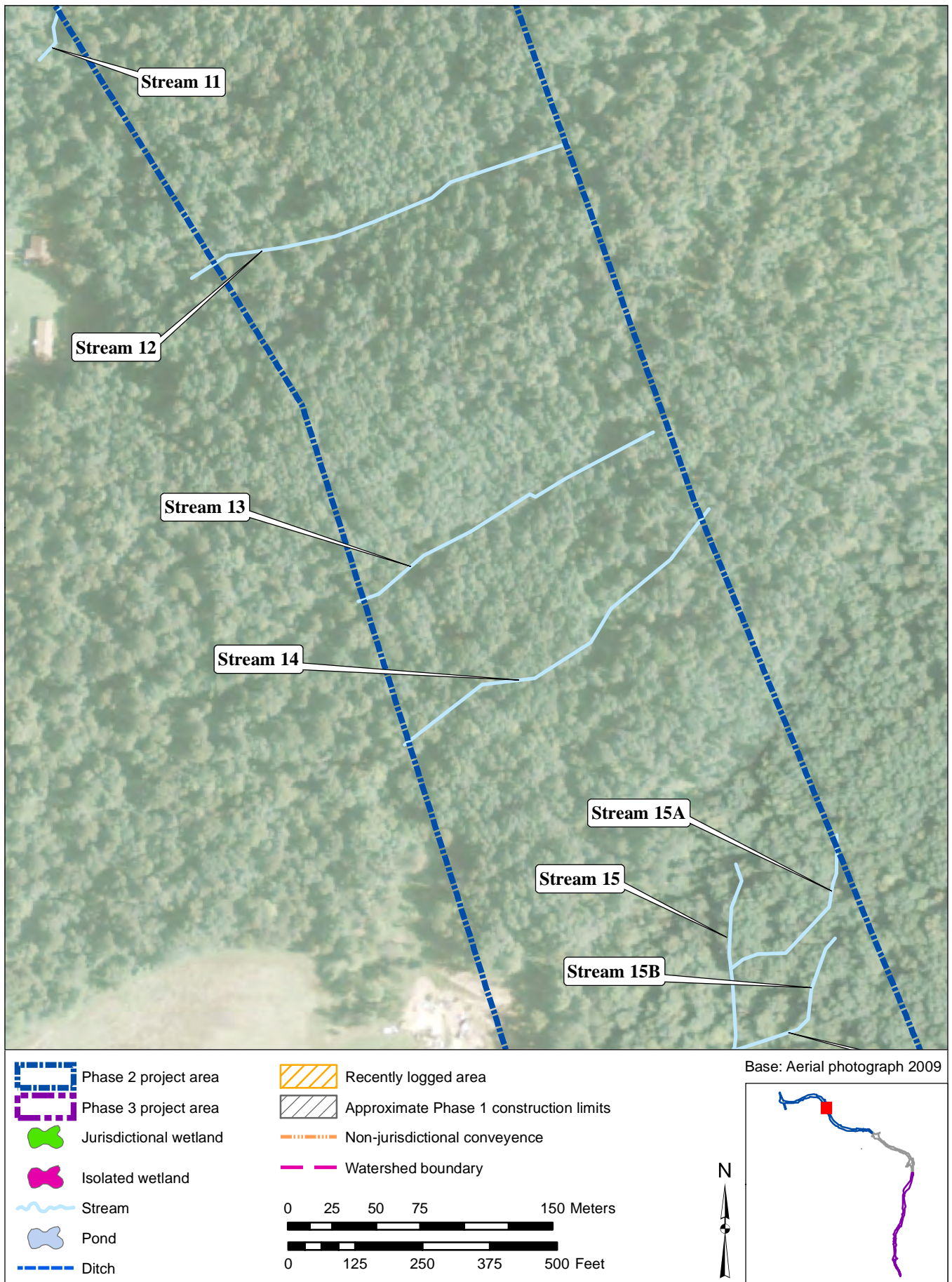


Figure 2. Survey Results. (Sheet 13 of 42)

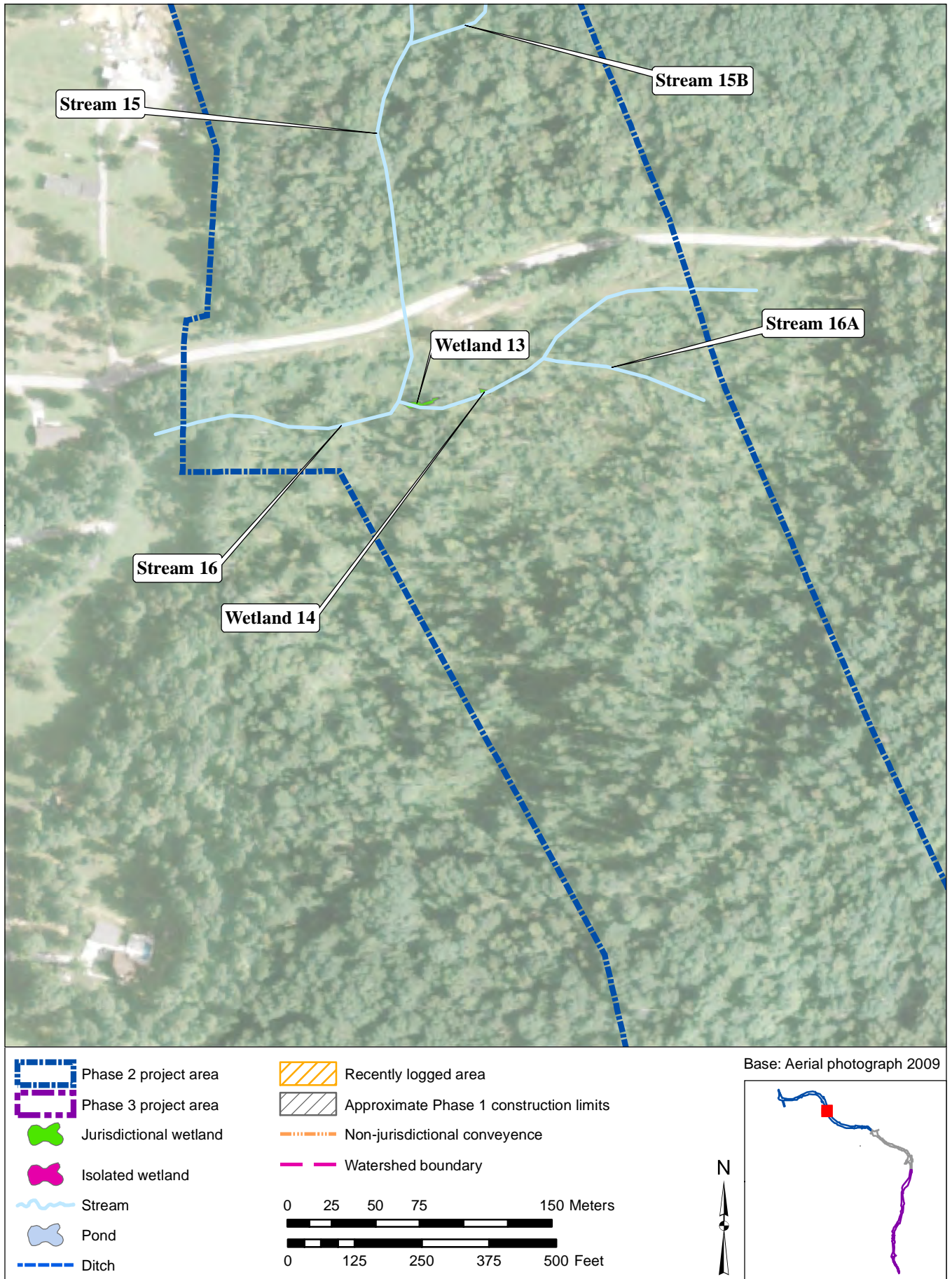


Figure 2. Survey Results. (Sheet 14 of 42)

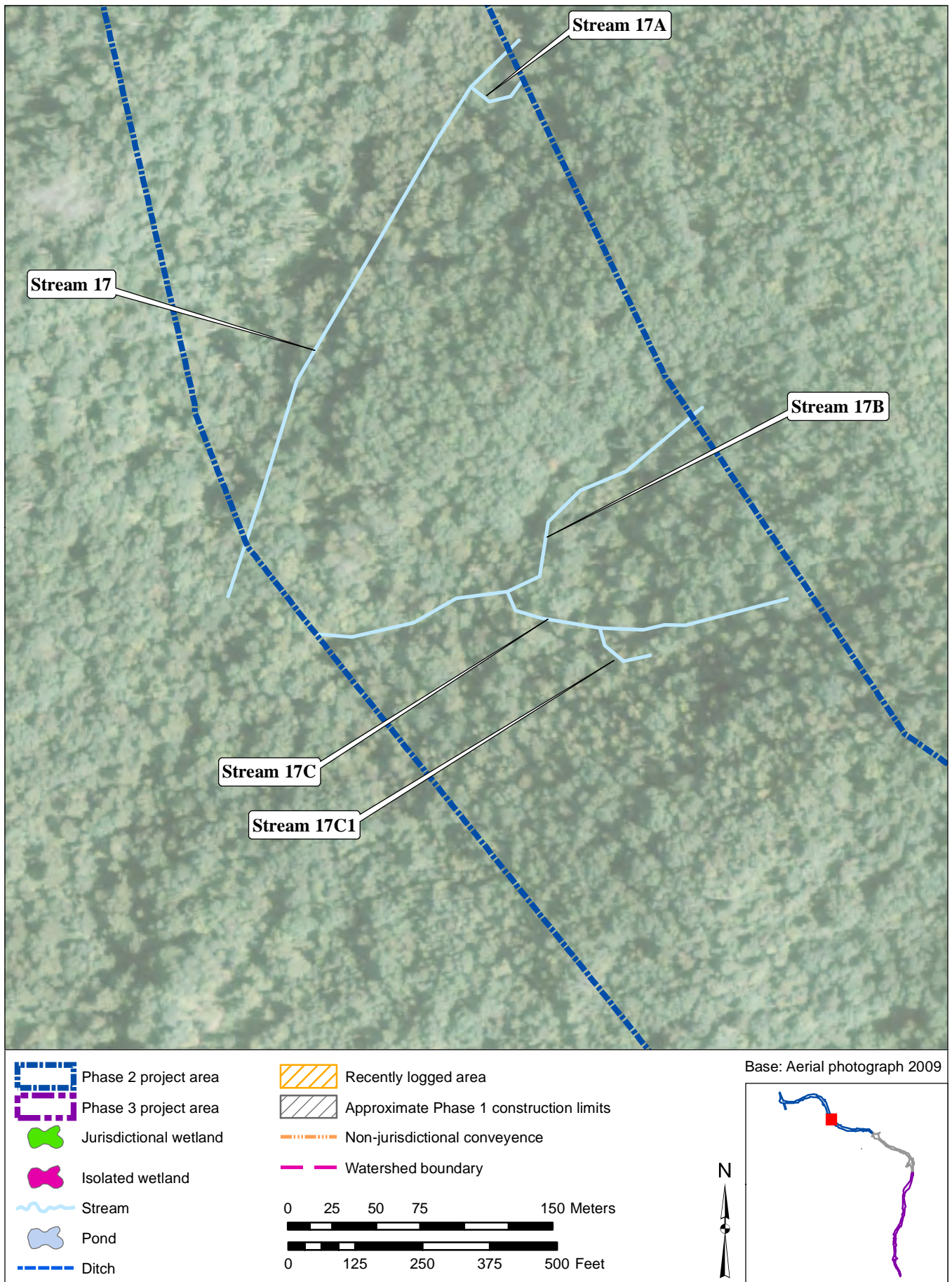


Figure 2. Survey Results. (Sheet 15 of 42)

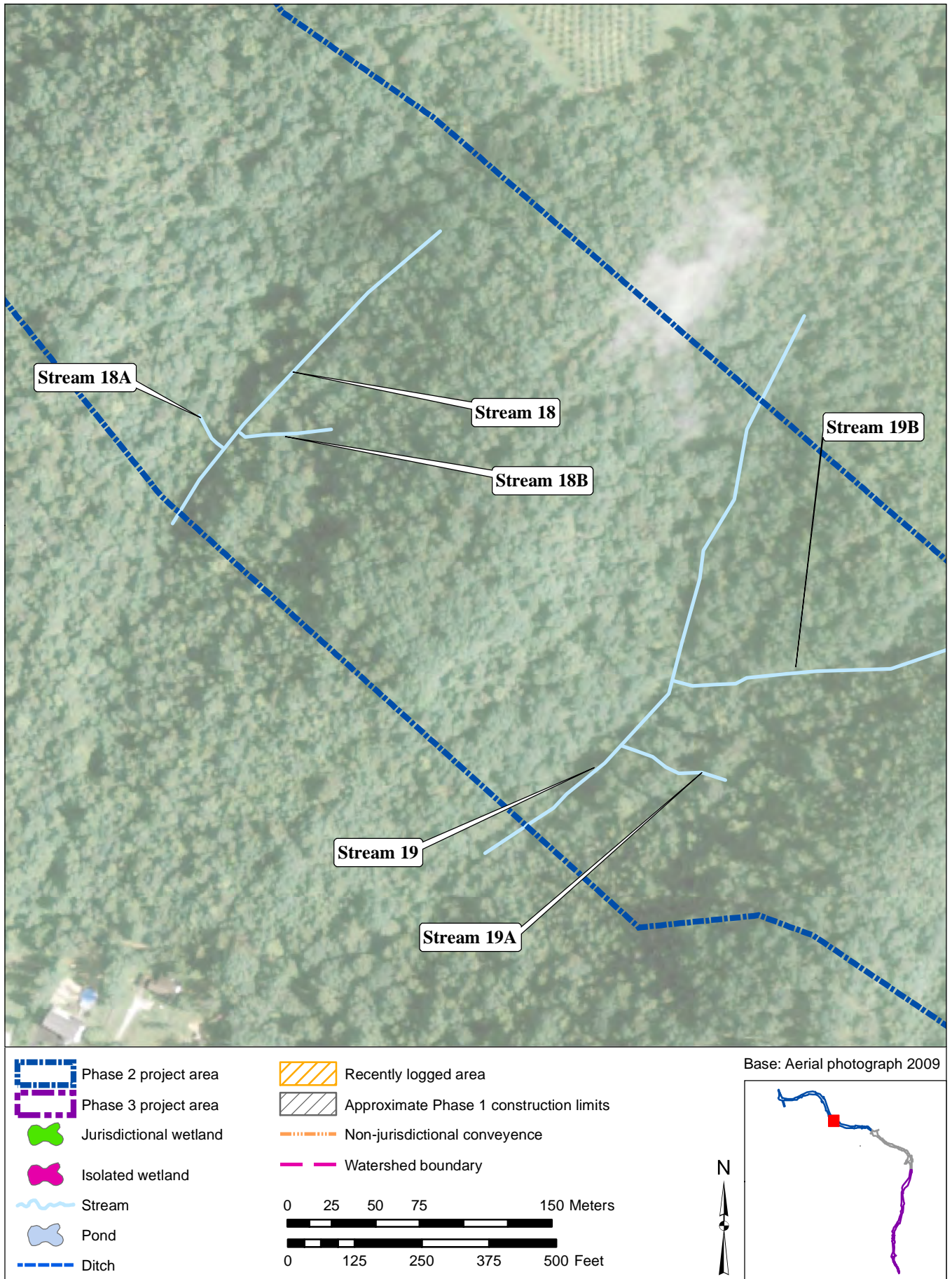


Figure 2. Survey Results. (Sheet 16 of 42)

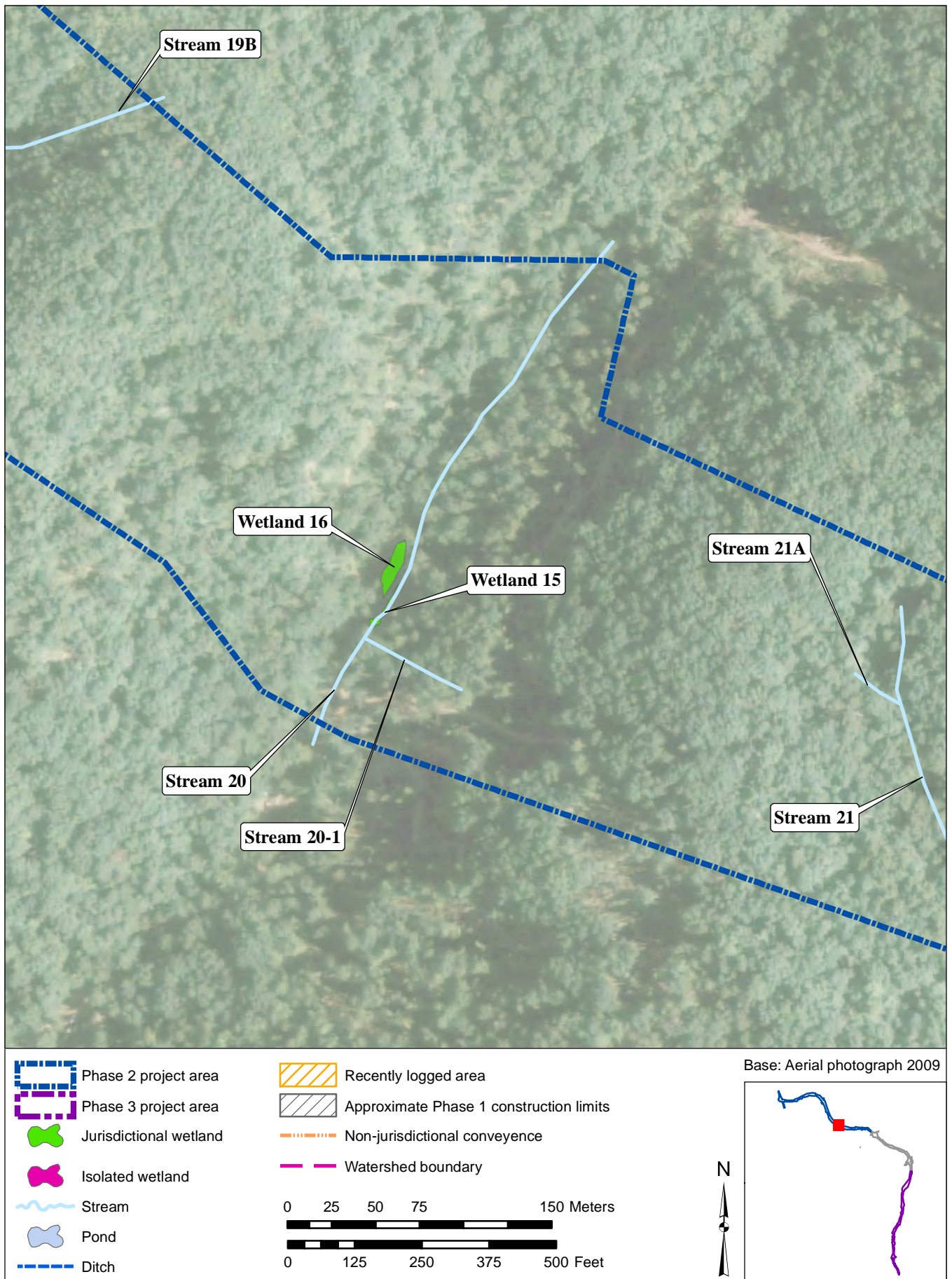


Figure 2. Survey Results. (Sheet 17 of 42)



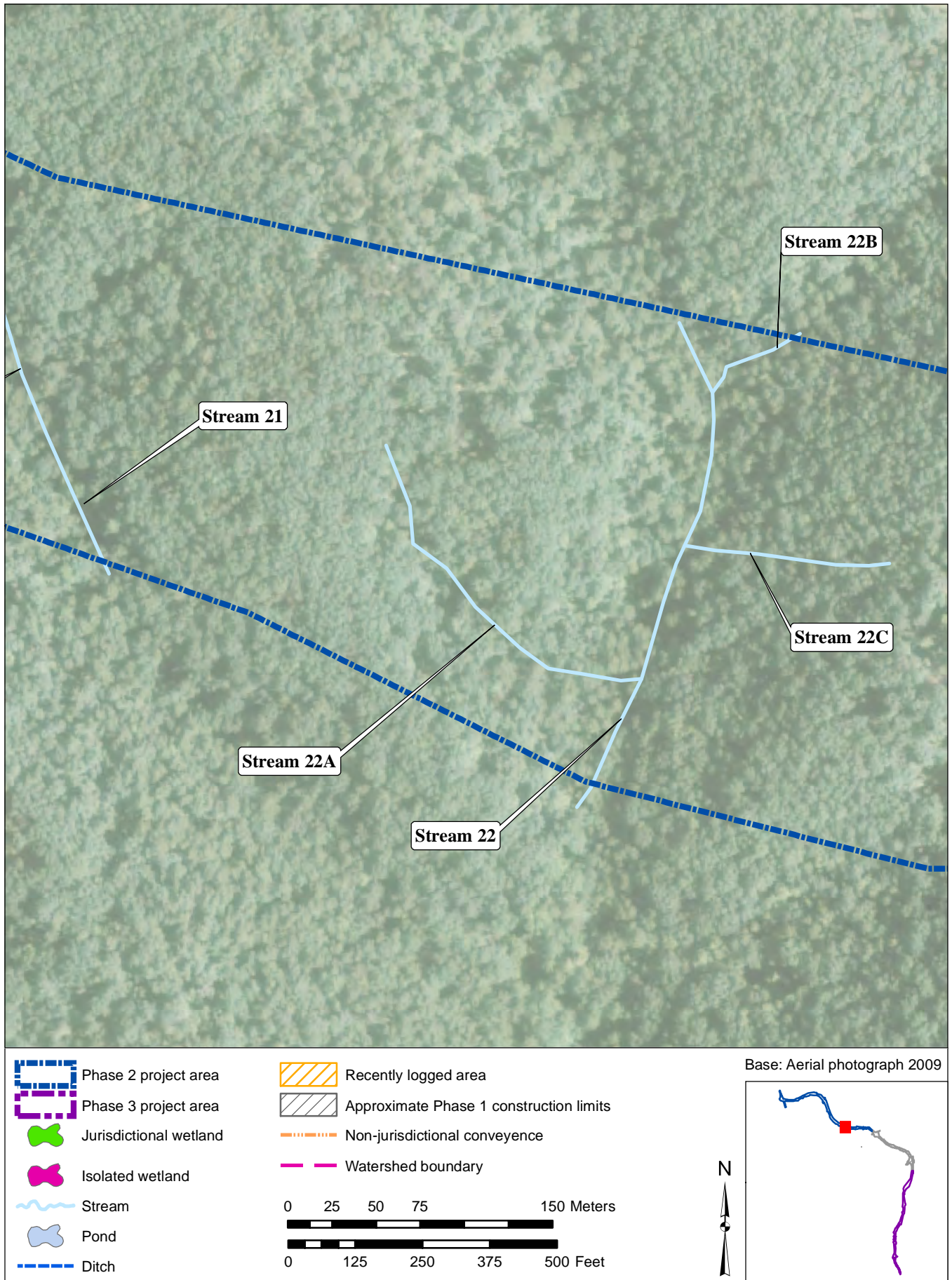


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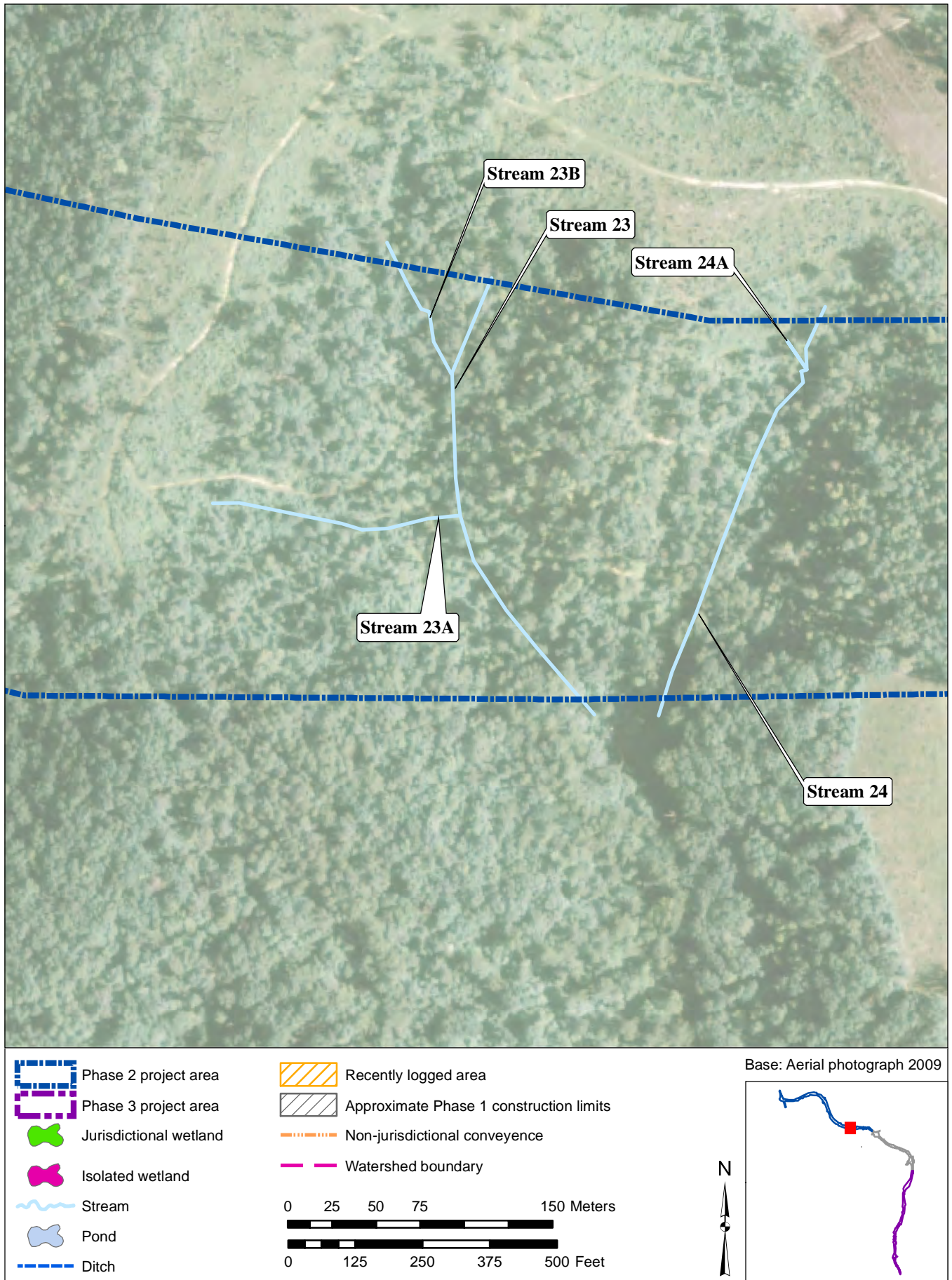


Figure 2. Survey Results. (Sheet 19 of 42)

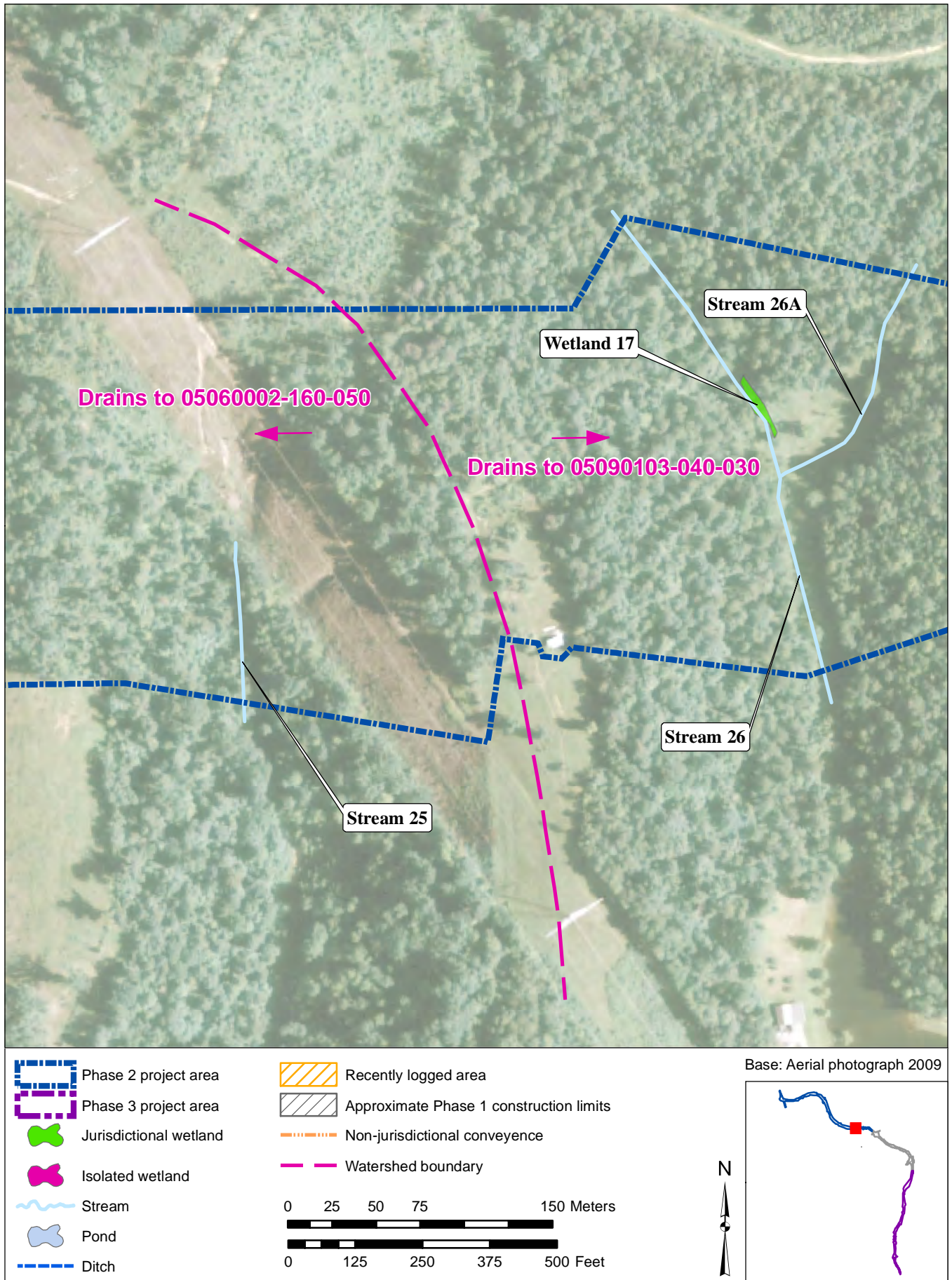


Figure 2. Survey Results. (Sheet 20 of 42)

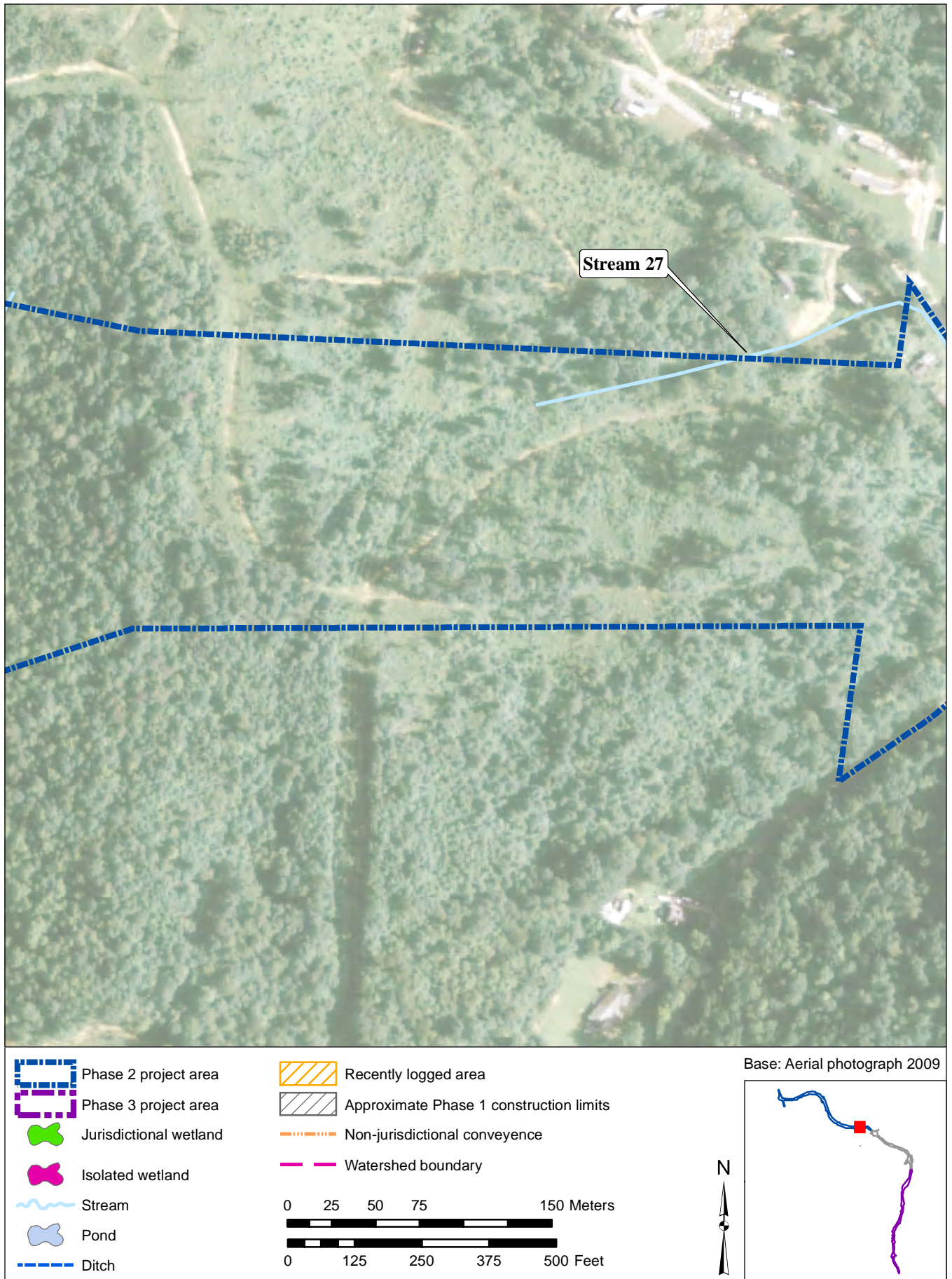


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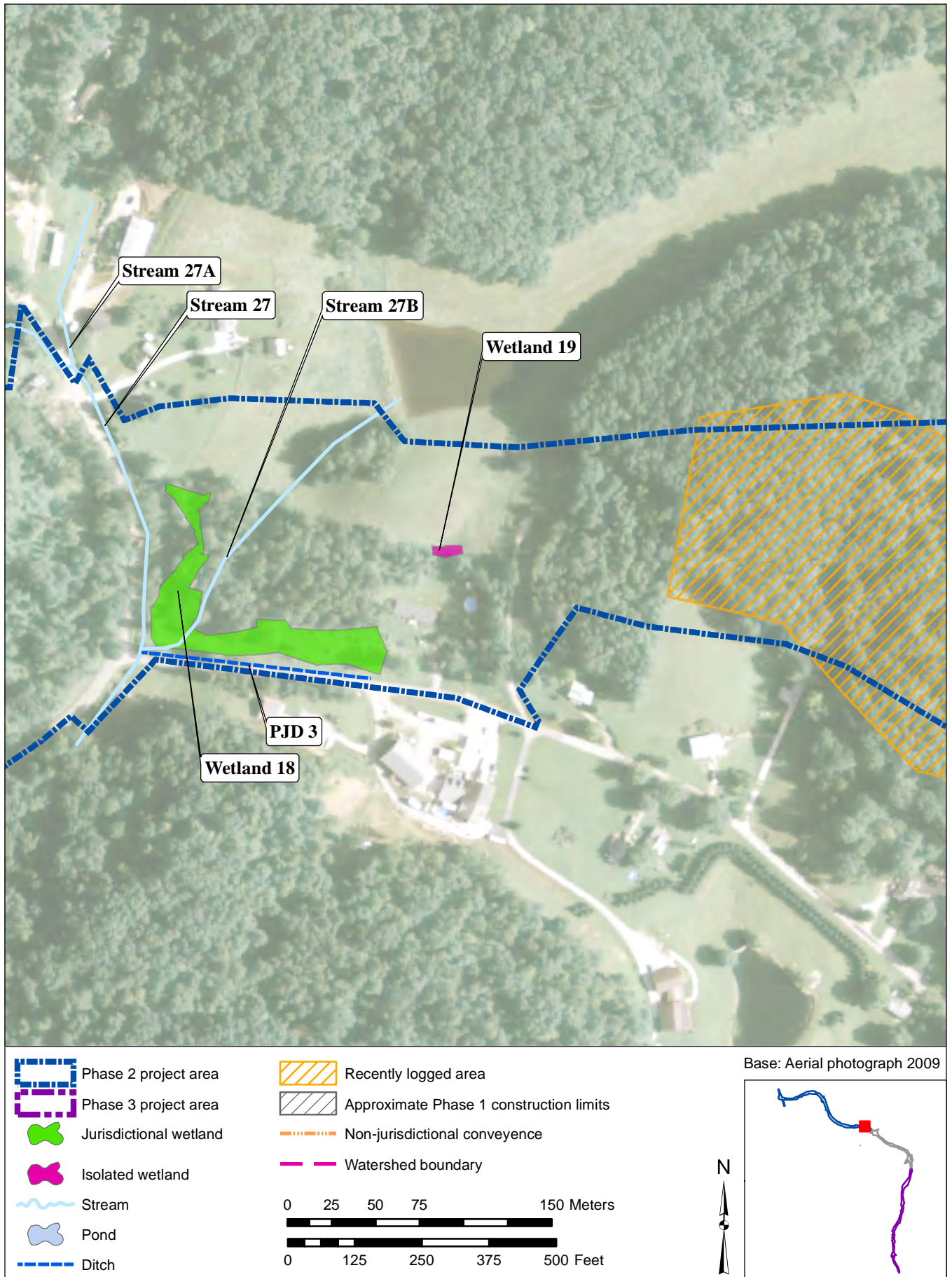


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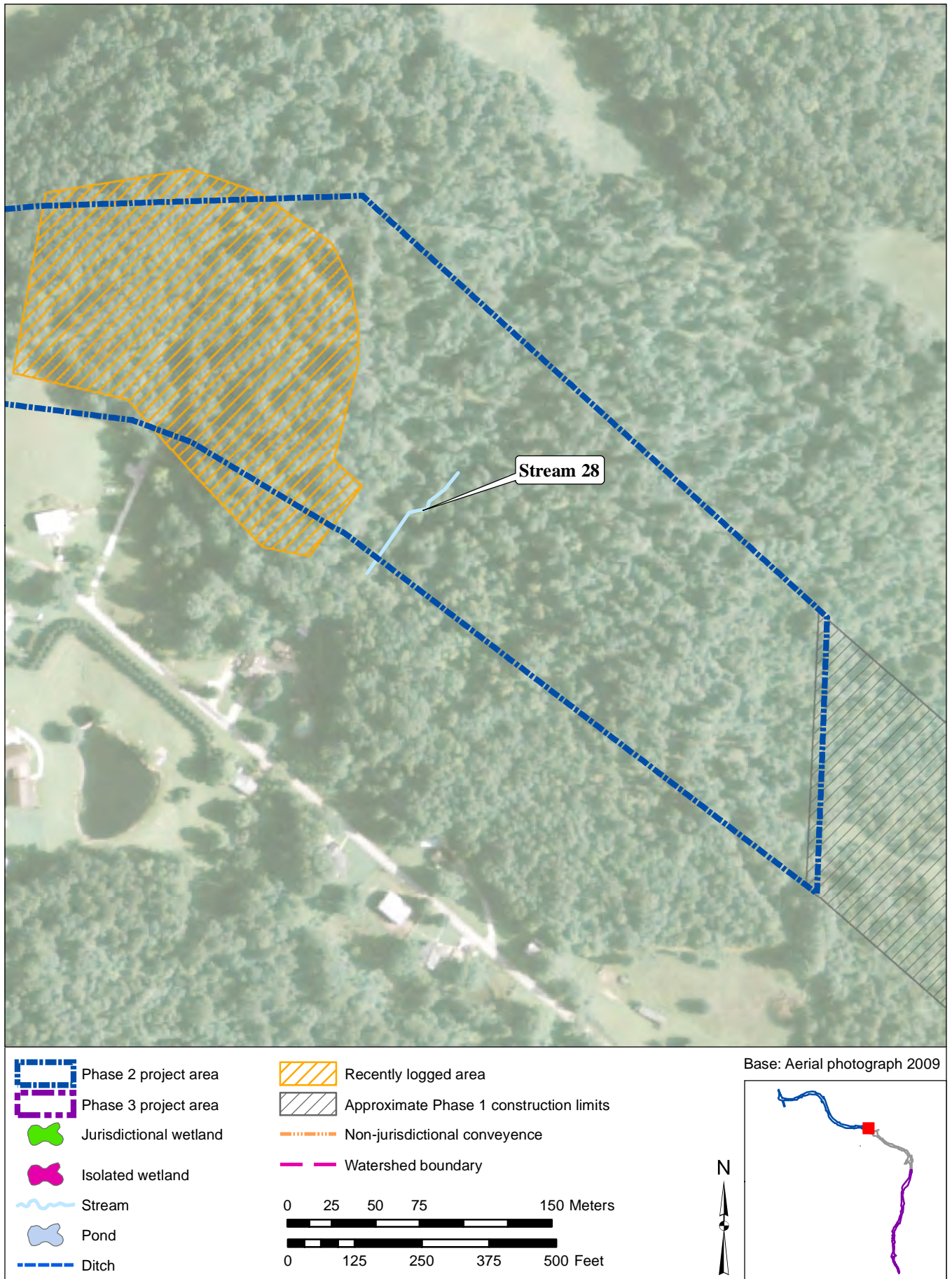


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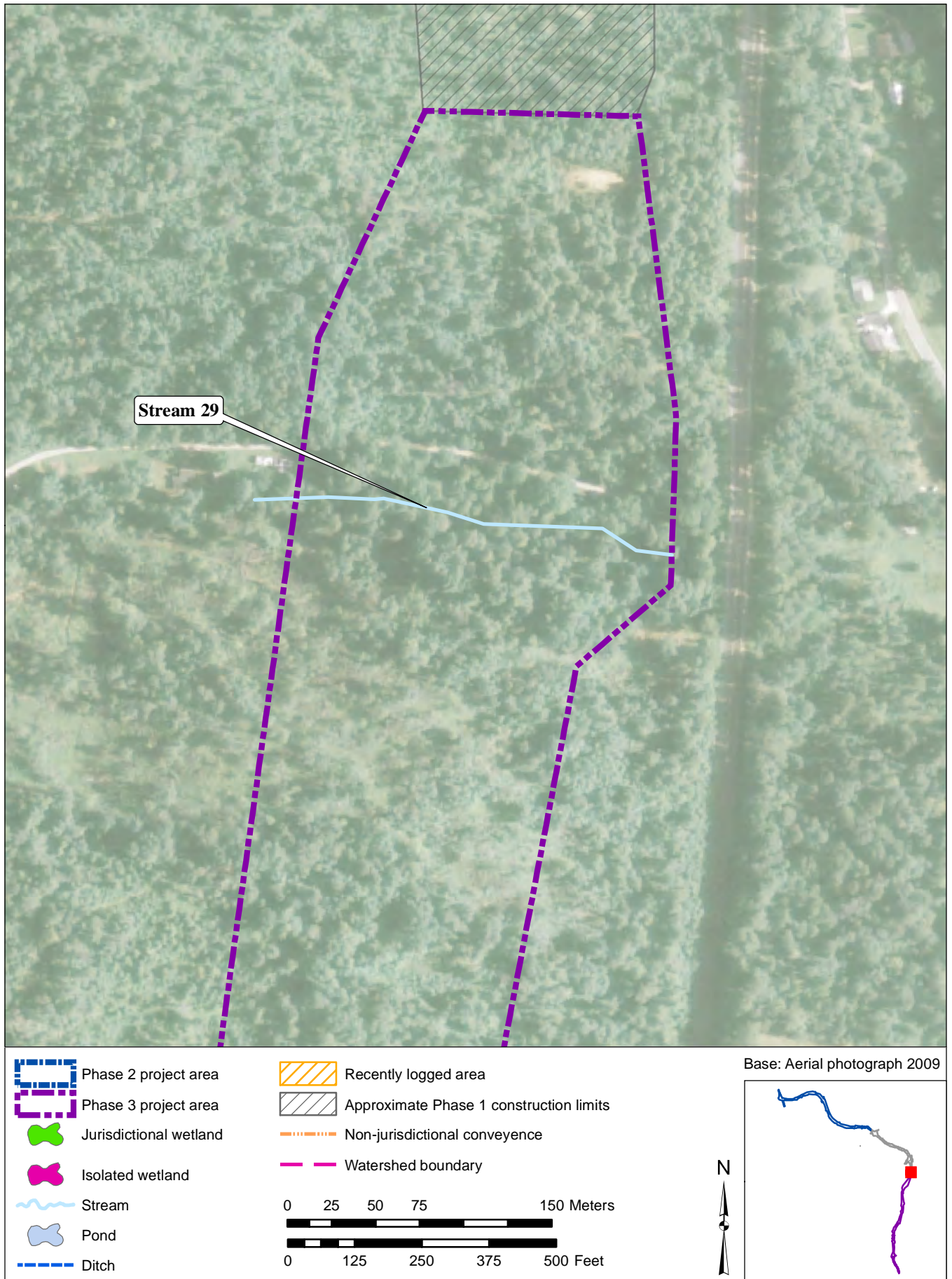


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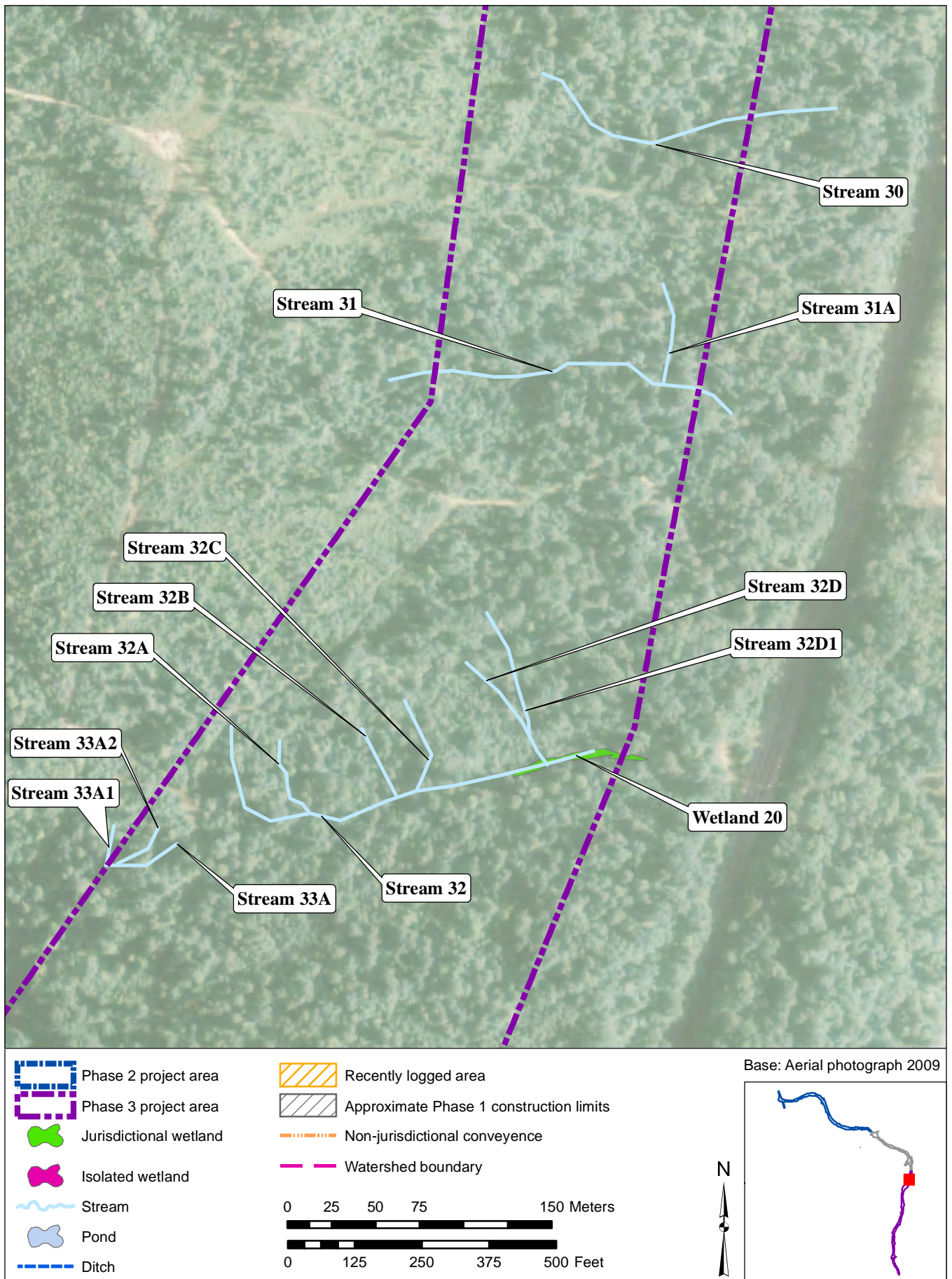


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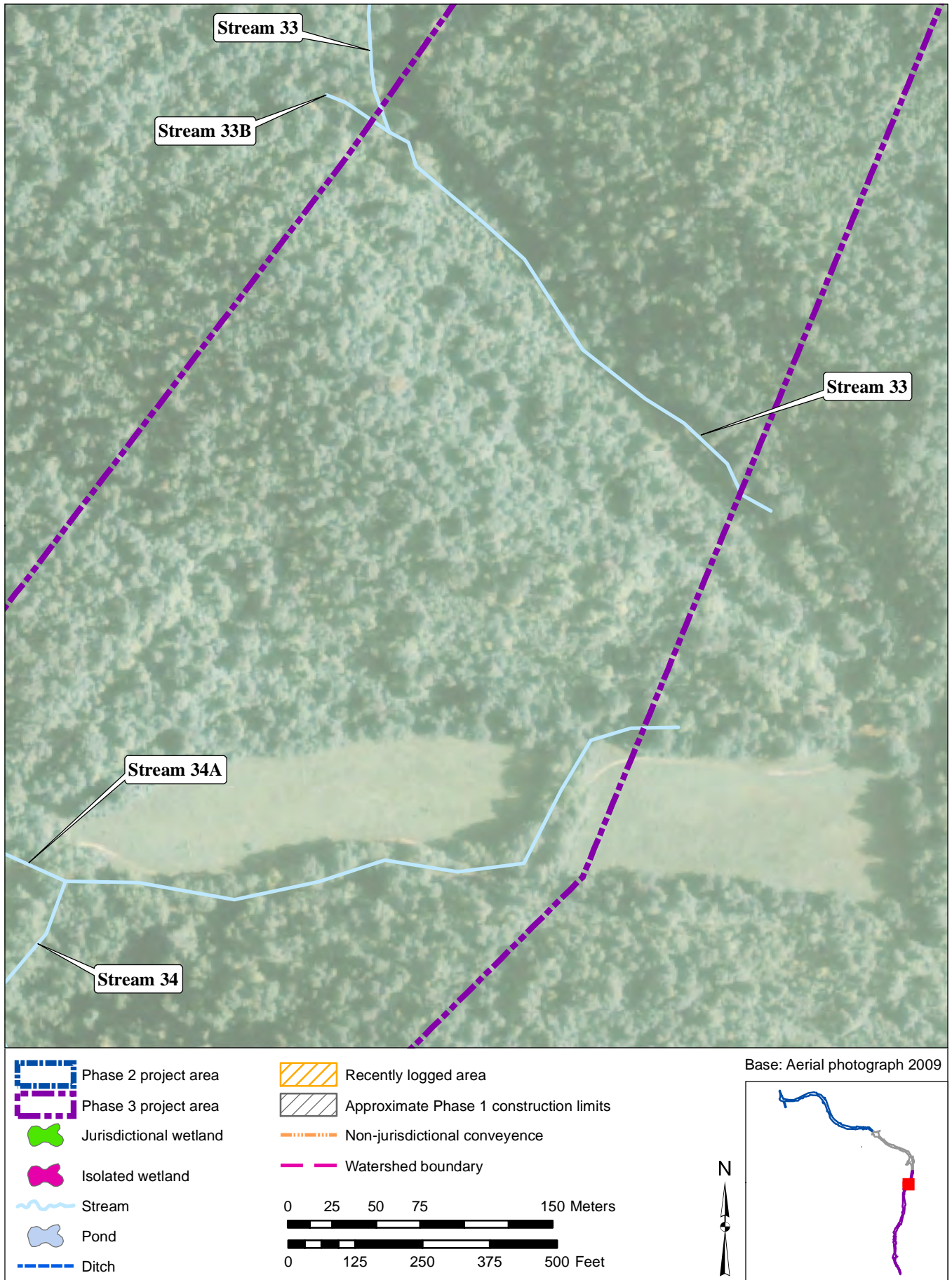


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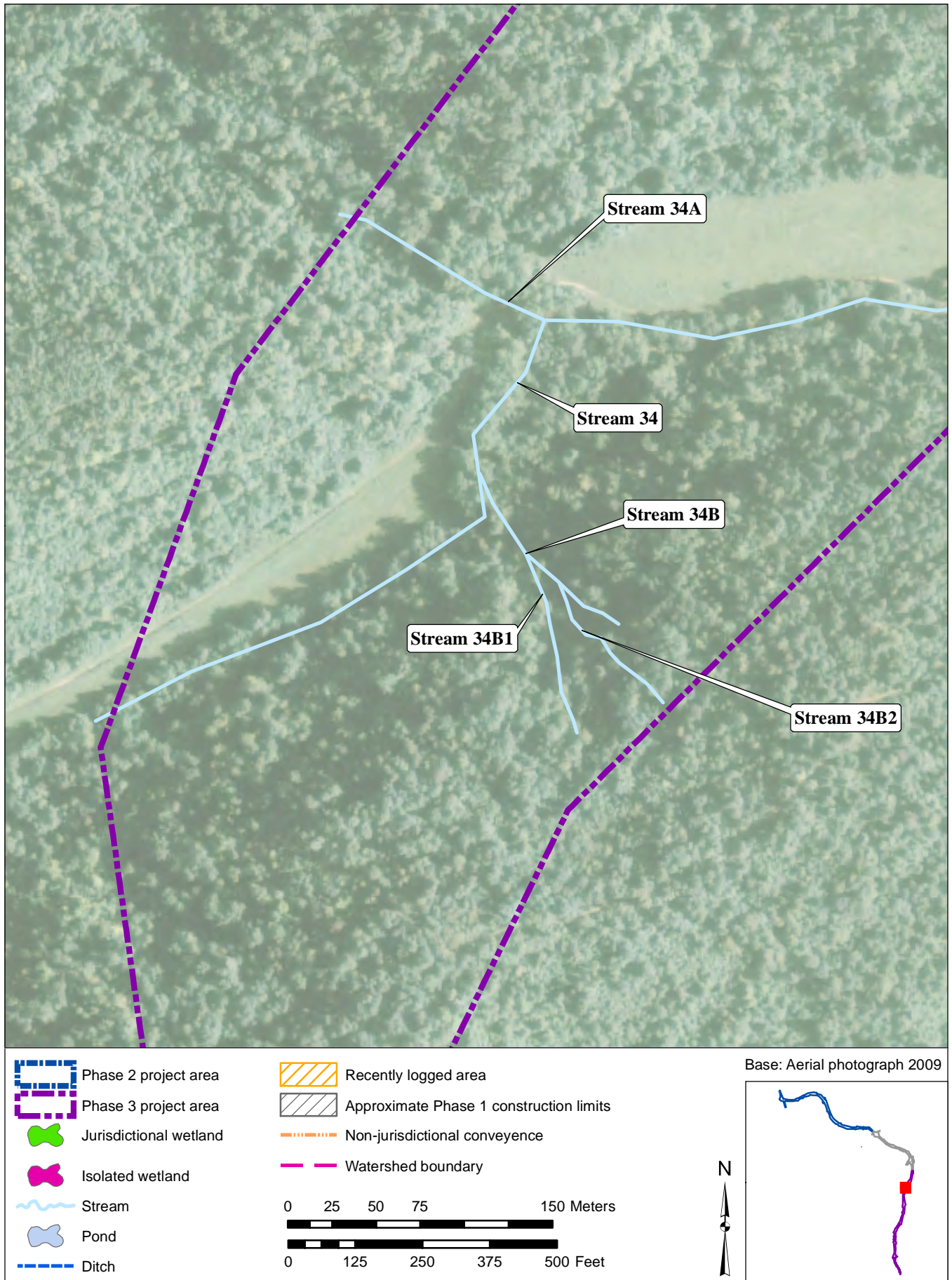


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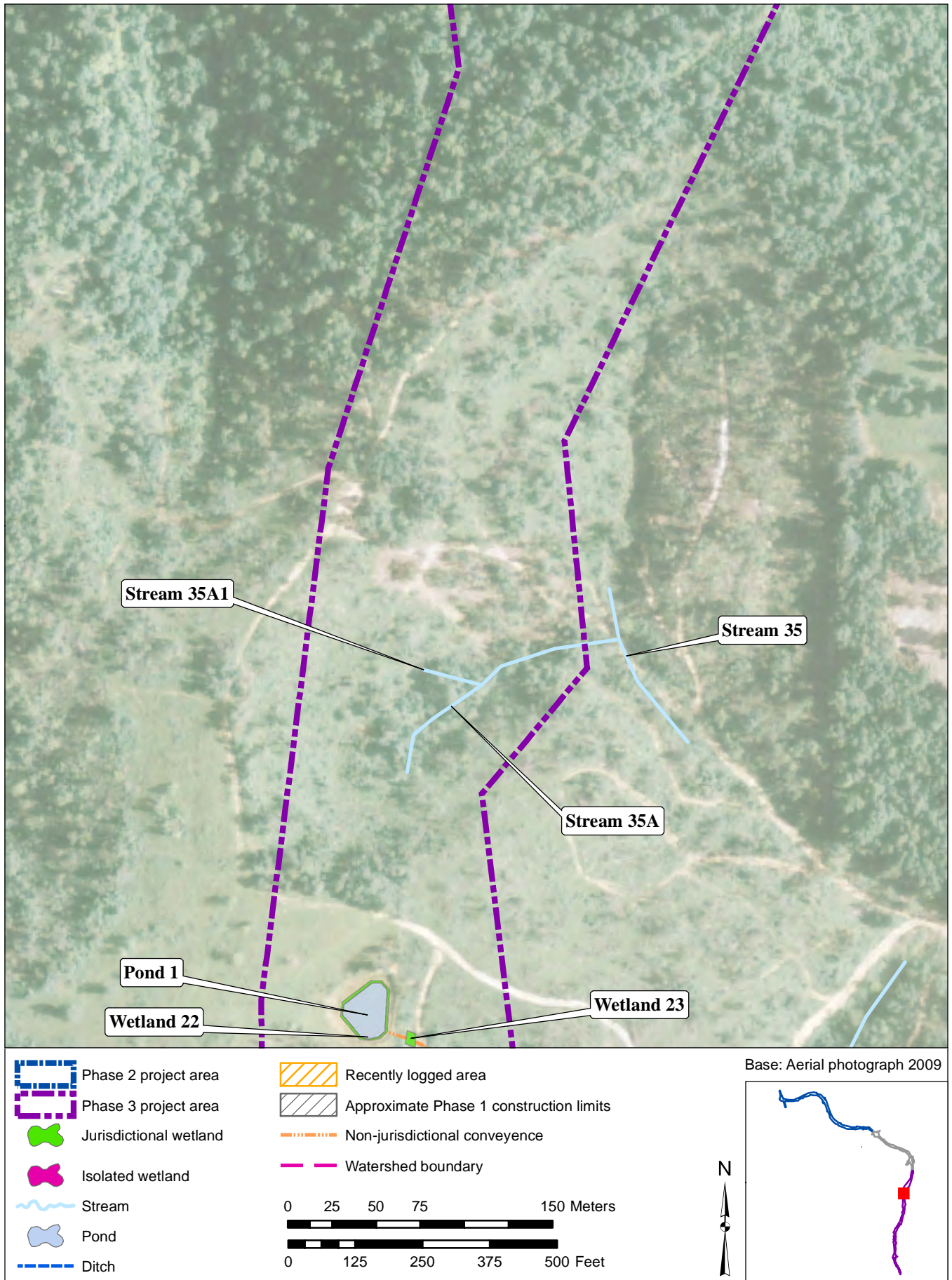


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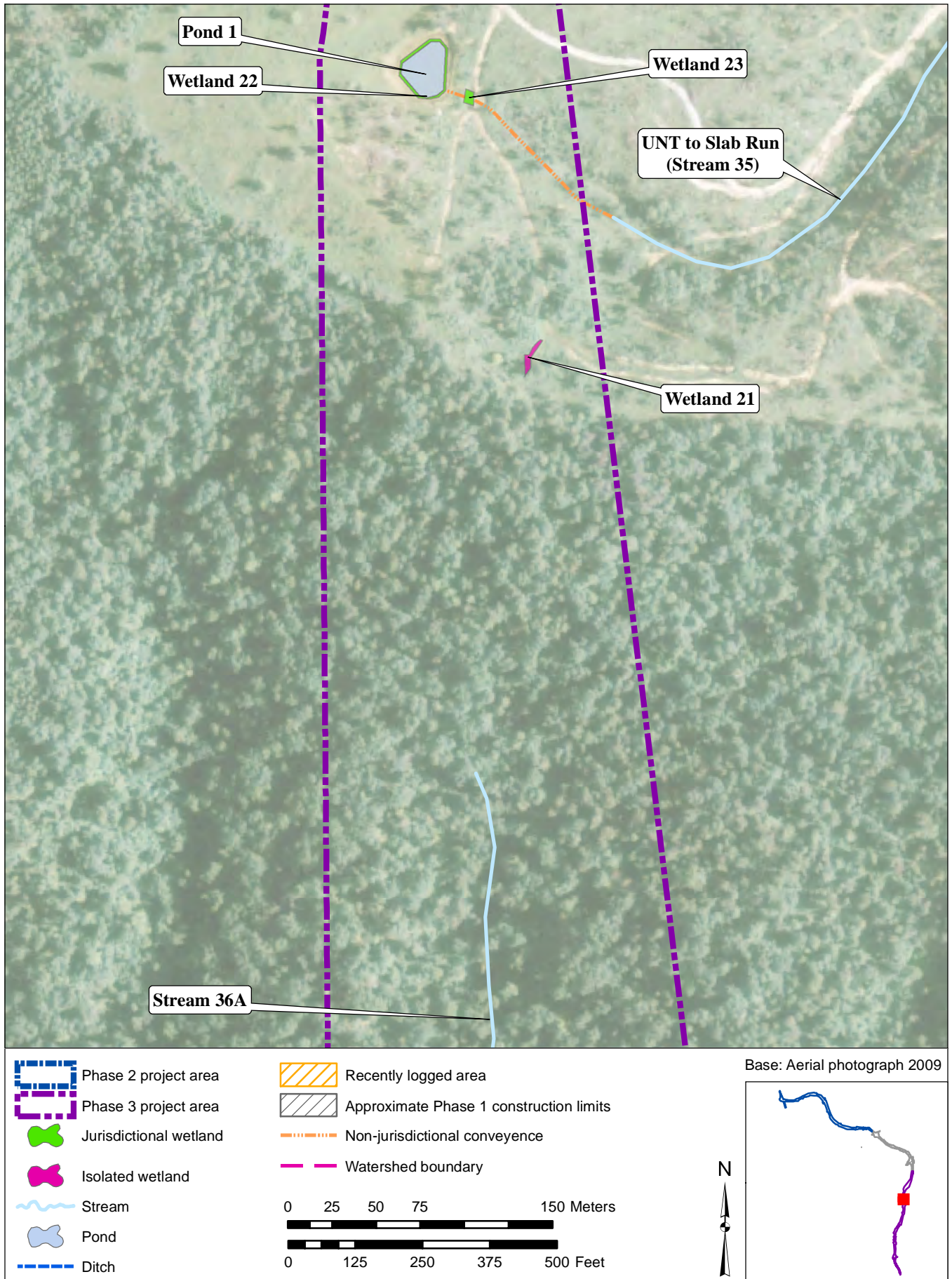


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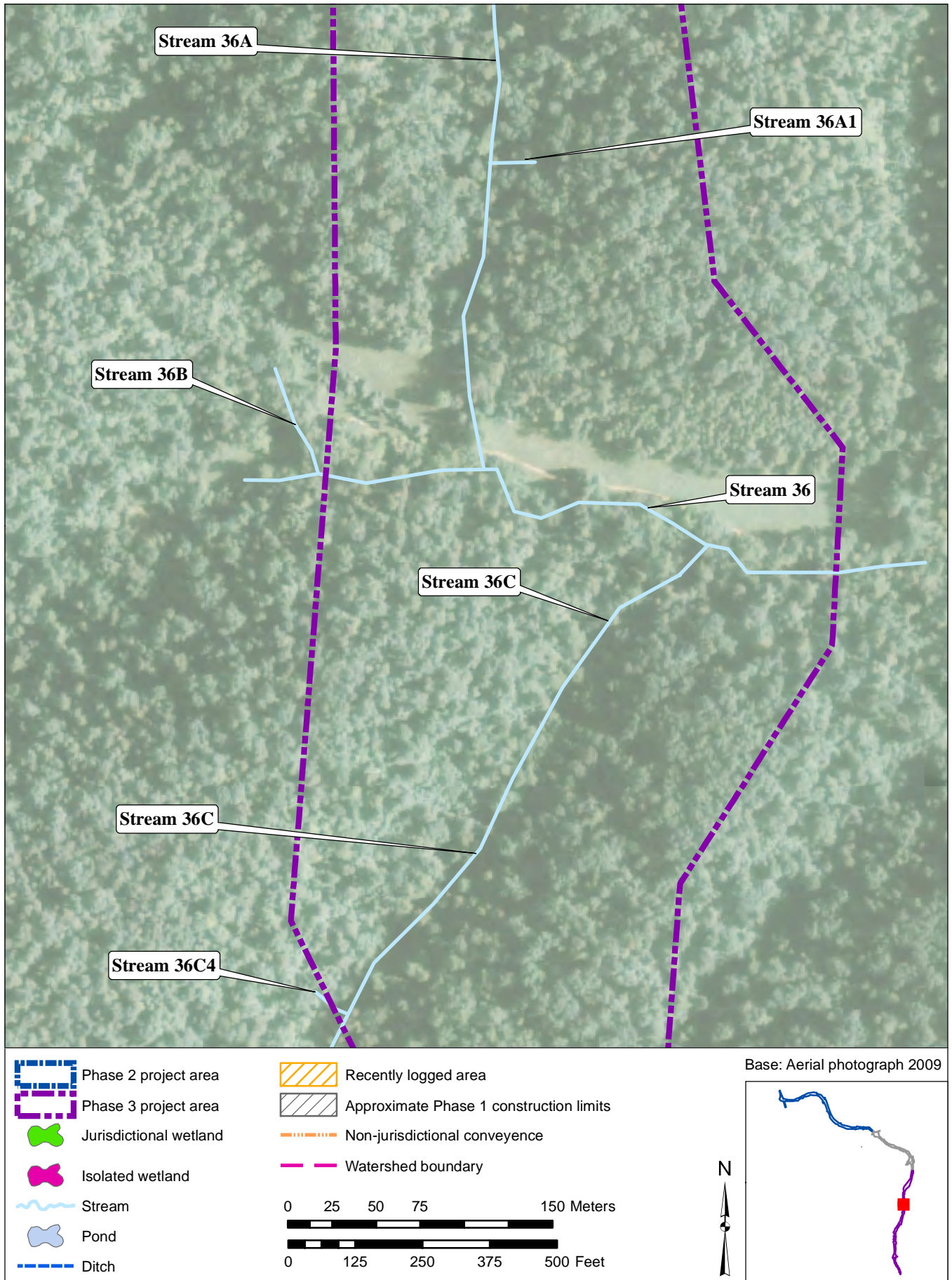


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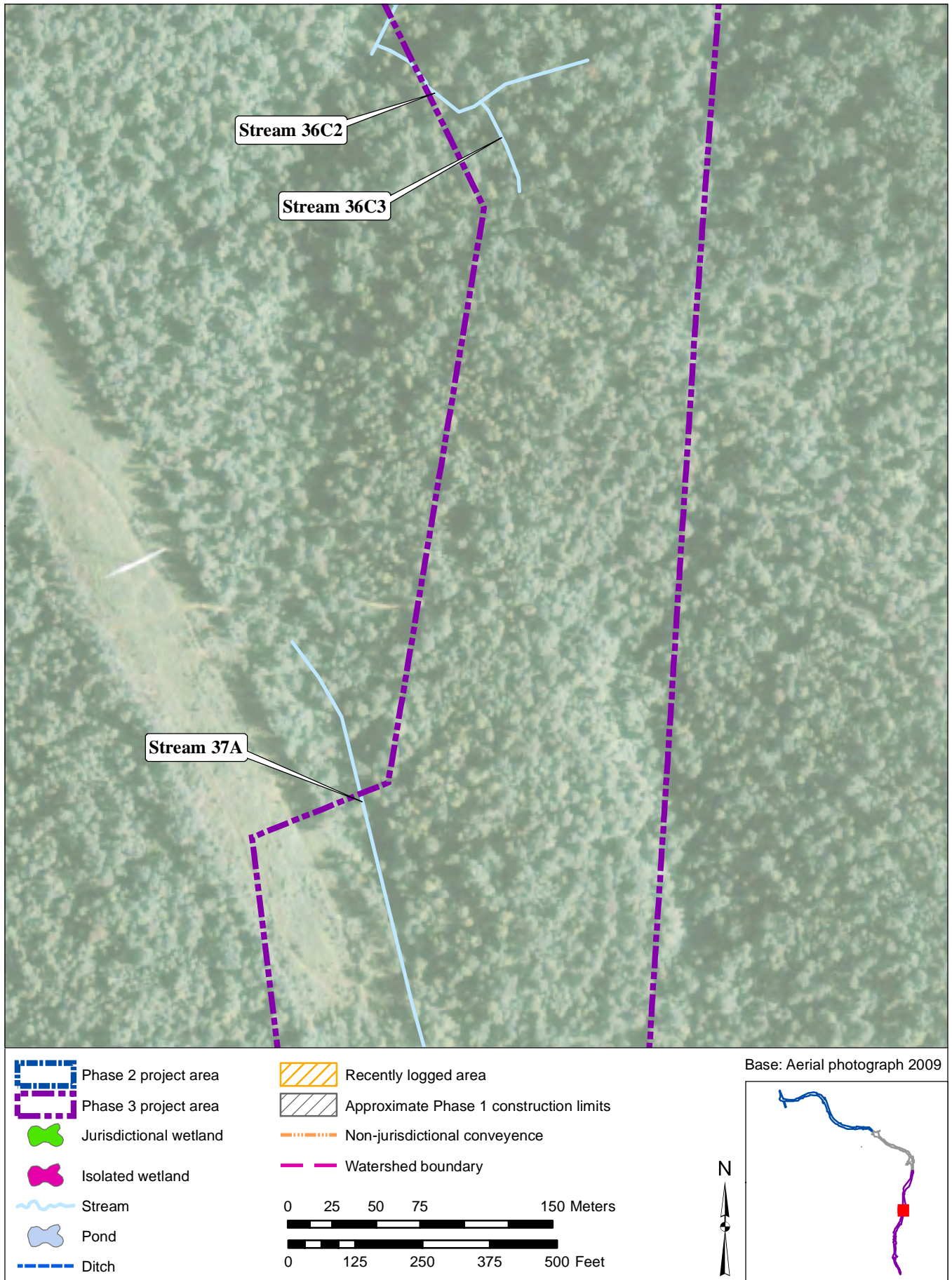


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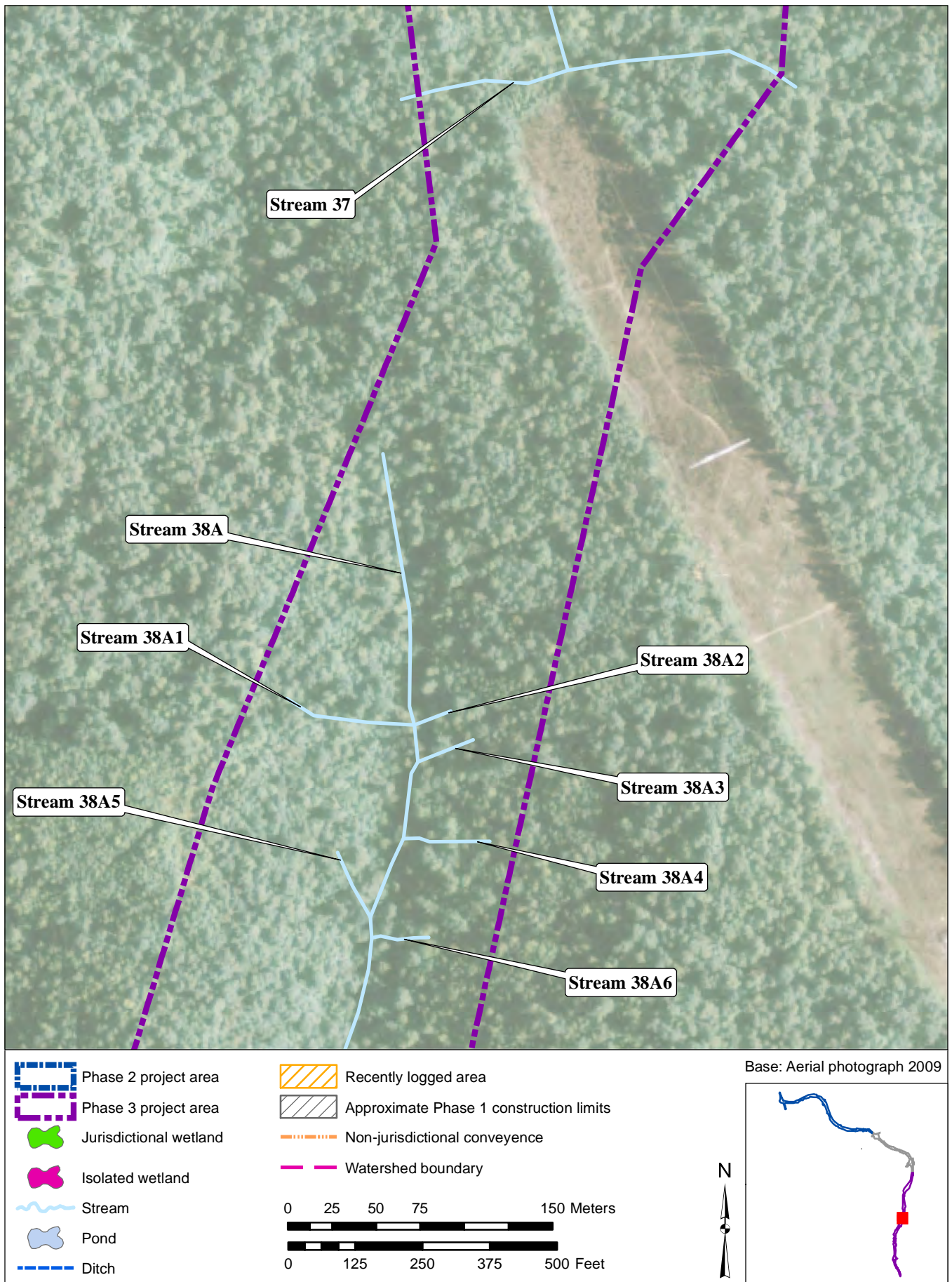


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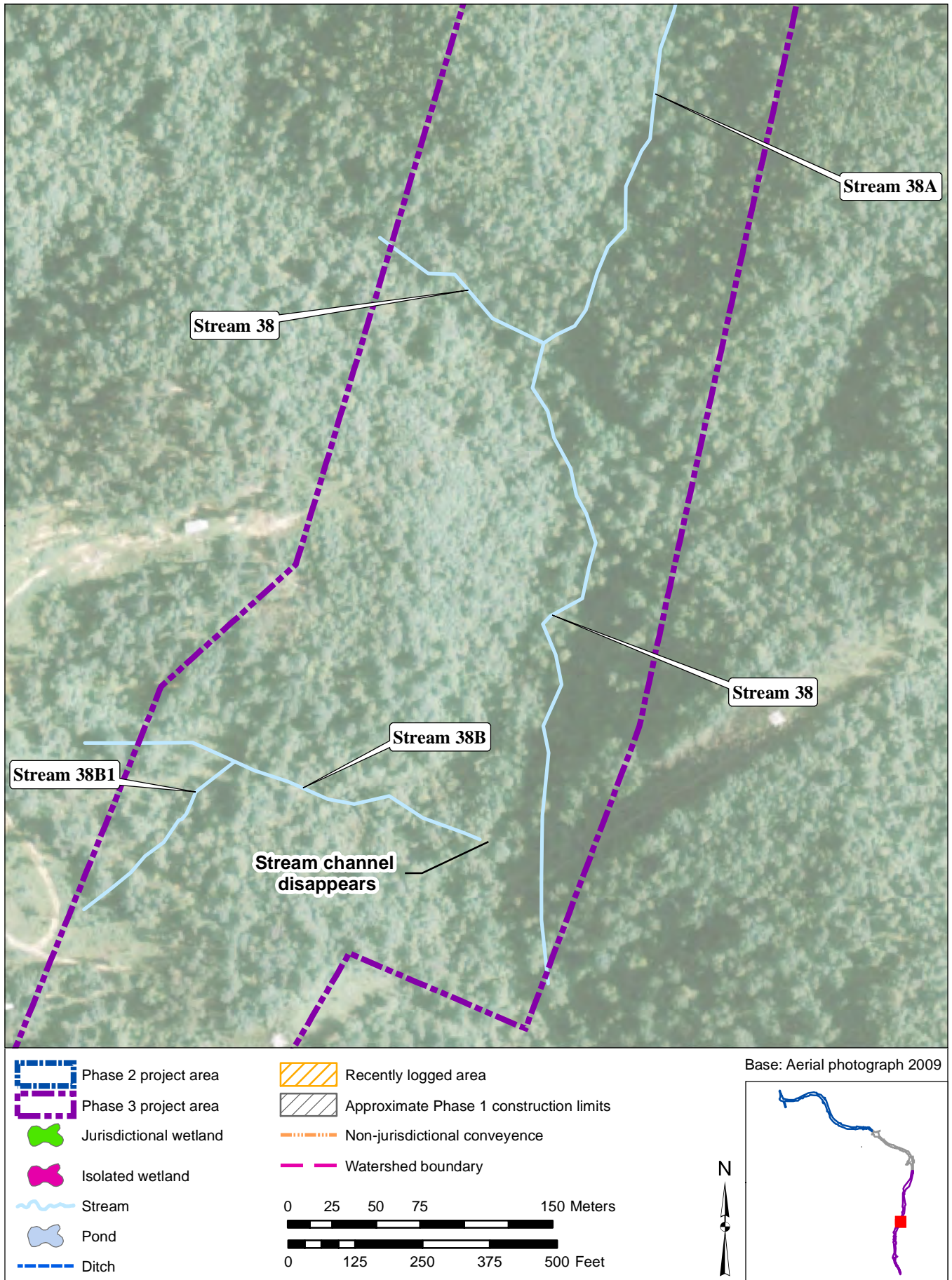


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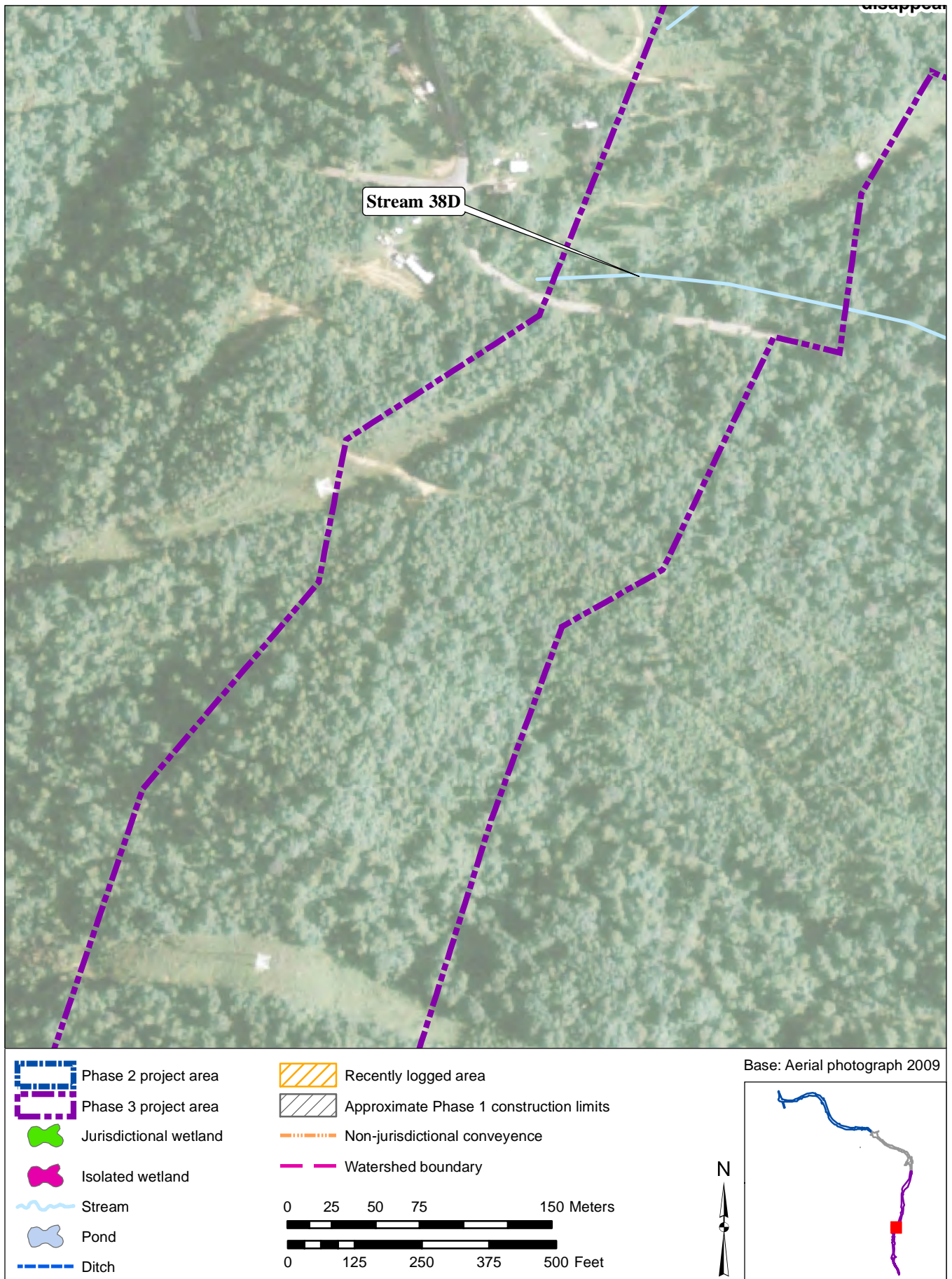


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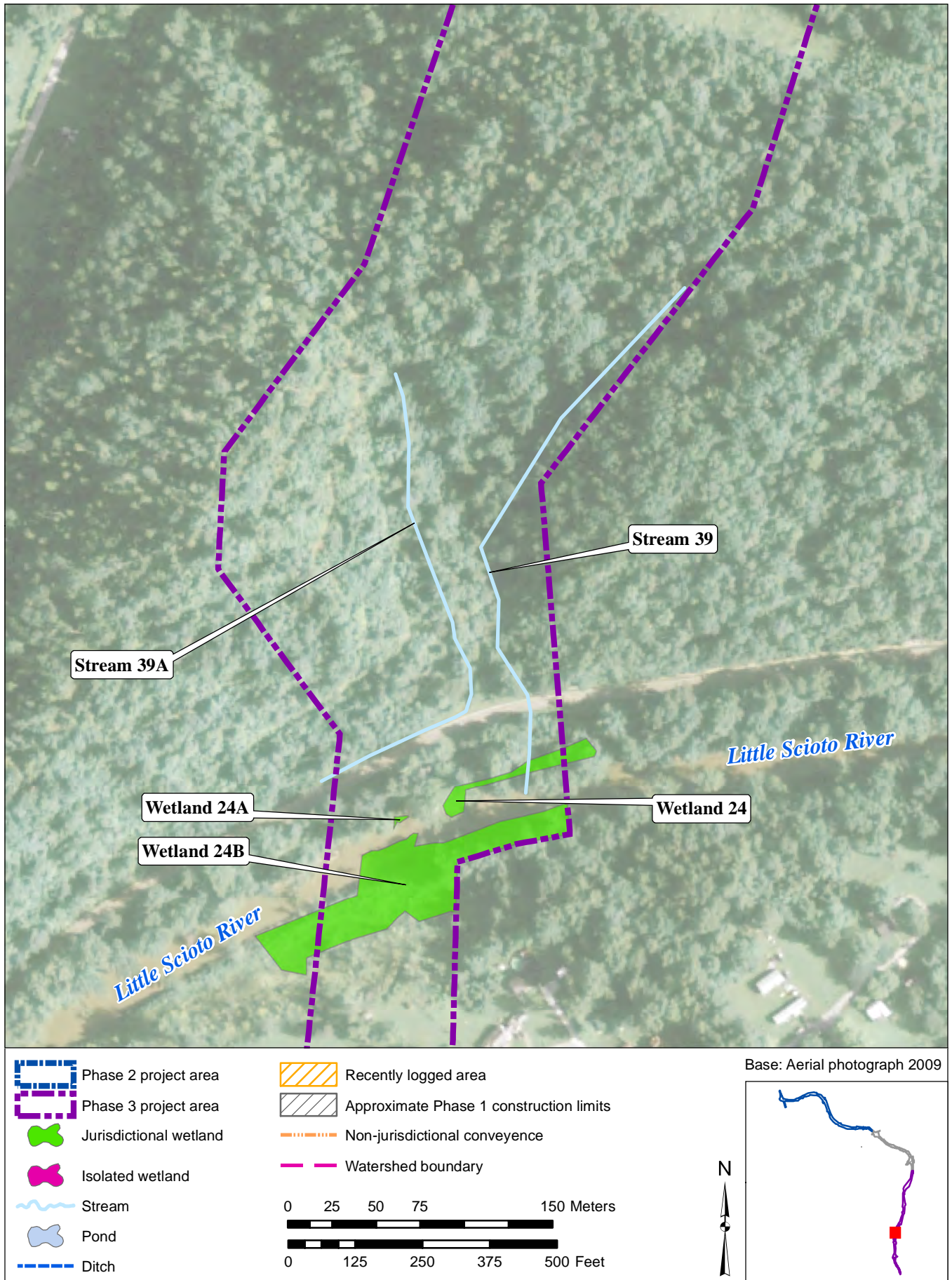


Figure 2. Survey Results. (Sheet 35 of 42)

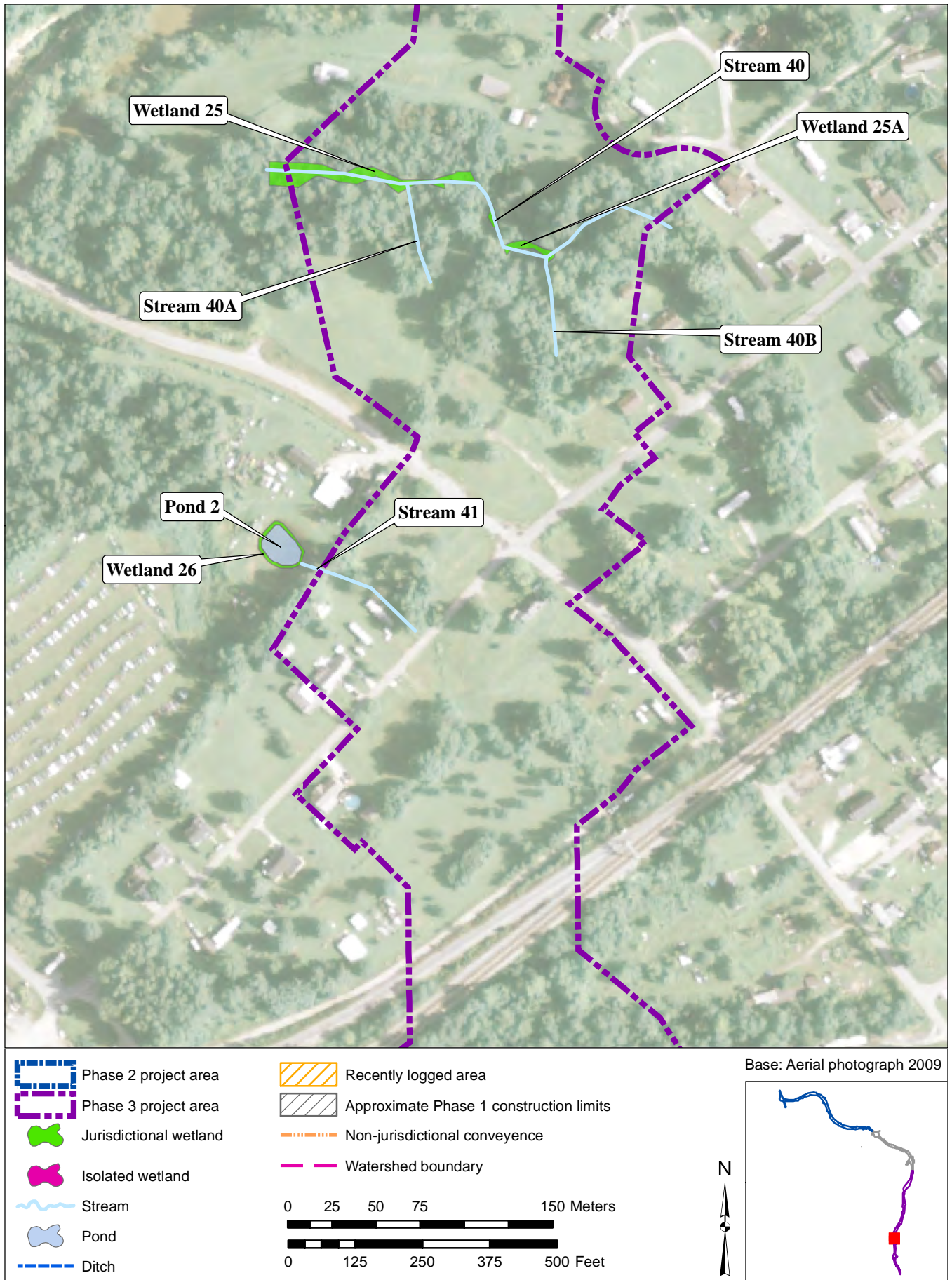


Figure 2. Survey Results. (Sheet 36 of 42)

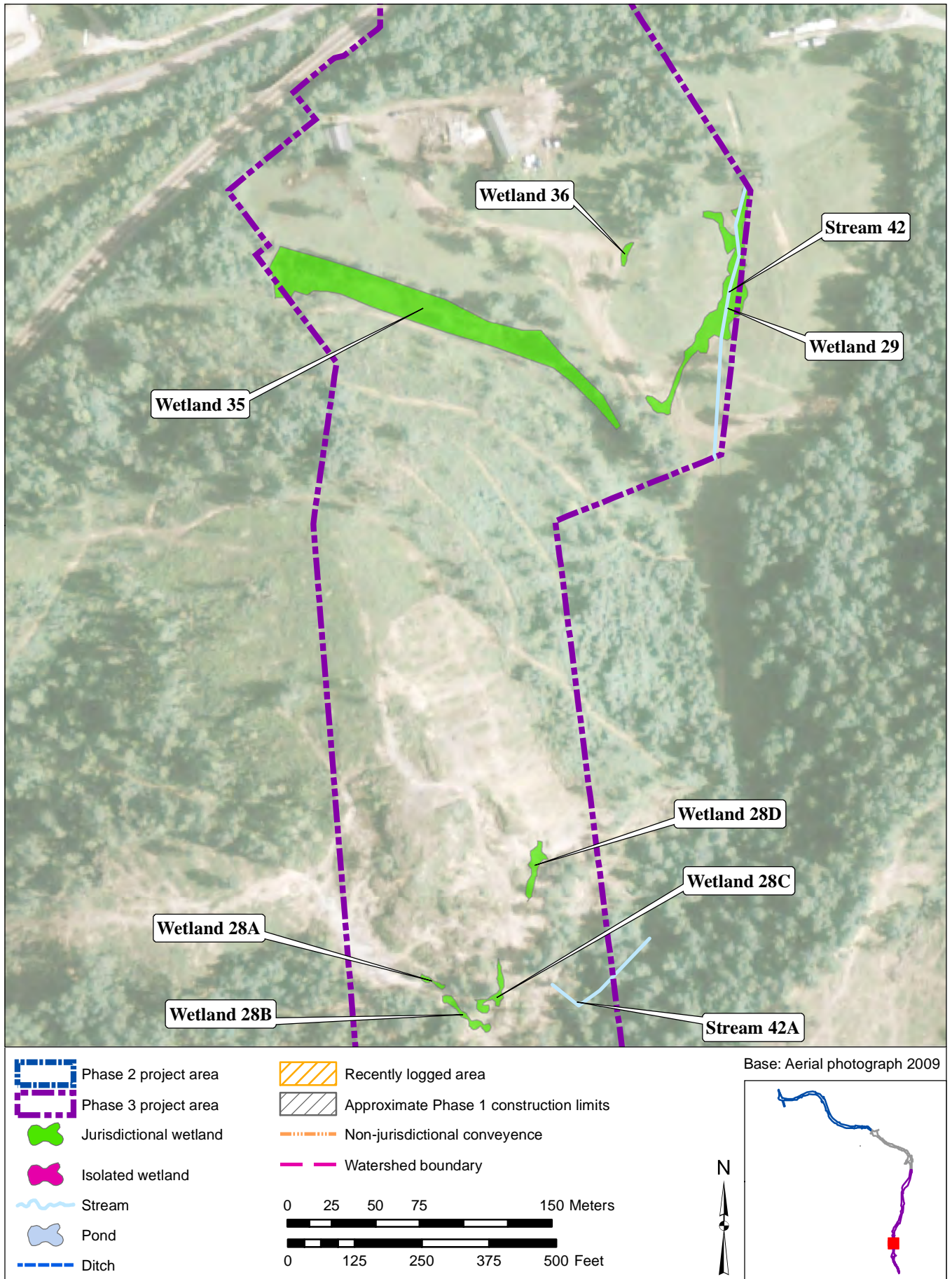


Figure 2. Survey Results. (Sheet 37 of 42)

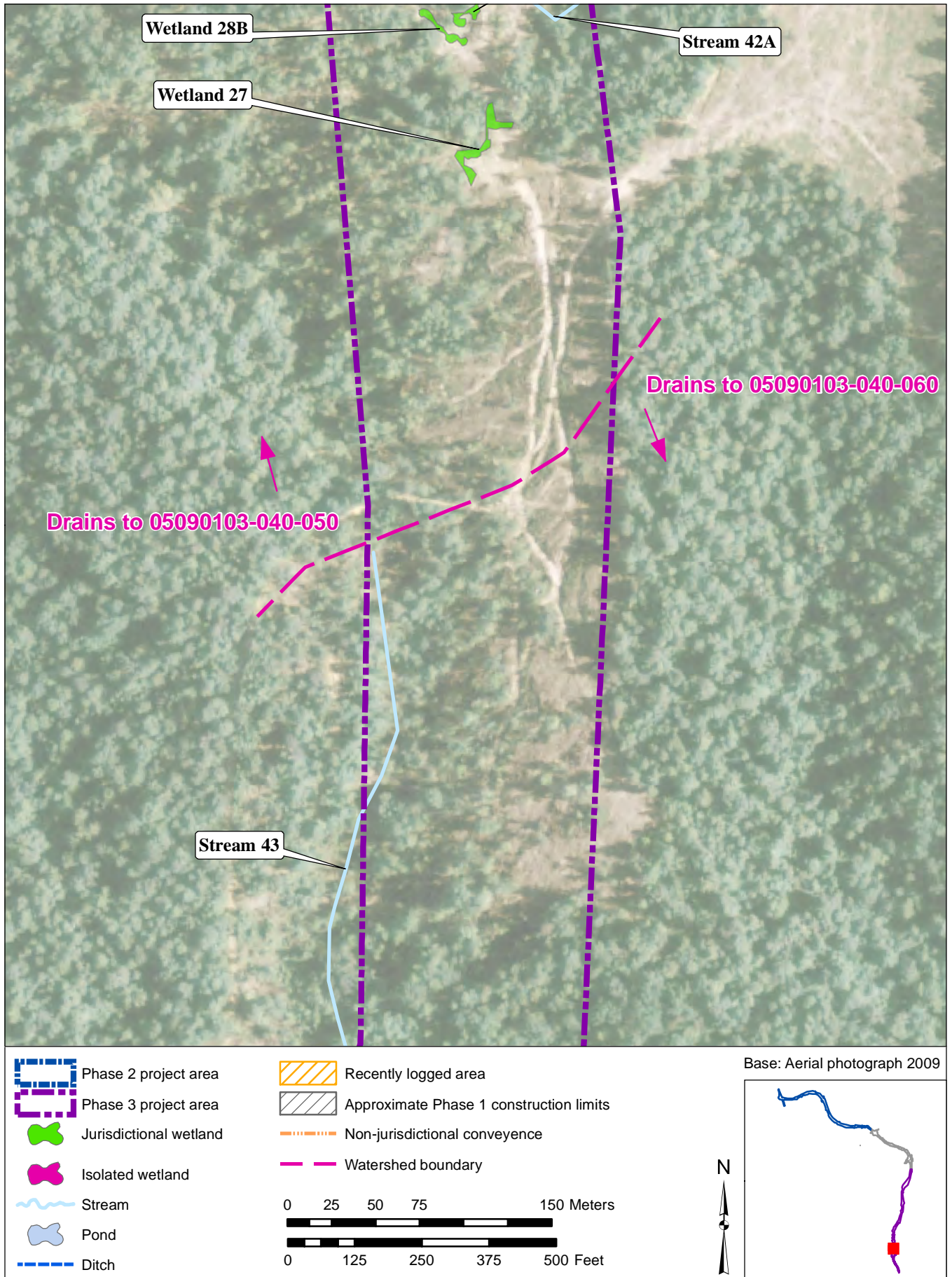


Figure 2. Survey Results. (Sheet 38 of 42)

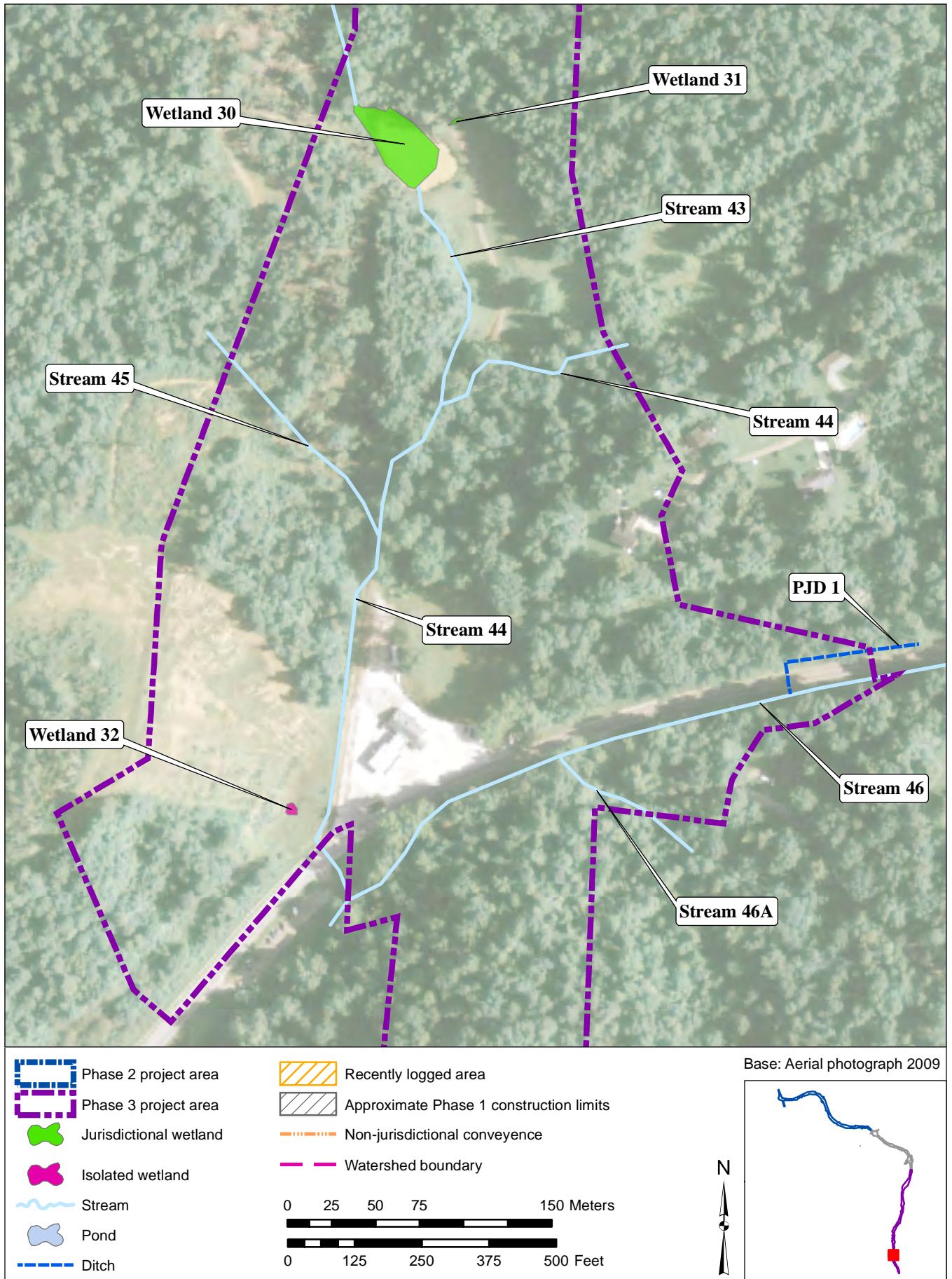


Figure 2. Survey Results. (Sheet 39 of 42)

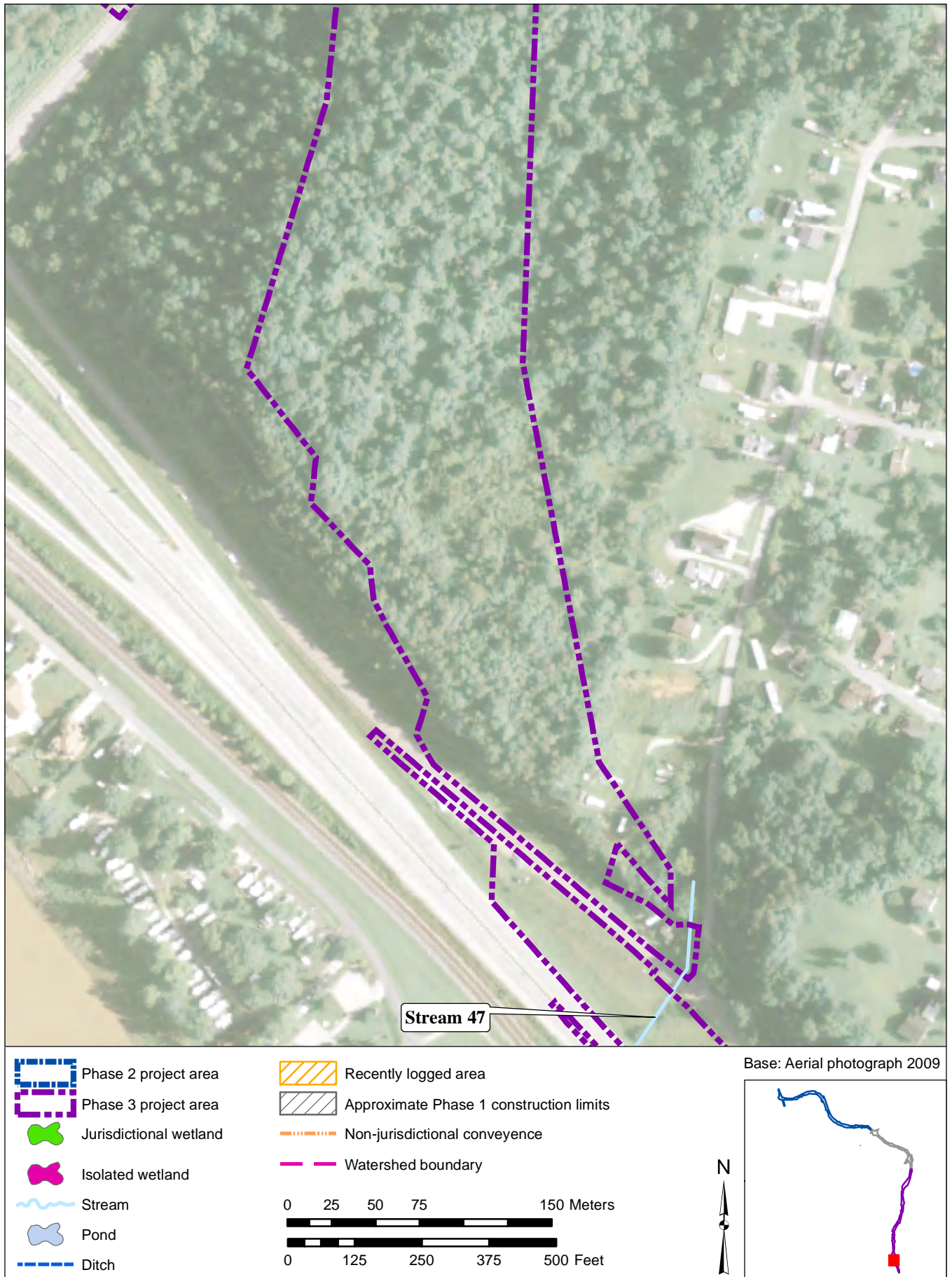


Figure 2. Survey Results. (Sheet 40 of 42)

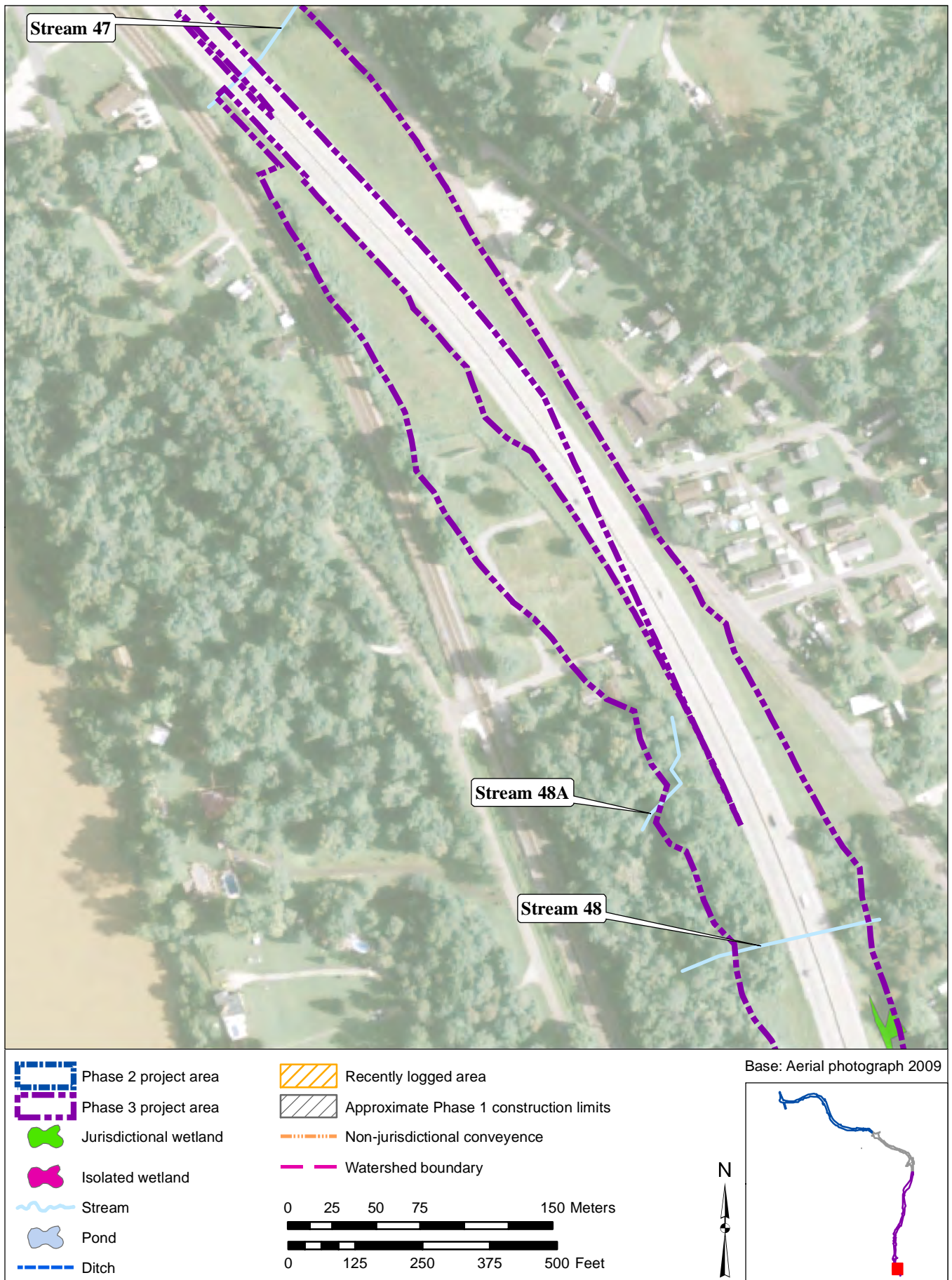


Figure 2. Survey Results. (Sheet 41 of 42)



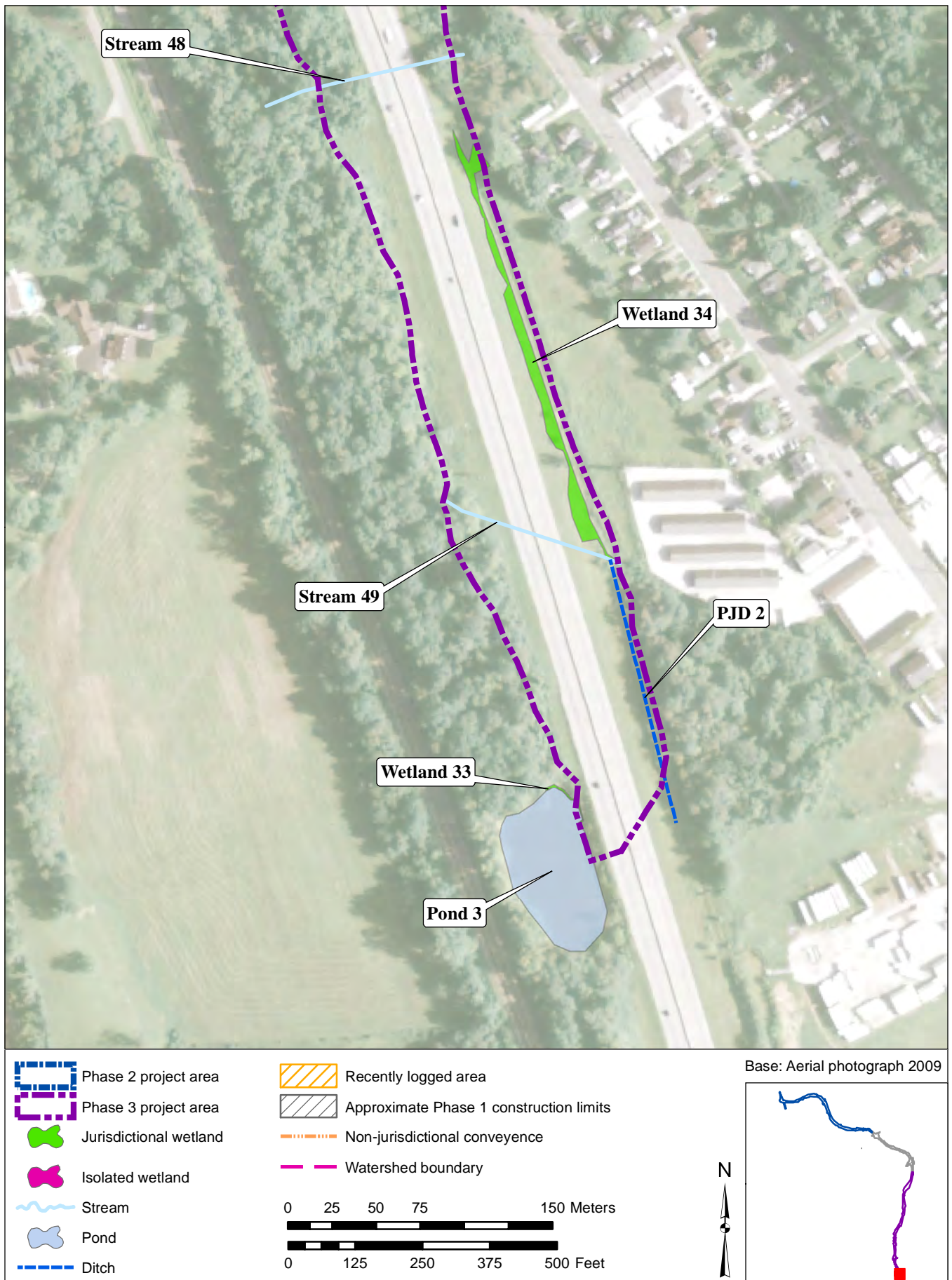
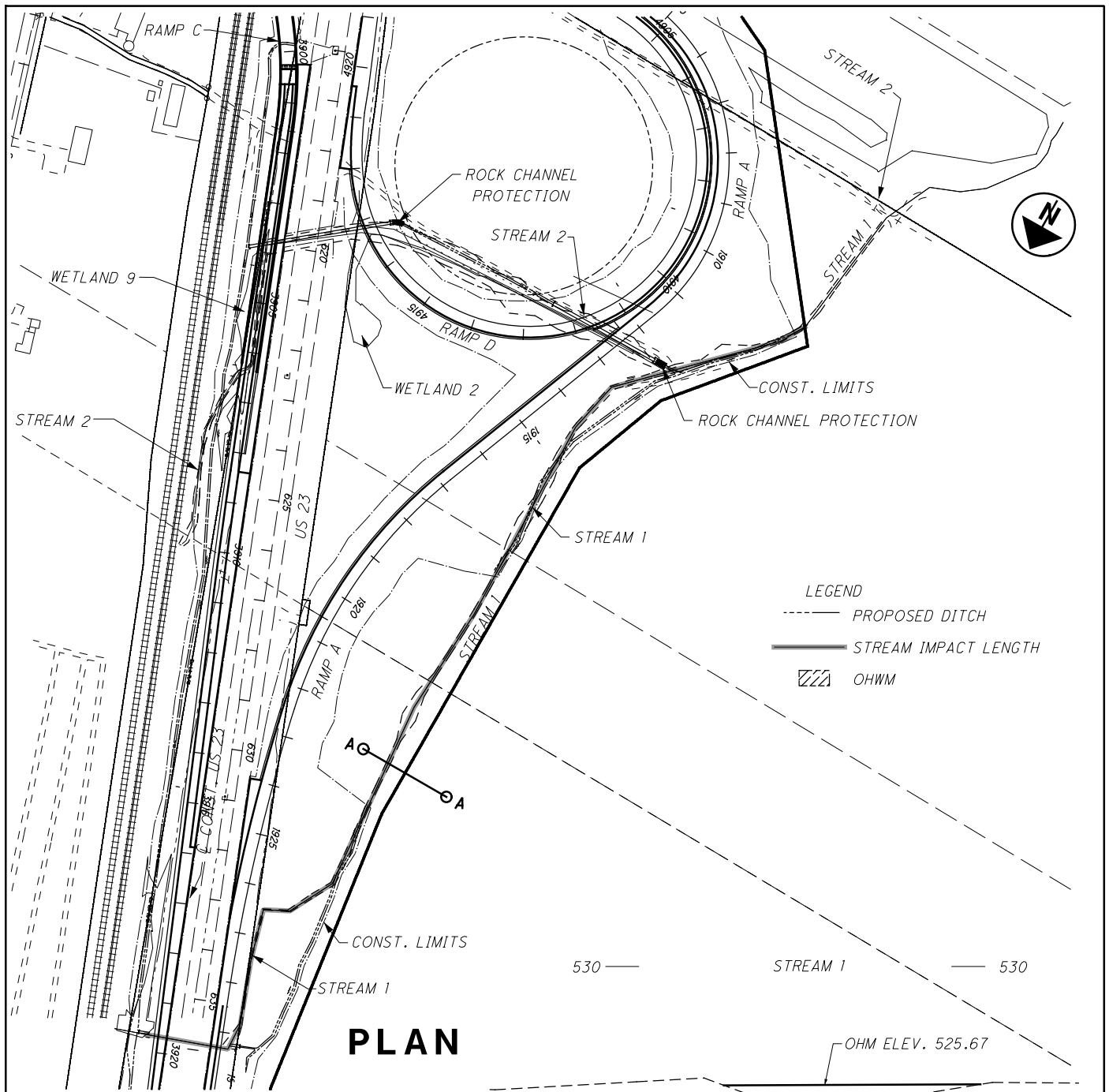


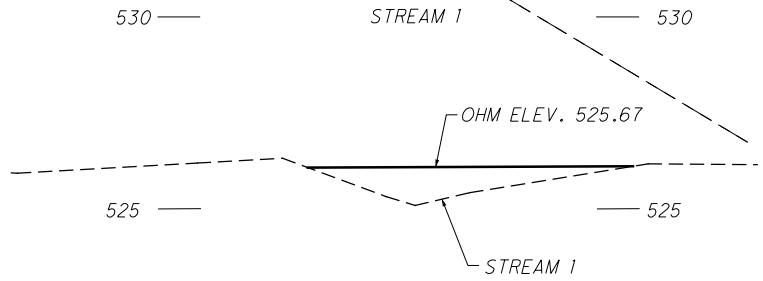
Figure 2. Survey Results. (Sheet 42 of 42)

**FIGURE 3:        PREFERRED ALTERNATIVE  
(SHEETS 3-1 THROUGH 3-130)**



- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
HOWARD BROTHERS FARMS, LLC

LENGTH OF IMPACT:	2187 LF
AREA EXCAVATED OR FILLED:	0.151 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	122 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 1**

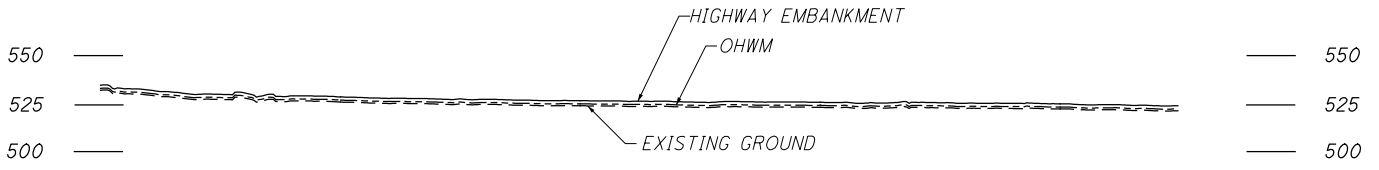
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 300'  
CROSS SECTION SCALE: 1" = 5'

DATE: AUGUST 15, 2013

**FIGURE  
3-1**



## STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 1

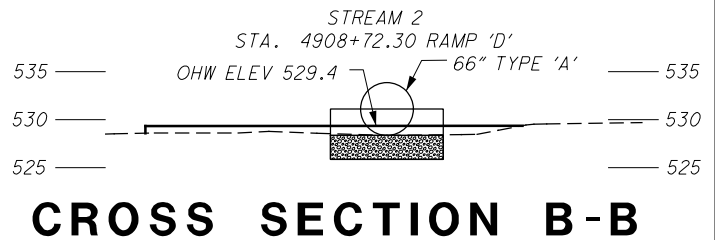
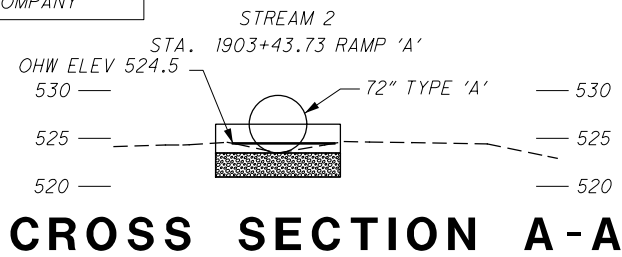
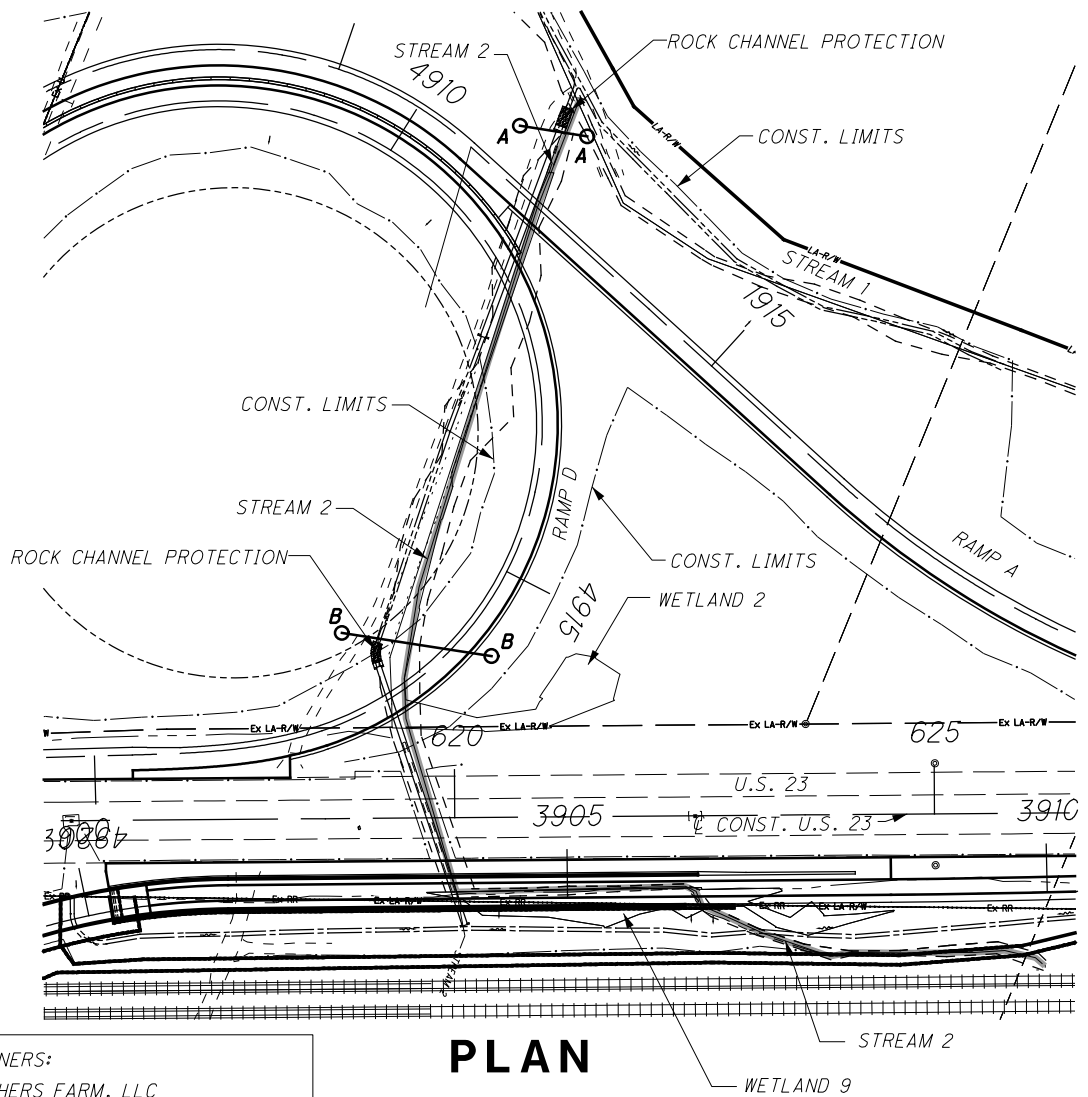
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

*PROFILE SCALE: 1" = 400'*

*DATE: AUGUST 15, 2013*

## FIGURE 3-1A



**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM

LENGTH OF IMPACT:	1472 LF
AREA EXCAVATED OR FILLED:	0.121 ACRE
EXCAVATION BELOW OHW:	69 CY
NET FILL BELOW OHW:	80 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 2**

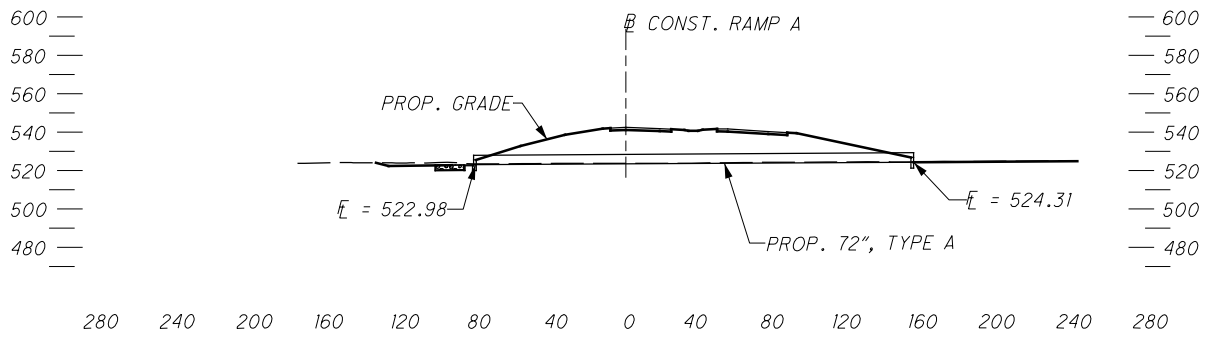
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION SCALE 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-2**



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 2

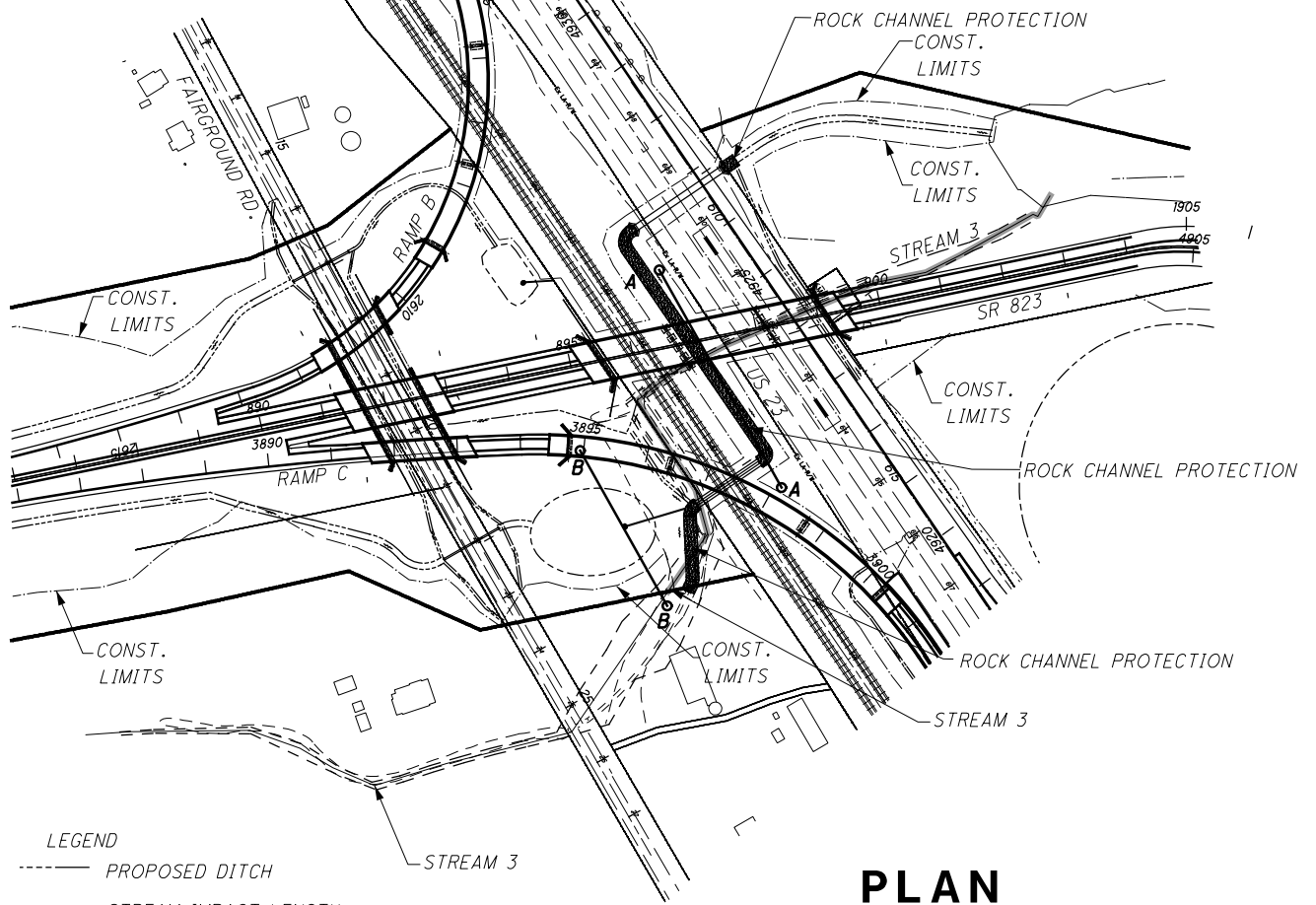
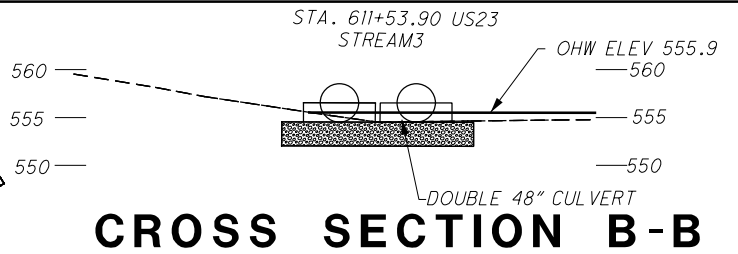
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1"=100'

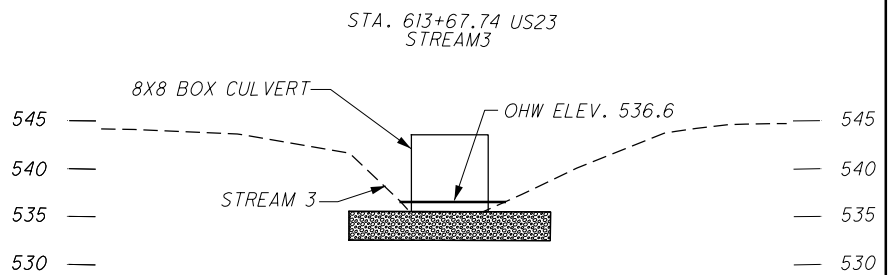
DATE: AUGUST 15, 2013

## FIGURE 3-2A



PROPERTY OWNERS:  
SOUTHERN OHIO MANAGEMENT CORPORATION  
DARREN LEBURN AND COURTNEY LEBURN  
CARL LYON AND KIYOKO LYON AS TRUSTEES  
OF THE CARL LYON REVOCABLE LIVING TRUST  
DATED THE 15TH DAY OF NOVEMBER, 2009

LENGTH OF IMPACT: 1098 LF  
AREA EXCAVATED OR FILLED: 0.471 ACRE  
EXCAVATION BELOW OHW: 1173 CY  
NET FILL BELOW OHW: 140 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 3

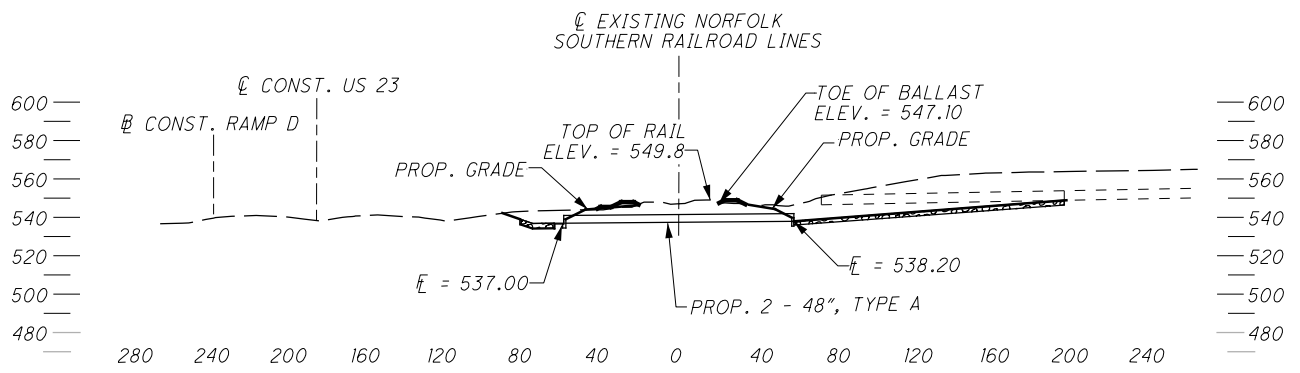
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 300'  
CROSS SECTION SCALE: 1" = 20'

DATE: AUGUST 15, 2013

# FIGURE 3-3



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 3

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

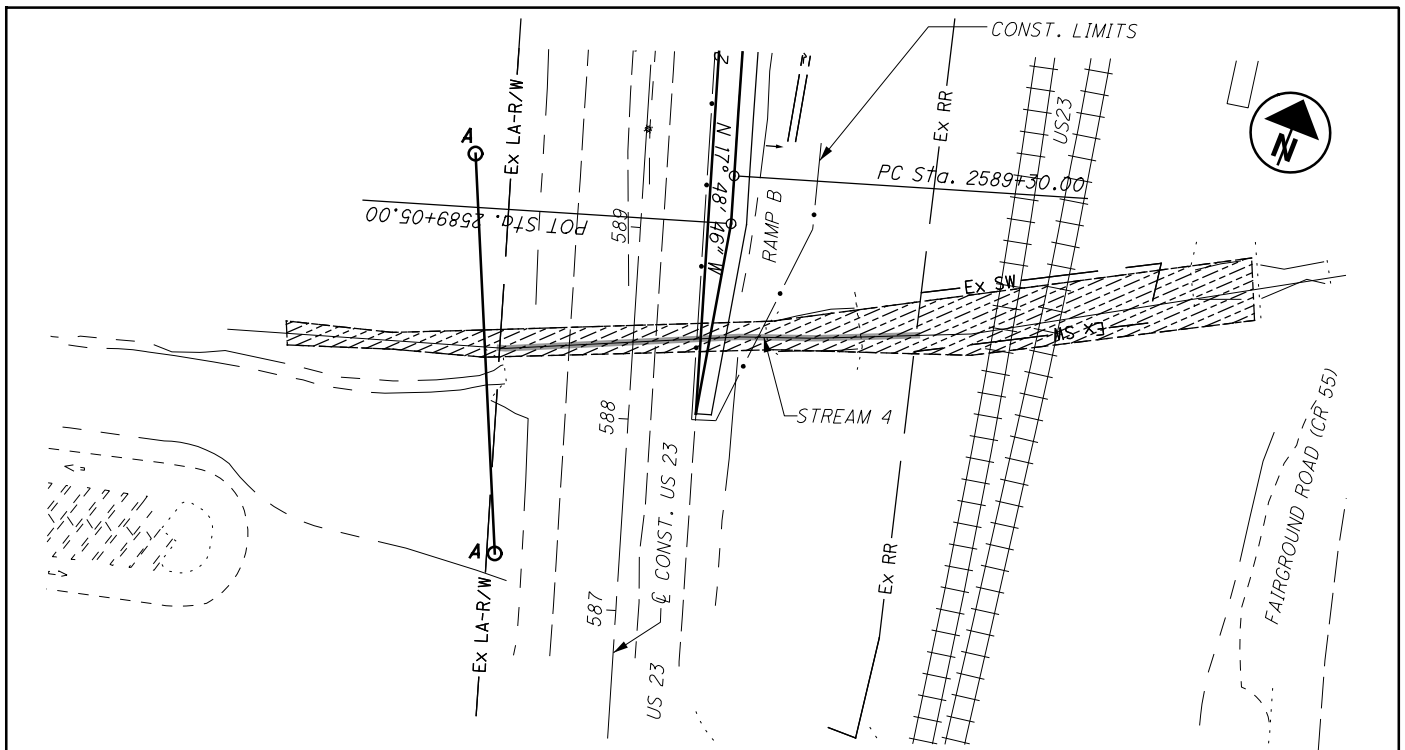
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OSPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

CULVERT SCALE: 1"=100'

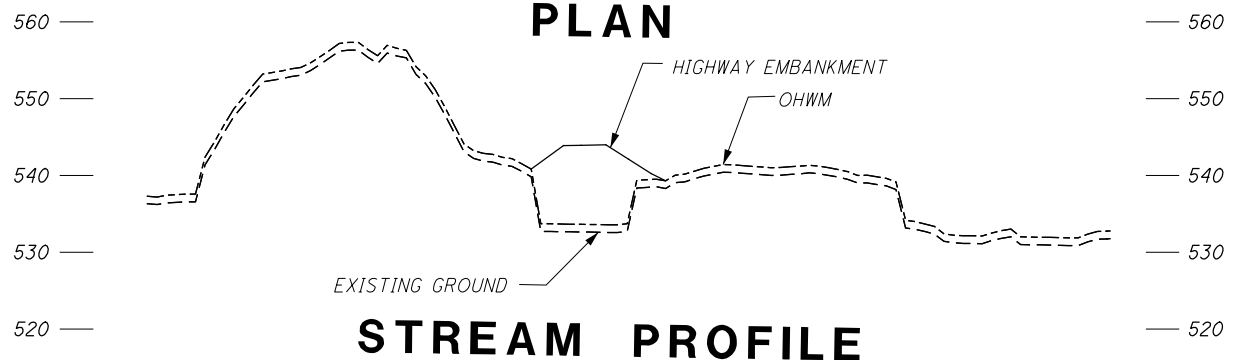
DATE: AUGUST 15, 2013

## FIGURE 3-3A

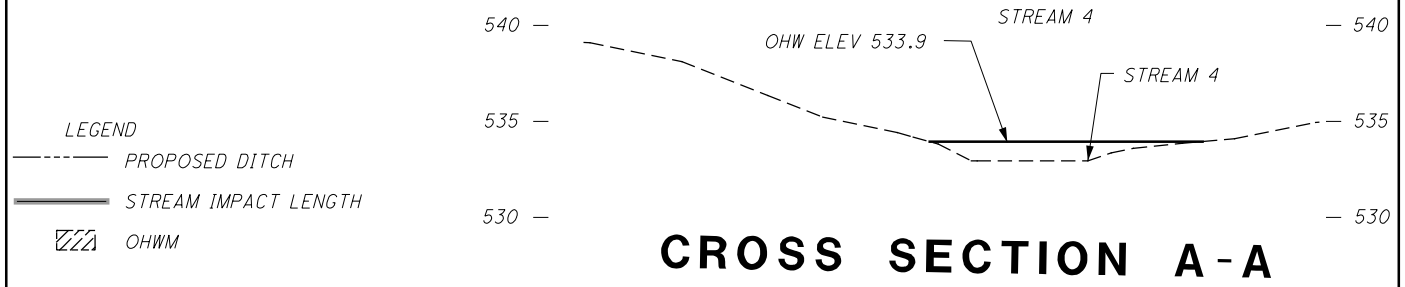




**PLAN**



**STREAM PROFILE**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
 HOWARD BROTHERS FARM, LLC  
 NORFOLK SOUTHERN RAILWAY COMPANY

LENGTH OF IMPACT: 218 LF  
 AREA EXCAVATED OR FILLED: 0.05 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 40 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 4**

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1" = 10'  
 STREAM PROFILE: 1" = 100'

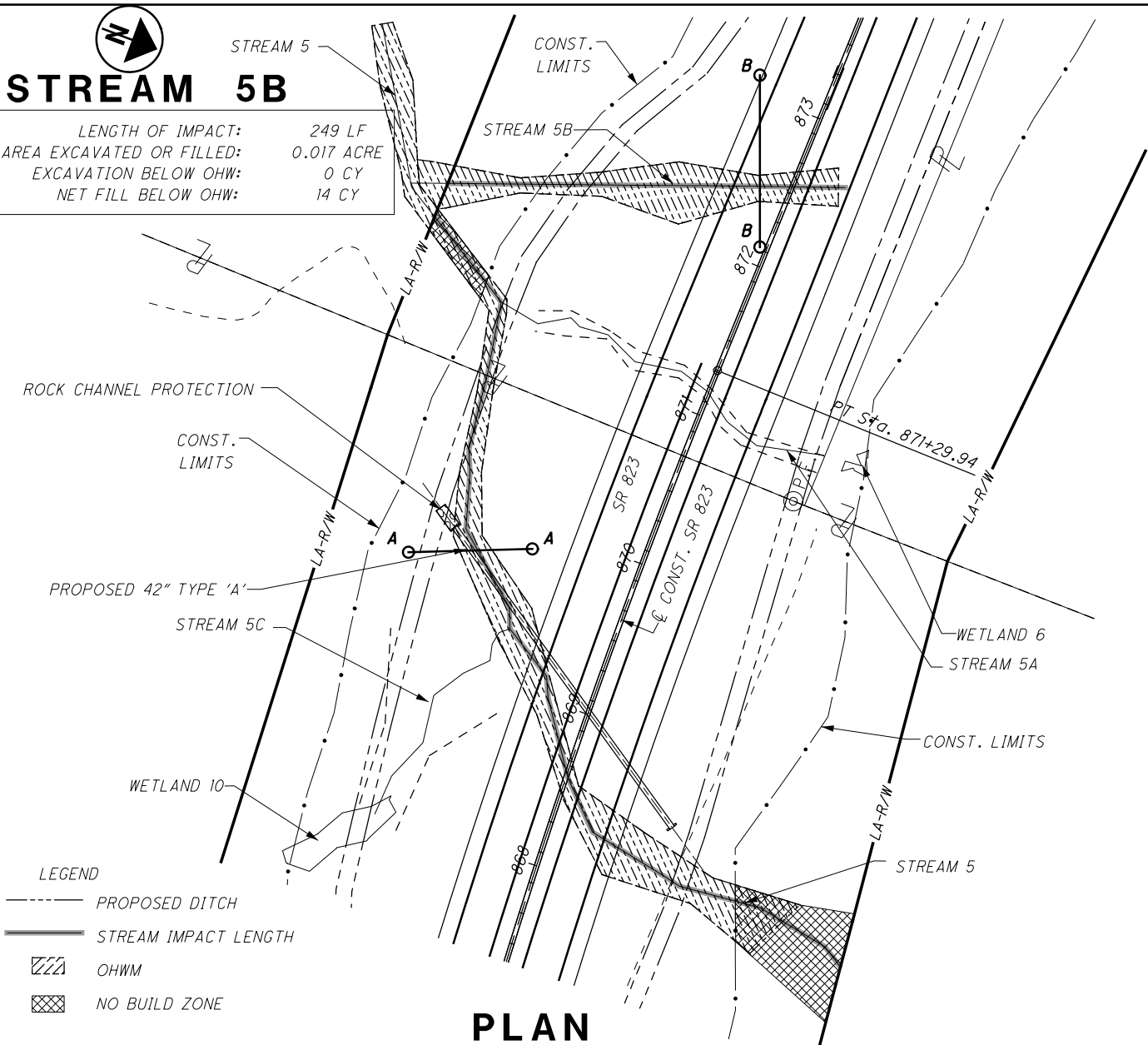
DATE: AUGUST 15, 2013

**FIGURE  
 3-4**

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

**STREAM 5B**

LENGTH OF IMPACT: 249 LF  
 AREA EXCAVATED OR FILLED: 0.017 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 14 CY



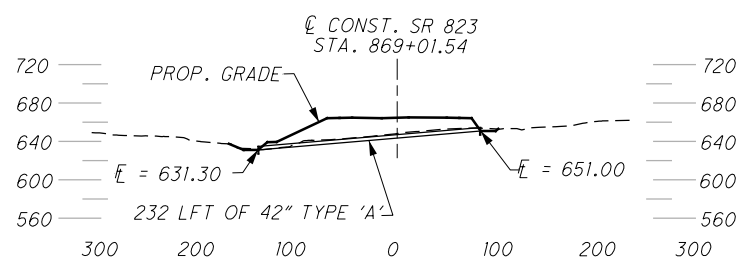
- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM
  - ▩ NO BUILD ZONE

**PROPERTY OWNERS:**  
 RANDALL SPRIGGS AND BETTY SPRIGGS  
 GAHM PROPERTIES, LLC

**STREAM 5**

LENGTH OF IMPACT: 469 LF  
 AREA EXCAVATED OR FILLED: 0.119 ACRE  
 EXCAVATION BELOW OHW: 11 CY  
 NET FILL BELOW OHW: 115 CY

**PLAN**



**CULVERT PROFILE**



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 5  
 STREAM 5B**

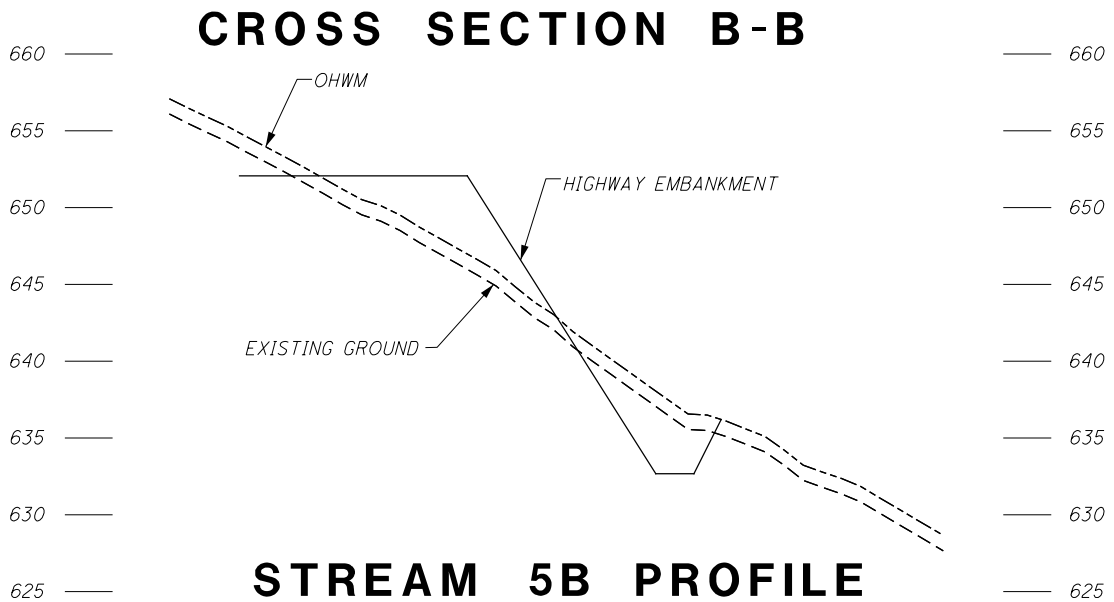
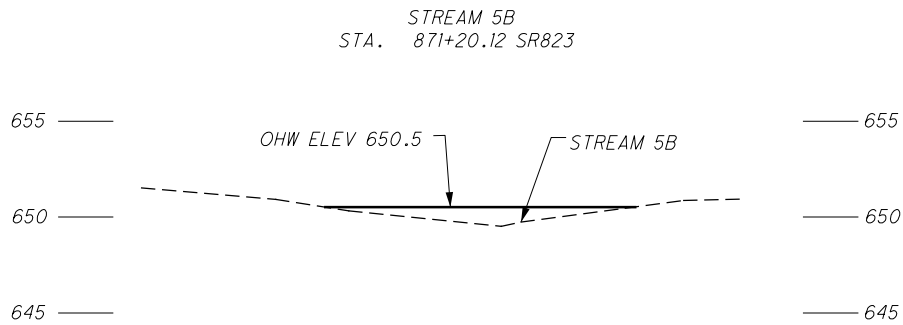
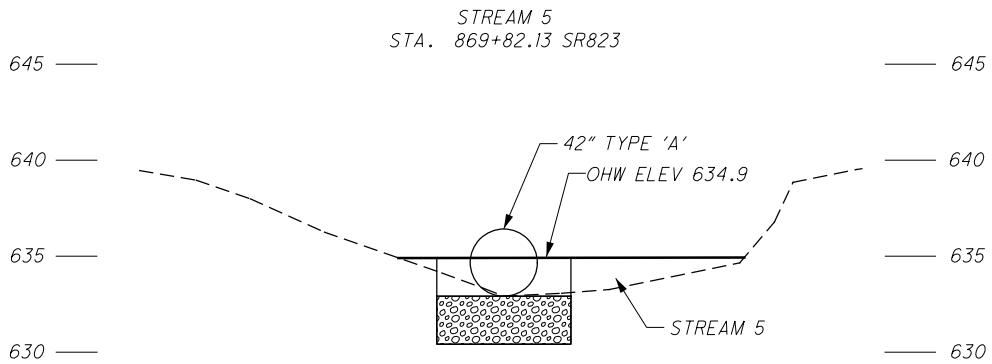
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

**FIGURE  
 3-5**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 5  
STREAM 5B**

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

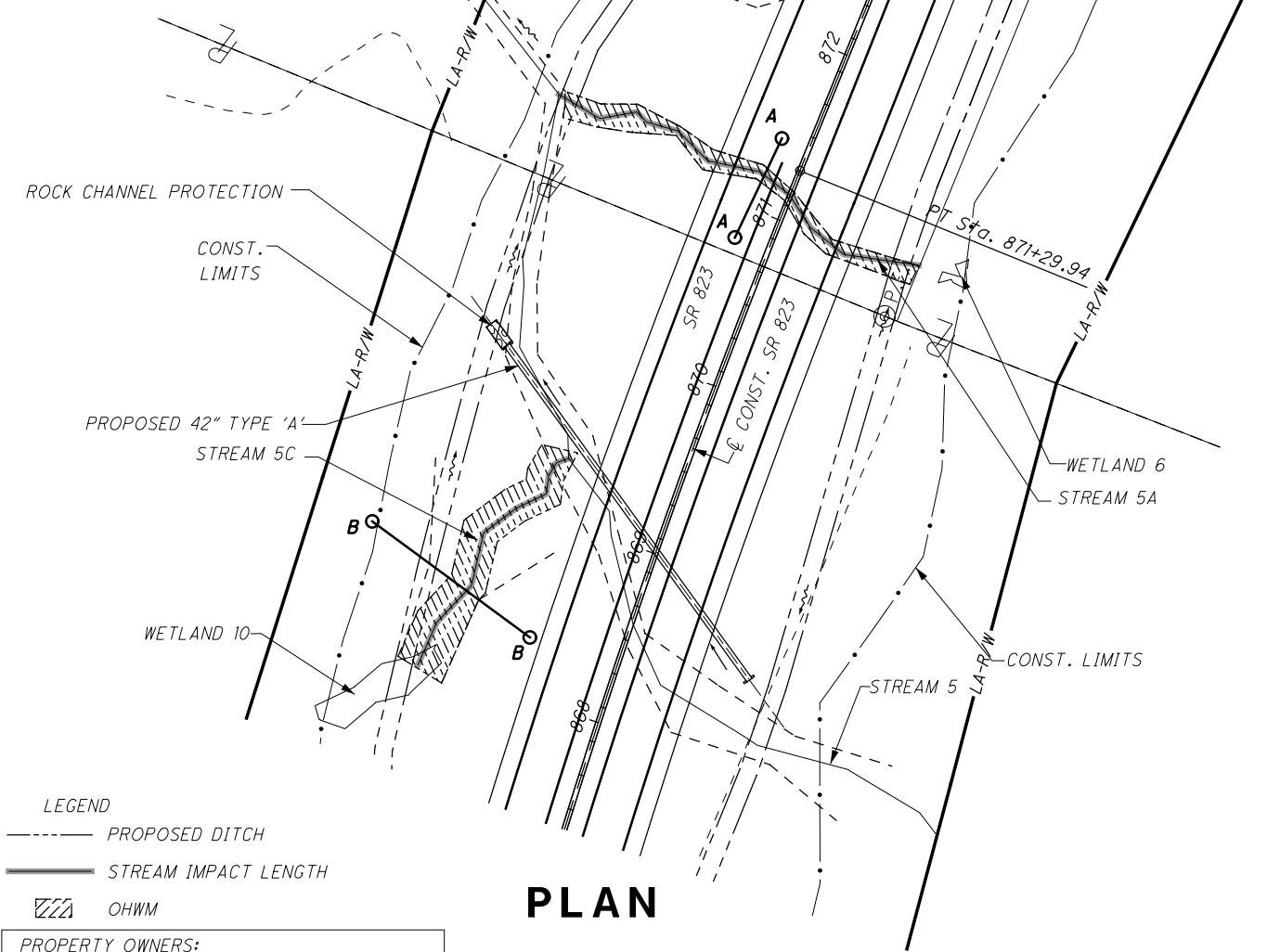
CROSS SECTION 1"=10'  
PROFILE 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-5A**

**STREAM 5A**

LENGTH OF IMPACT: 237 LF  
 AREA EXCAVATED OR FILLED: 0.016 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 13 CY



**LEGEND**

----- PROPOSED DITCH

———— STREAM IMPACT LENGTH

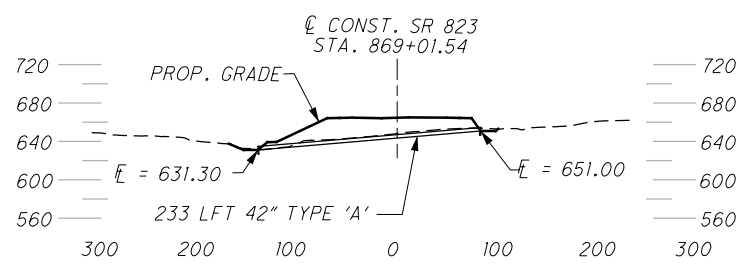
▨ OHWM

**PROPERTY OWNERS:**  
 RANDALL SPRIGGS AND BETTY SPRIGGS  
 GAHM PROPERTIES, LLC  
 SOUTHERN OHIO MANAGMENT CORPORATION

**STREAM 5C**

LENGTH OF IMPACT: 153 LF  
 AREA EXCAVATED OR FILLED: 0.007 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 6 CY

**PLAN**



**CULVERT PROFILE**



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 5A STREAM 5C**

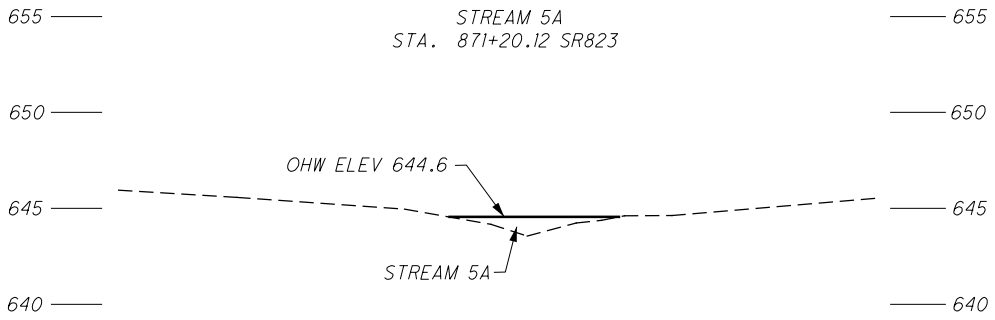
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

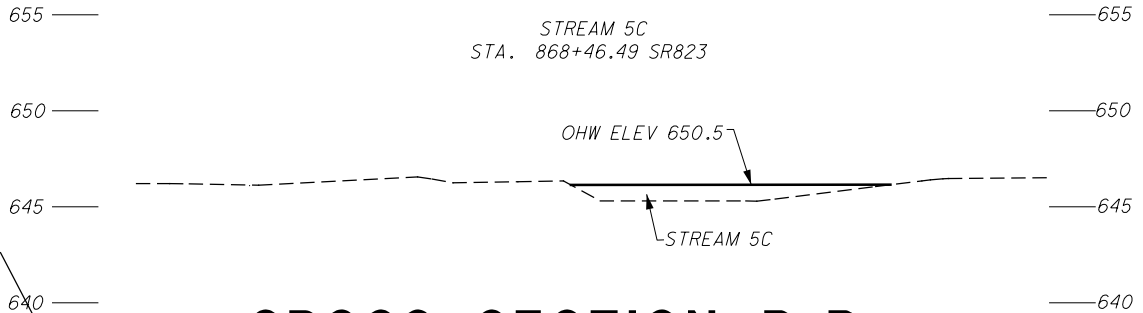
PLAN SCALE: 1" = 100'  
 CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

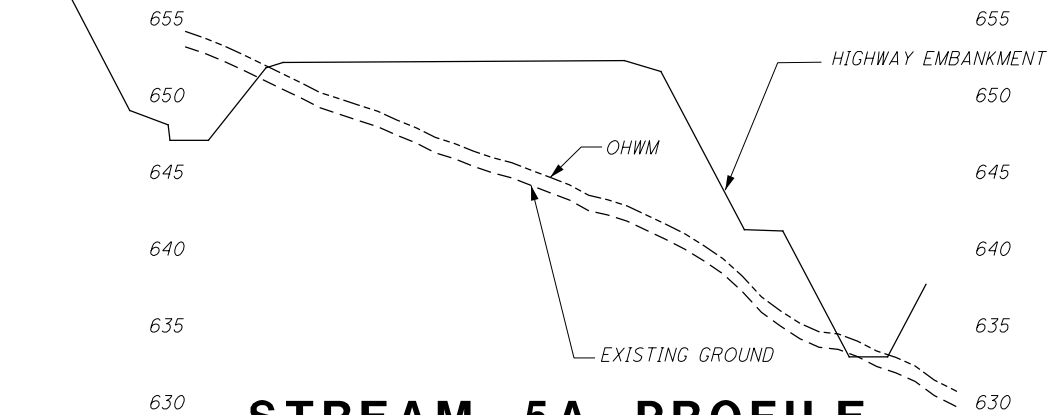
**FIGURE 3-6**



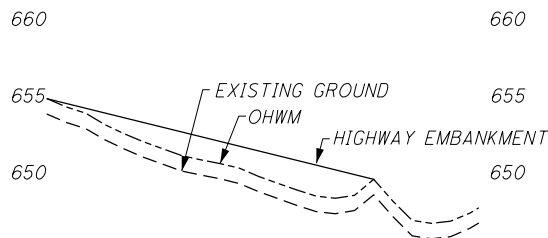
**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 5A PROFILE**



**STREAM 5C PROFILE**



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 5A  
 STREAM 5C**

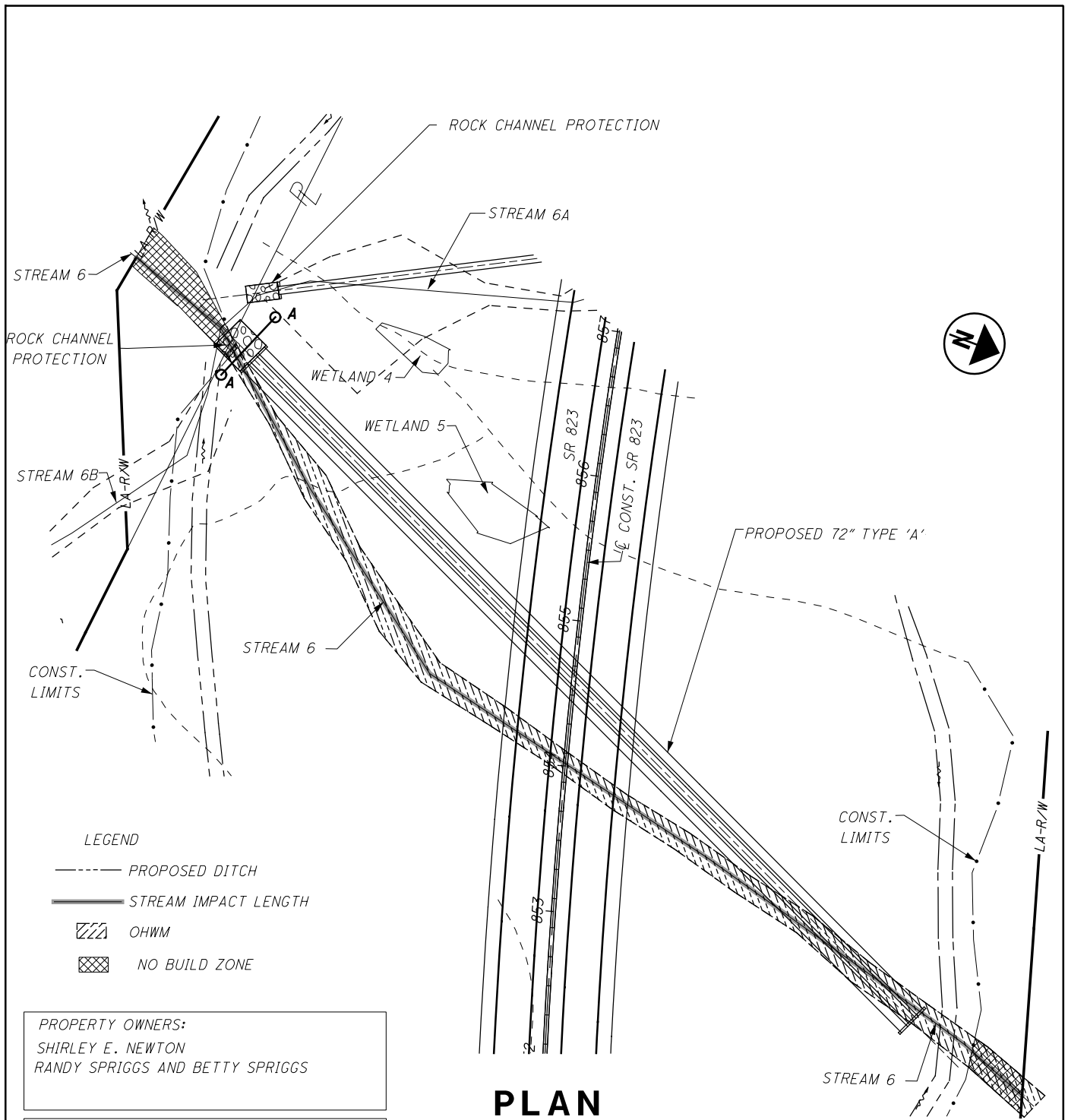
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

CROSS SECTION SCALE 1" = 10"  
 PROFILE 1" = 50"

DATE: AUGUST 15, 2013

**FIGURE  
 3-6A**



**PLAN**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 6**

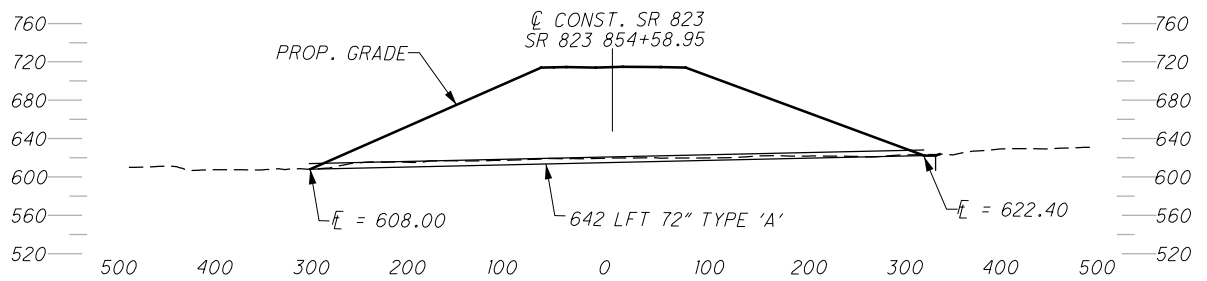
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

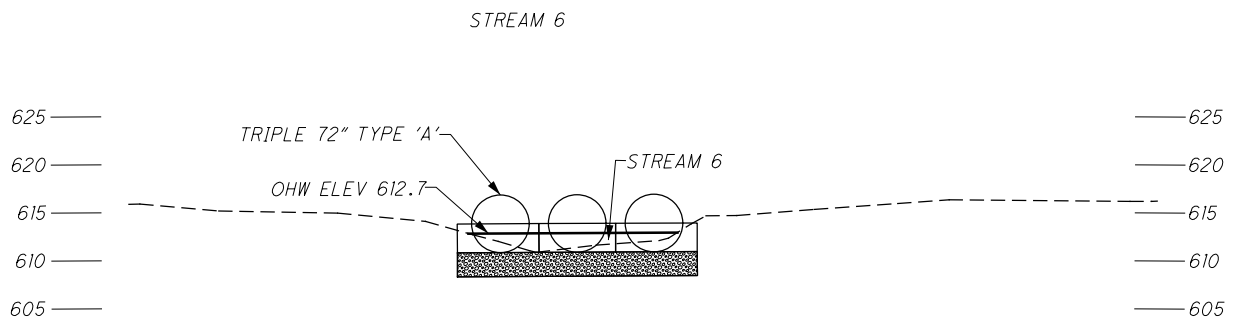
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
3-7**



## CULVERT PROFILE



## CROSS SECTION A-A



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 6

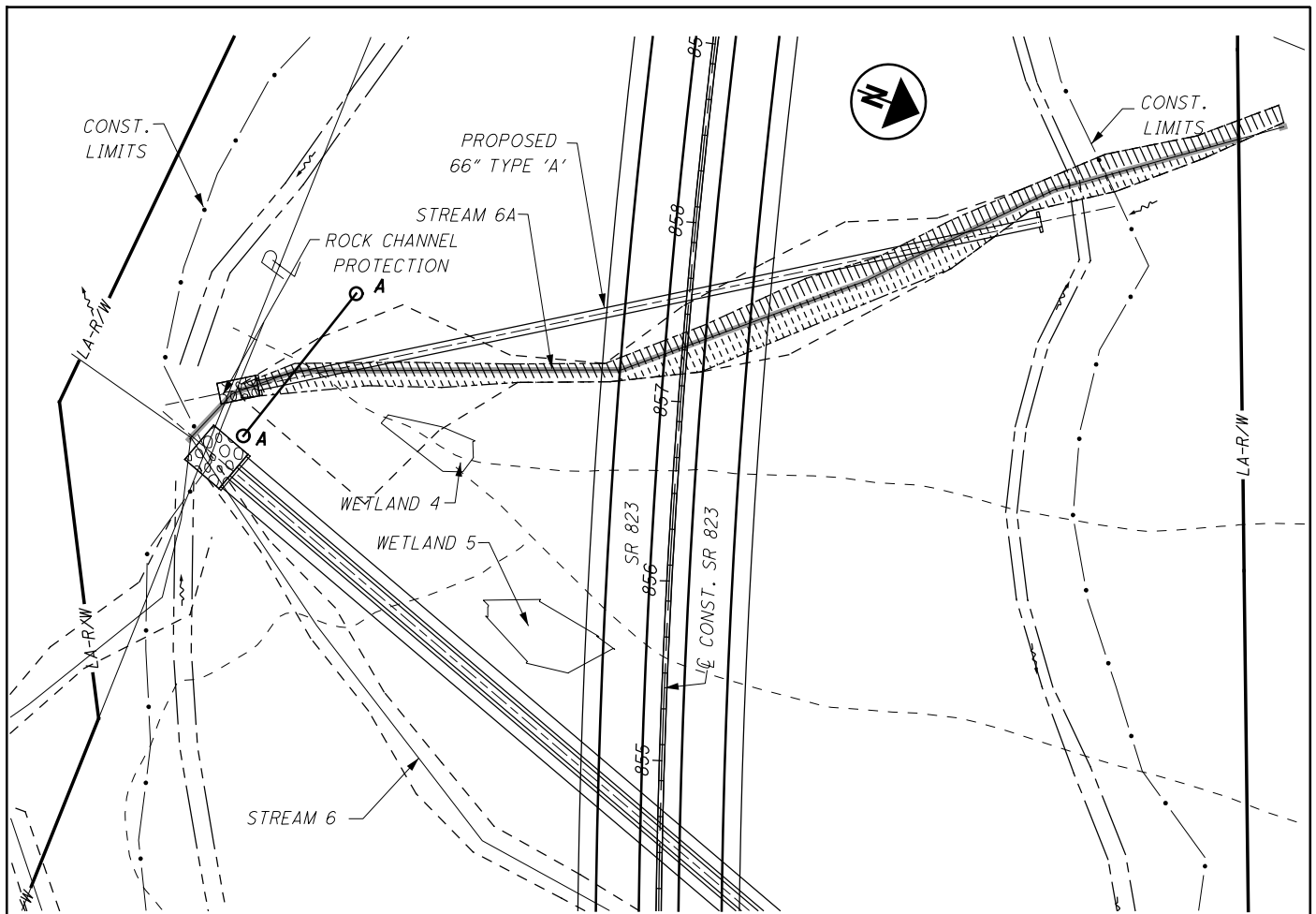
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1"=50'  
CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

## FIGURE 3-7A



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 SHIRLEY E. NEWTON  
 RANDY SPRIGGS AND BETTY SPRIGGS

LENGTH OF IMPACT:	620 LF
AREA EXCAVATED OR FILLED:	0.128 ACRE
EXCAVATION BELOW OHW:	27 CY
NET FILL BELOW OHW:	114 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 6A**

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

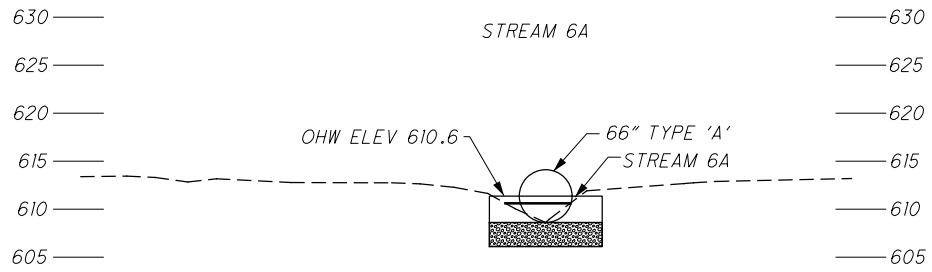
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

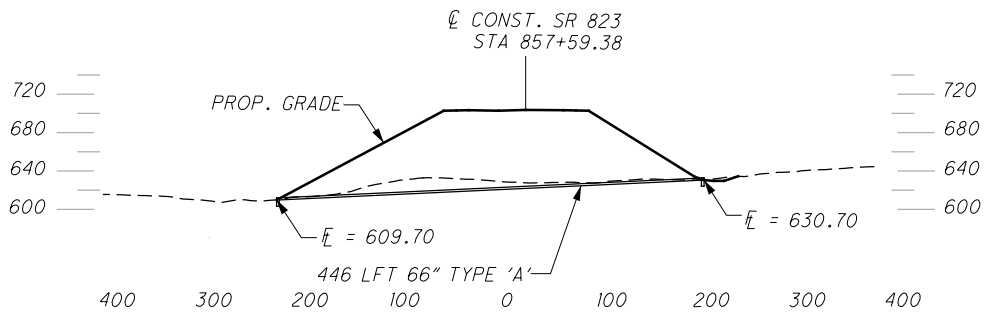
DATE: AUGUST 15, 2013

**FIGURE  
 3-8**





### CROSS SECTION A-A



### CULVERT PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 6A

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

CULVERT PROFILE 1" = 50'  
CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

## FIGURE 3-8A



ROCK CHANNEL PROTECTION

WETLAND 4

WETLAND 5

STREAM 6B

CONST. LIMITS

STREAM 6

SR 823

CONST. SR 823

STREAM 6B

CONST. LIMITS

# PLAN

## LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- OHWM
- NO BUILD ZONE

PROPERTY OWNERS:  
MERINA J. HOWARD

LENGTH OF IMPACT:	689 LF
AREA EXCAVATED OR FILLED:	0.149 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	179 CY

CONST. LIMITS

STREAM 6B

STREAM 6B

STREAM 6B2

SC Sta.

STREAM 6B1



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 6B

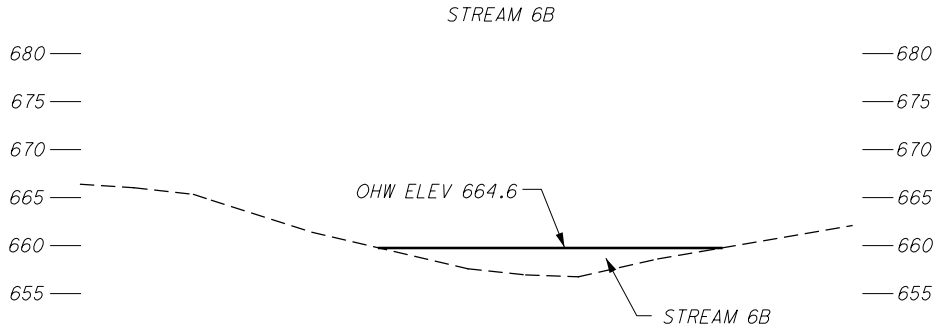
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

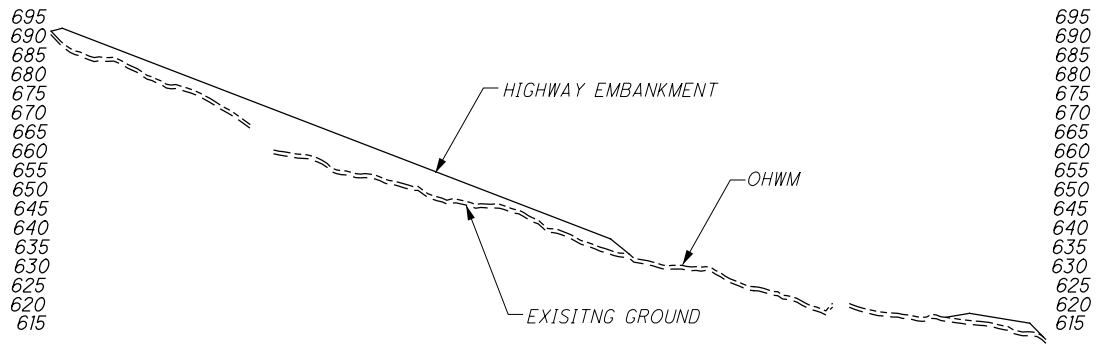
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

# FIGURE 3-9



## CROSS SECTION A-A



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 6B

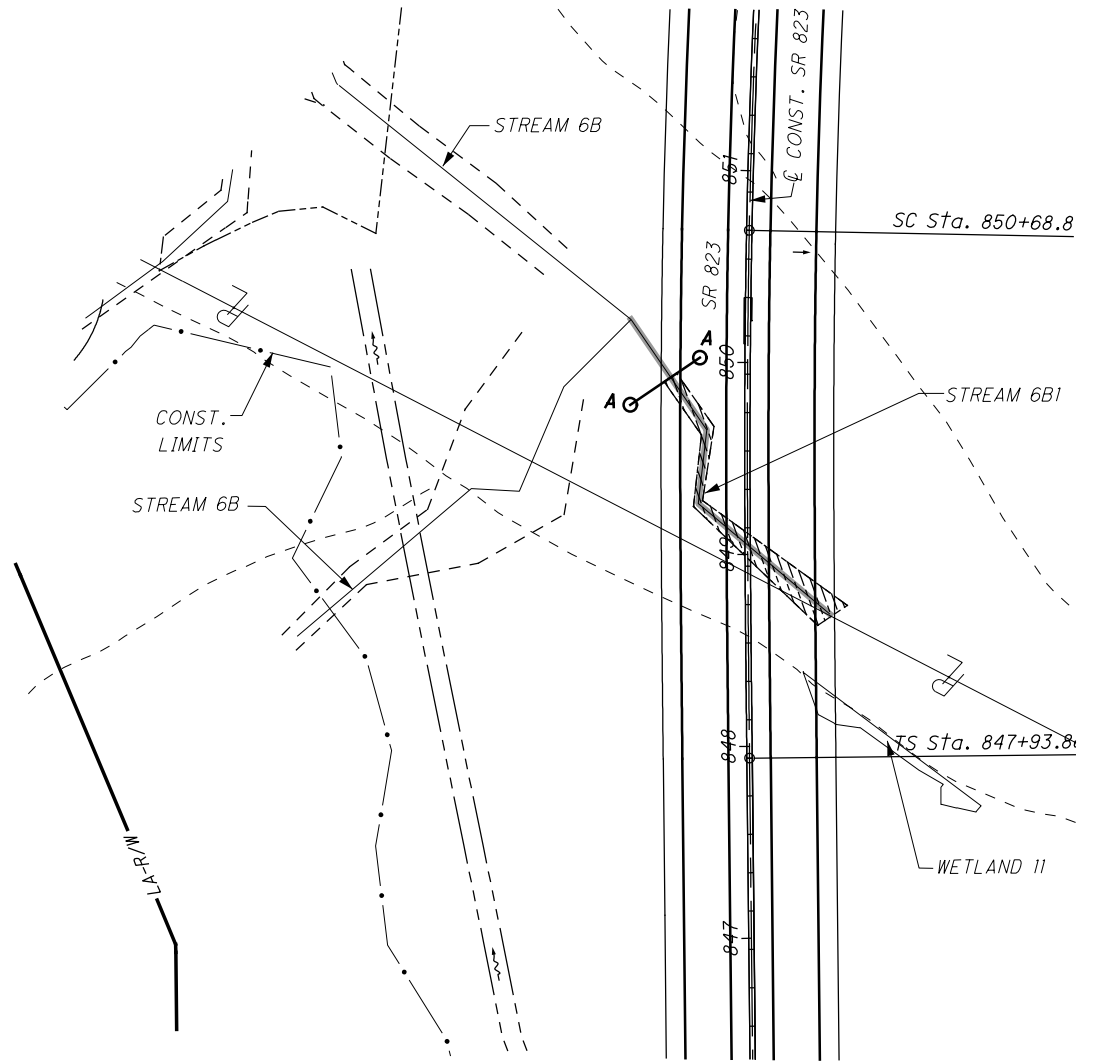
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'  
STREAM PROFILE 1"=200'

DATE: AUGUST 15, 2013

## FIGURE 3-9A



# PLAN

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨ OHWM

PROPERTY OWNERS:  
MERINA J. HOWARD

LENGTH OF IMPACT:	198 LF
AREA EXCAVATED OR FILLED:	0.014 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	11 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 6B1

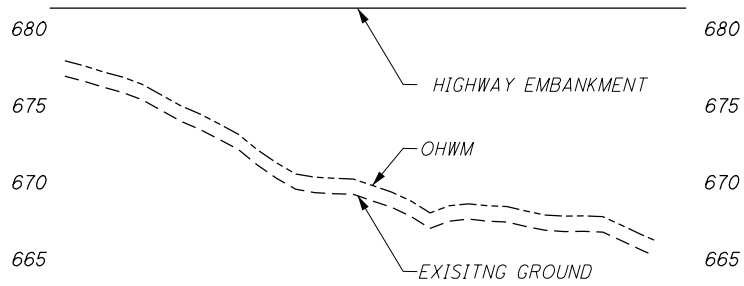
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

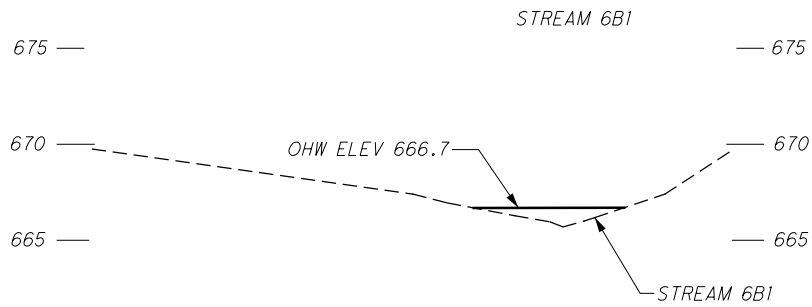
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

# FIGURE 3-10



## STREAM PROFILE



## CROSS SECTION A-A



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 6B1

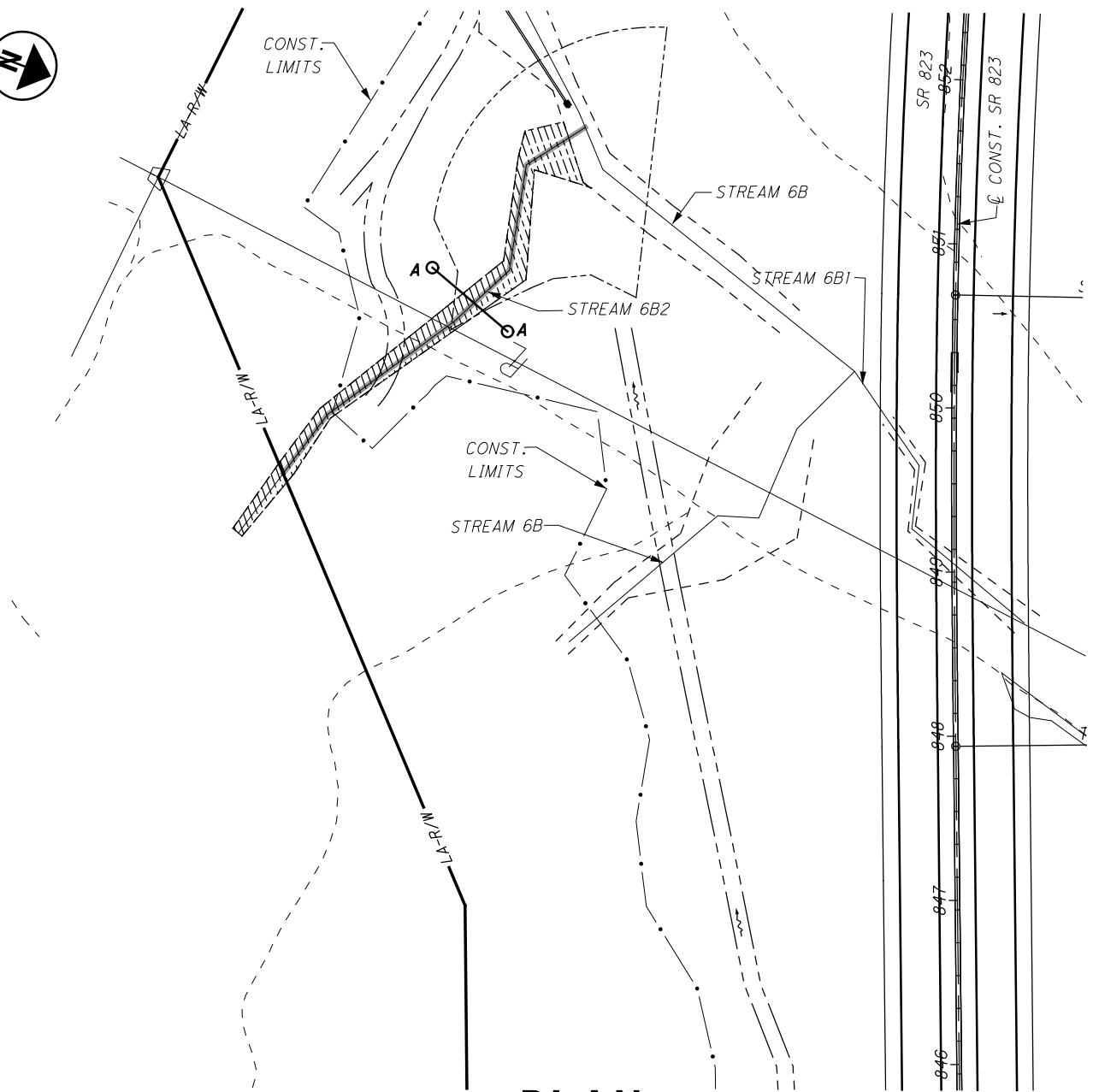
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION: 1"=10'  
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

## FIGURE 3-10A



**PLAN**

PROPERTY OWNERS:  
MERINA J. HOWARD

LENGTH OF IMPACT:	294 LF
AREA EXCAVATED OR FILLED:	0.020 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	25 CY

LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨ OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 6B2**

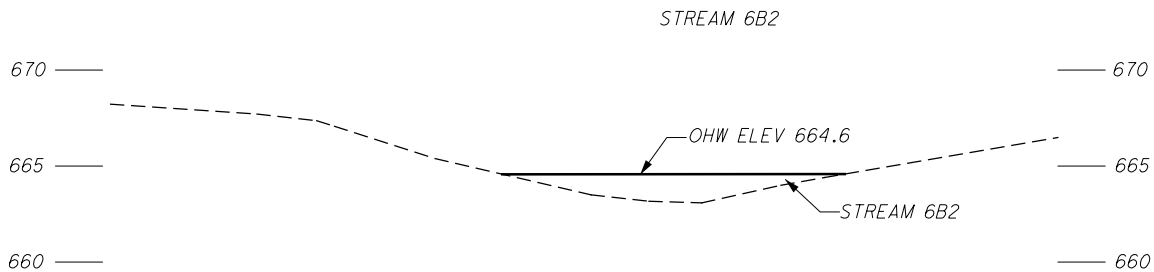
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

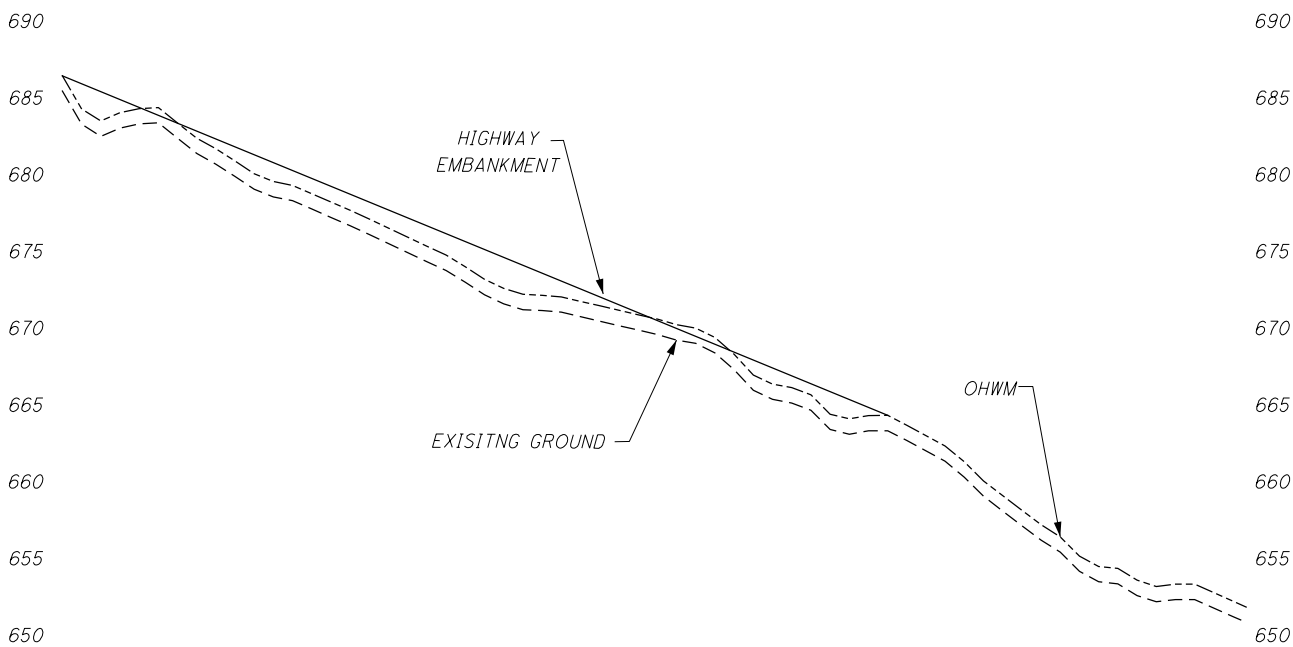
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
3-11**



### CROSS SECTION A-A



### STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 6B2

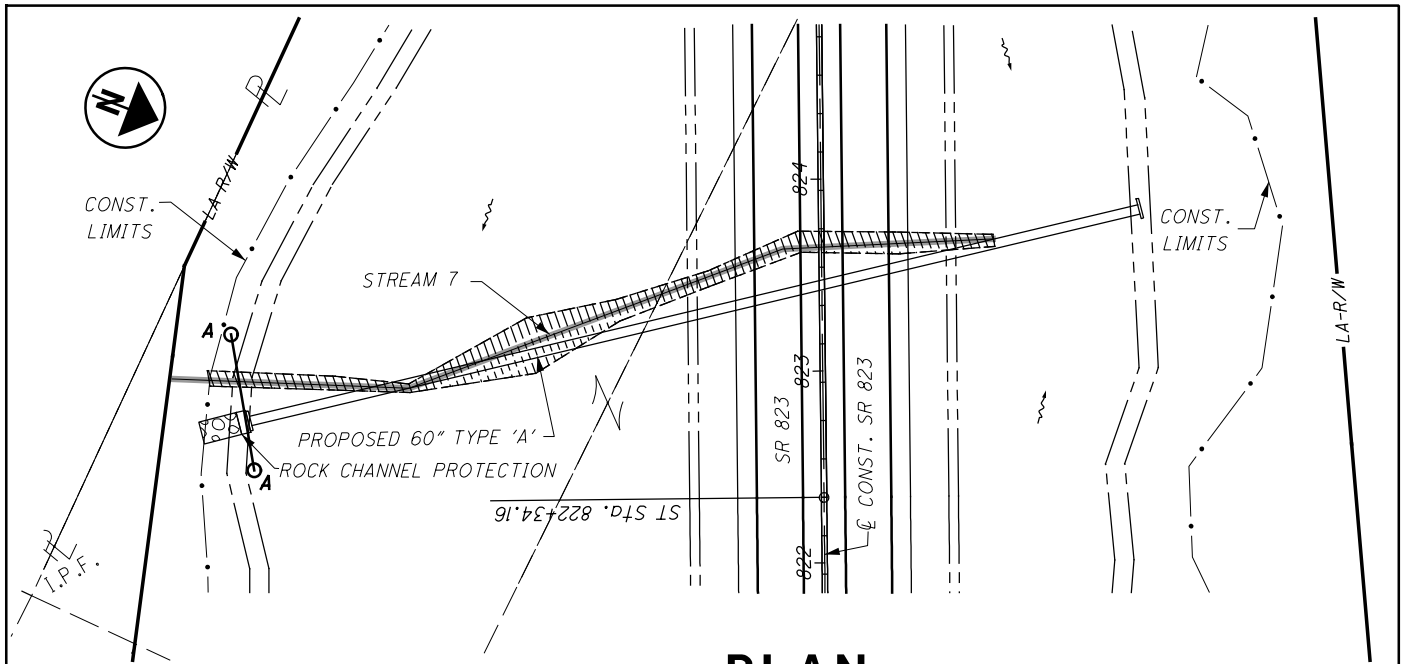
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

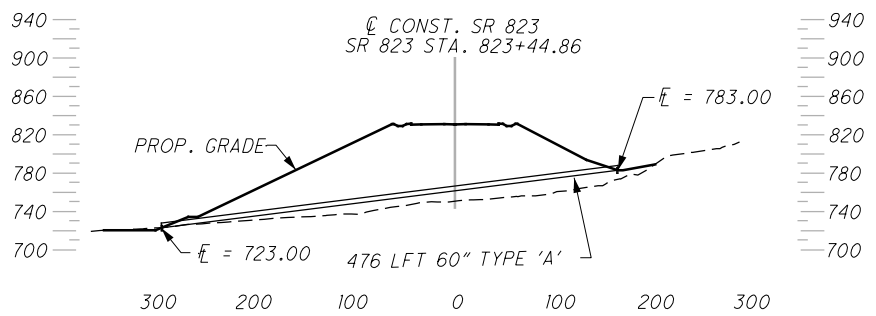
CROSS SECTION SCALE 1:10  
 STREAM PROFILE 1"=50'

DATE: AUGUST 15, 2013

## FIGURE 3-11A



## PLAN

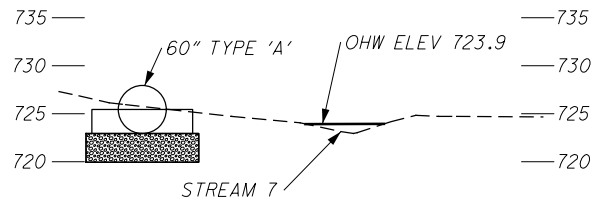


## CULVERT PROFILE

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 WILCOX LAND FINANCE COMPANY, LLC,  
 AN OHIO LIMITED LIABILITY COMPANY

LENGTH OF IMPACT:	441 LF
AREA EXCAVATED OR FILLED:	0.069 ACRE
EXCAVATION BELOW OHW:	34 CY
NET FILL BELOW OHW:	30 CY



## CROSS SECTION A-A



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 7

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

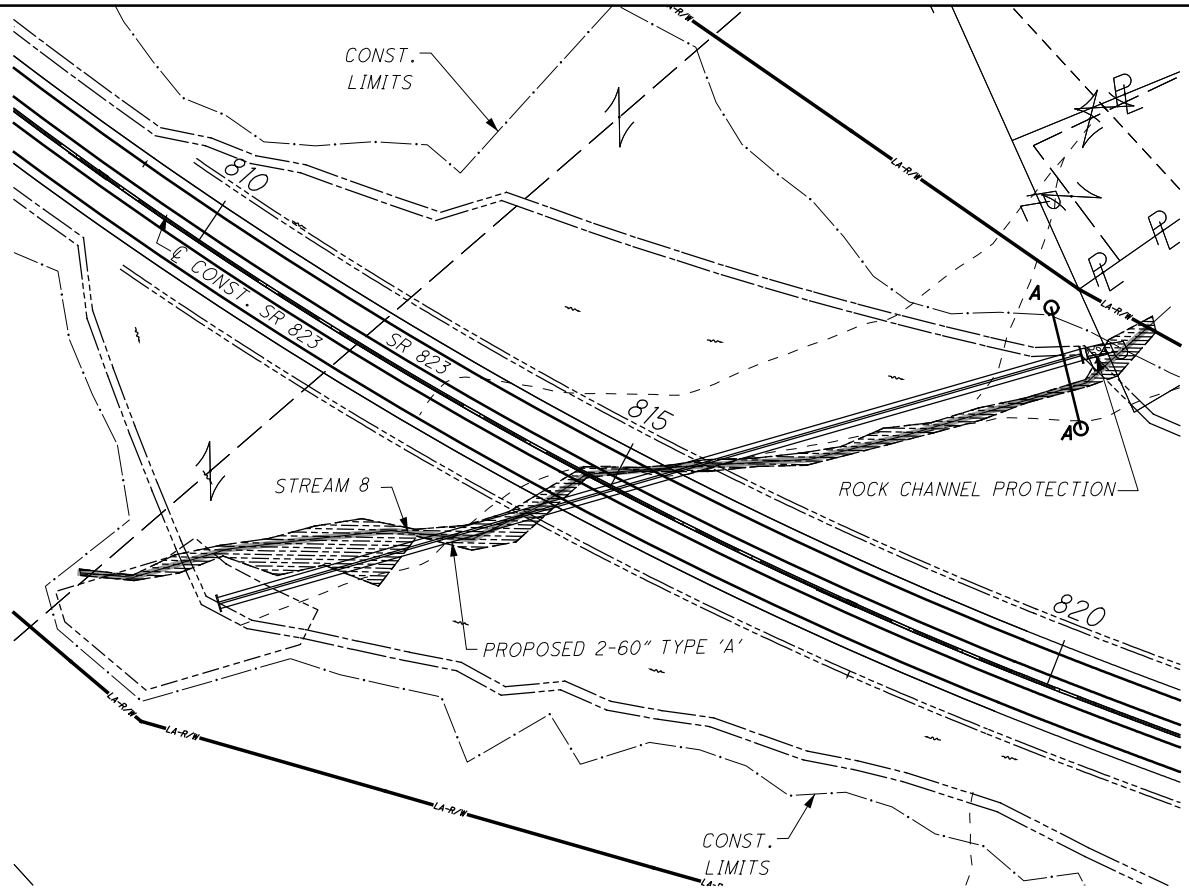
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 CULVERT PROFILE 1" = 50'  
 CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

## FIGURE 3-12





**PLAN**

**LEGEND**

- PROPOSED DITCH
- ===== STREAM IMPACT LENGTH
- OHWM

PROPERTY OWNERS:  
 WILCOX LAND FINANCE COMPANY, LLC,  
 AN OHIO LIMITED LIABILITY COMPANY

LENGTH OF IMPACT:	1170 LF
AREA EXCAVATED OR FILLED:	0.173 ACRE
EXCAVATION BELOW OHW:	31 CY
NET FILL BELOW OHW:	93 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 8**

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

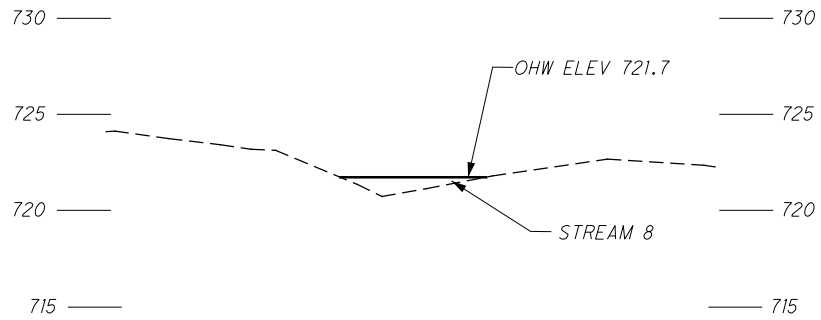
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'

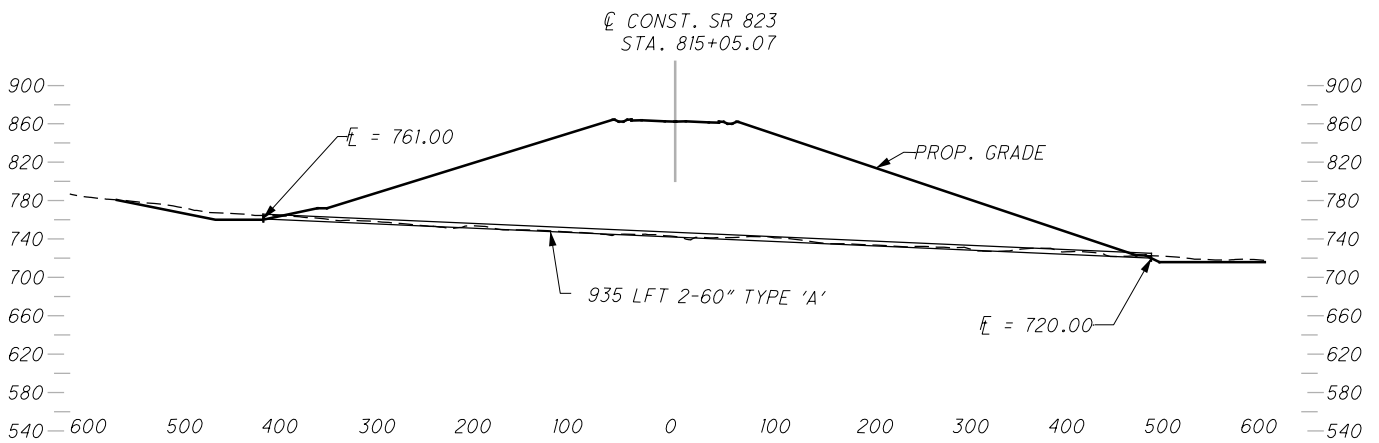
DATE: AUGUST 15, 2013

**FIGURE  
 3-13**

STREAM 8



### CROSS SECTION A-A



### CULVERT PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 8

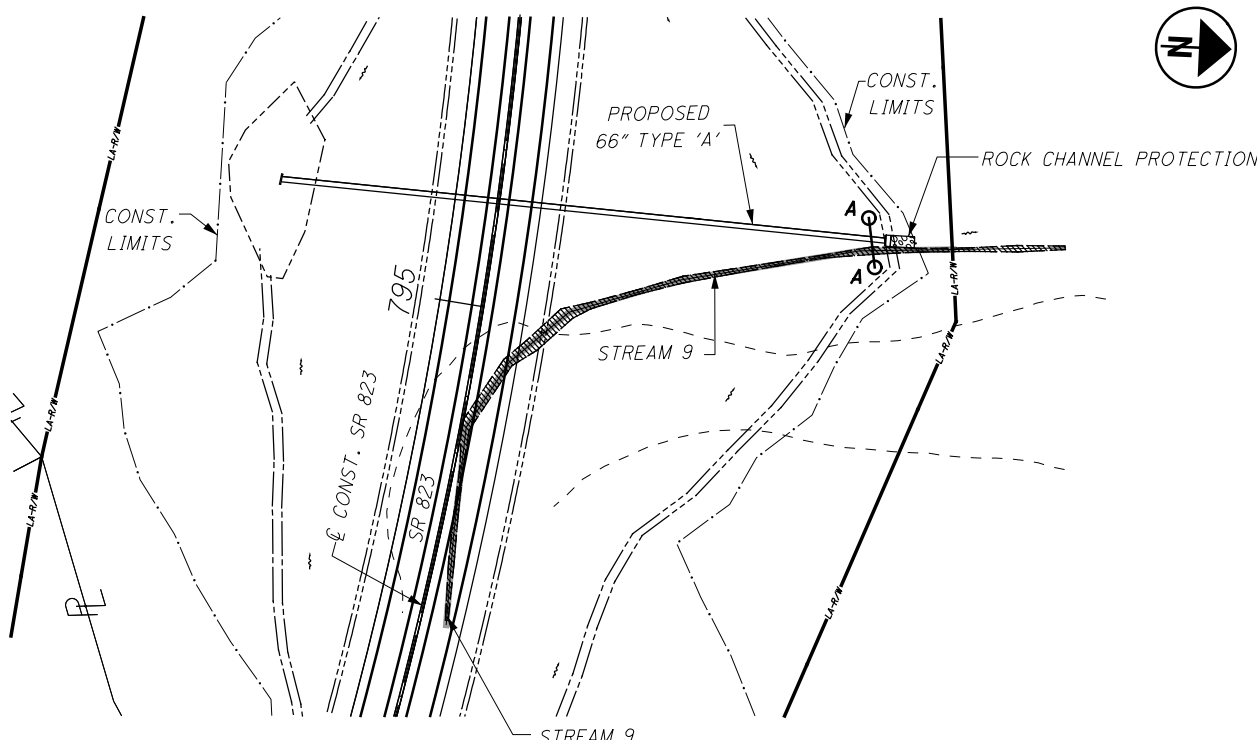
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1" = 50'  
CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

# FIGURE 3-13A



# PLAN

PROPERTY OWNERS:  
 WILCOX LAND FINANCE COMPANY, LLC,  
 AN OHIO LIMITED LIABILITY COMPANY

LENGTH OF IMPACT:	777 LF
AREA EXCAVATED OR FILLED:	0.081 ACRE
EXCAVATION BELOW OHW:	41 CY
NET FILL BELOW OHW:	57 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 9

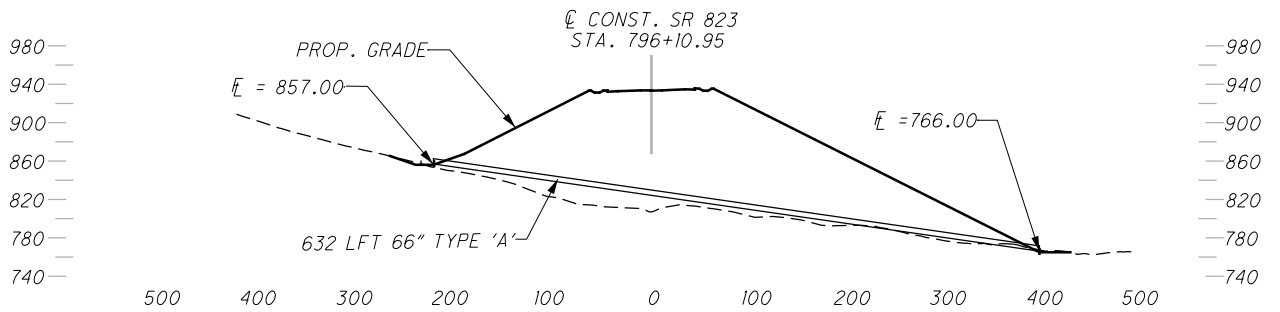
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

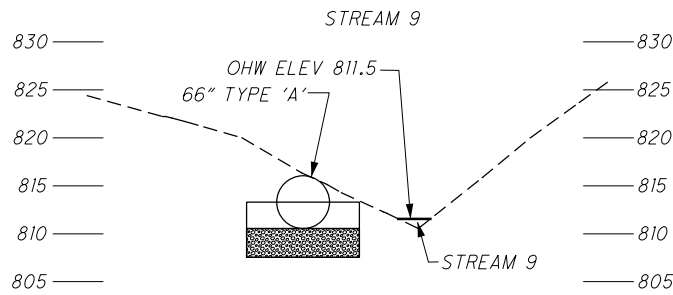
PLAN SCALE: 1" = 200'

DATE: AUGUST 15, 2013

# FIGURE 3-14



## CULVERT PROFILE



## CROSS SECTION A-A



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 9

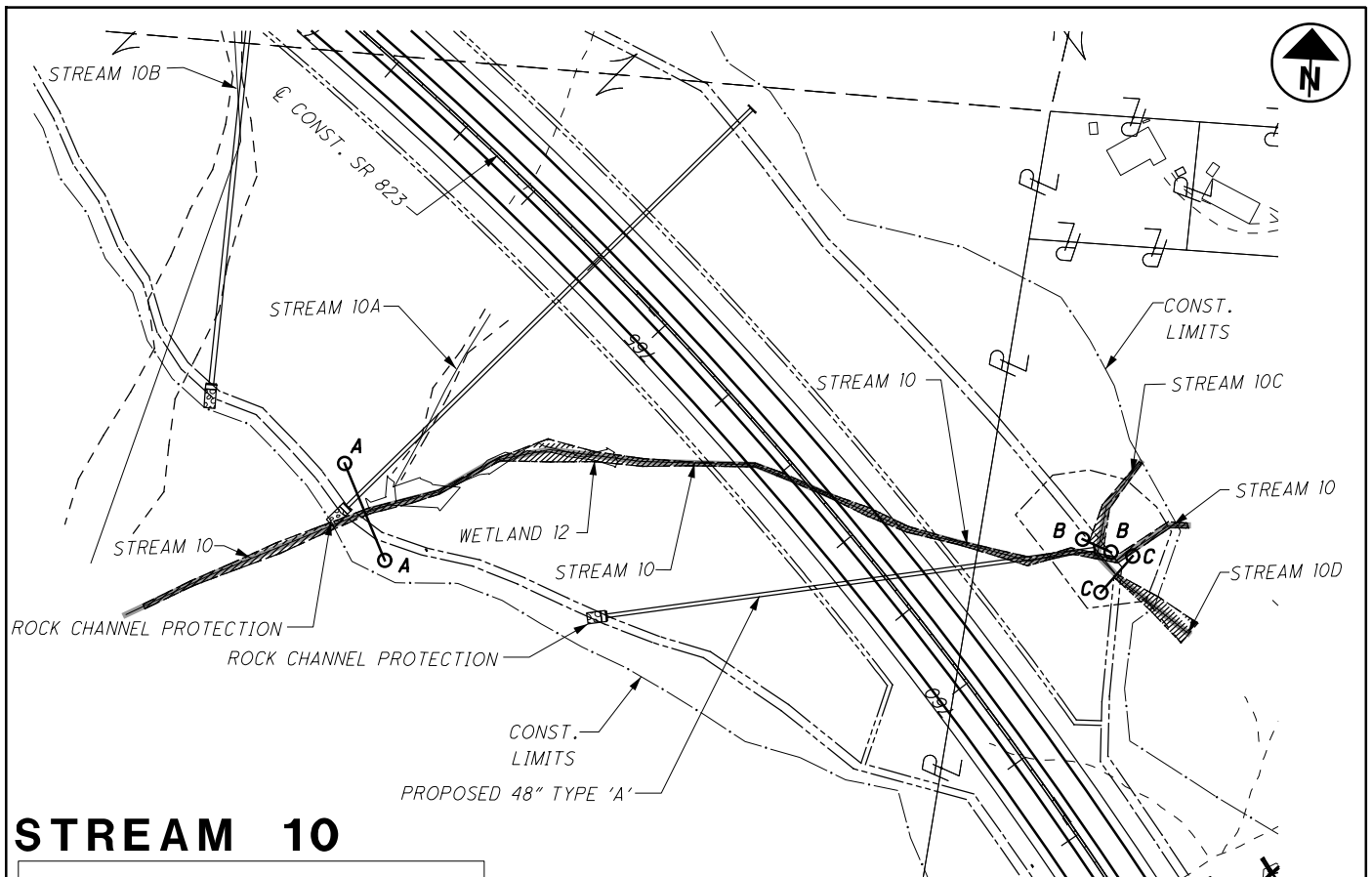
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1" = 50'  
CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

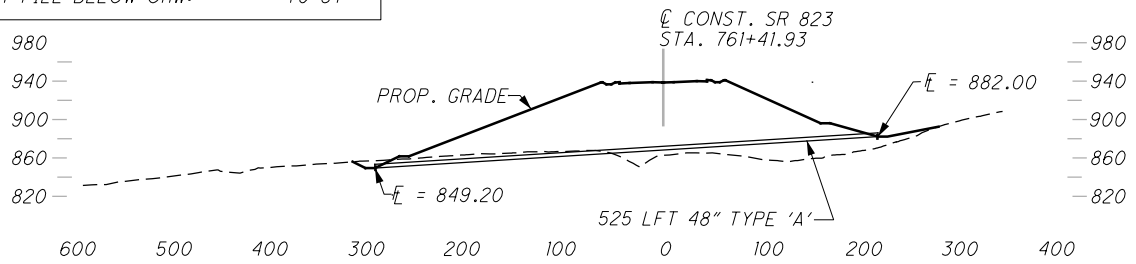
## FIGURE 3-14A



### STREAM 10

LENGTH OF IMPACT:	1020 LF
AREA EXCAVATED OR FILLED:	0.106 ACRE
EXCAVATION BELOW OHW:	23 CY
NET FILL BELOW OHW:	70 CY

### PLAN



### CULVERT PROFILE

PROPERTY OWNERS:  
 SCOTT WEST AND RONNIE WEST  
 JOSEPH C. BENNETT, JR.

### STREAM 10C

LENGTH OF IMPACT:	112 LF
AREA EXCAVATED OR FILLED:	0.008 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	6 CY

### STREAM 10D

LENGTH OF IMPACT:	128 LF
AREA EXCAVATED OR FILLED:	0.012 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	9 CY

LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 10, STREAM 10C, STREAM 10D

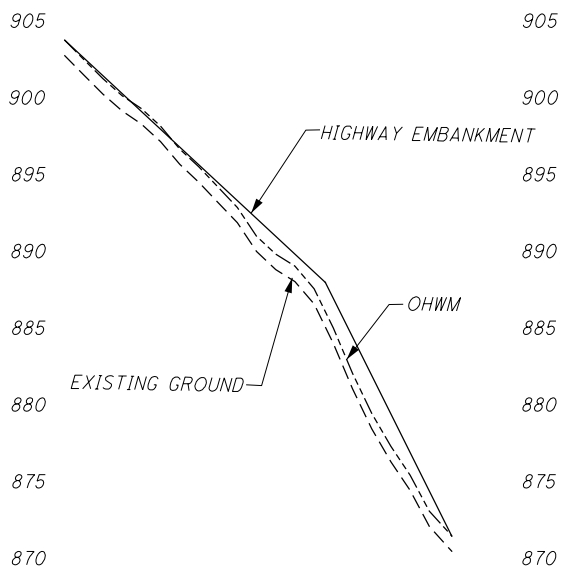
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

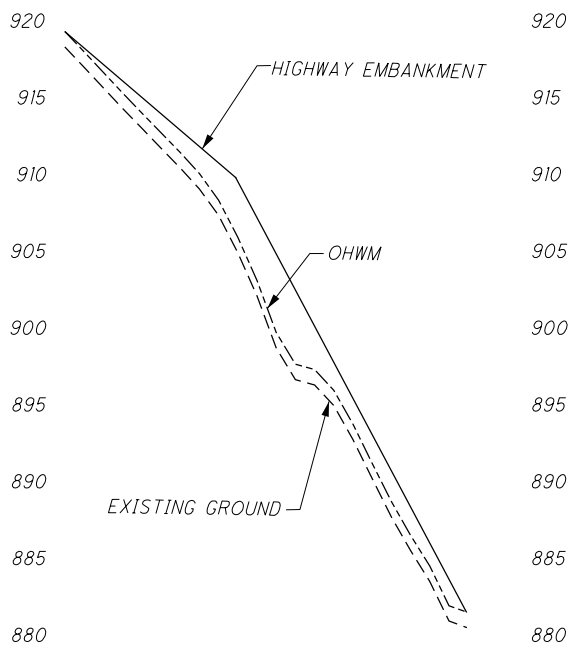
PLAN SCALE: 1" = 200'  
 CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

## FIGURE 3-15



### STREAM 10C PROFILE



### STREAM 10D PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 10C STREAM 10D

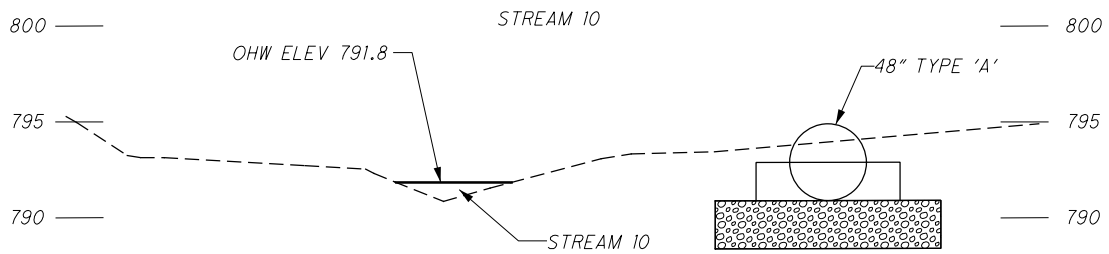
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

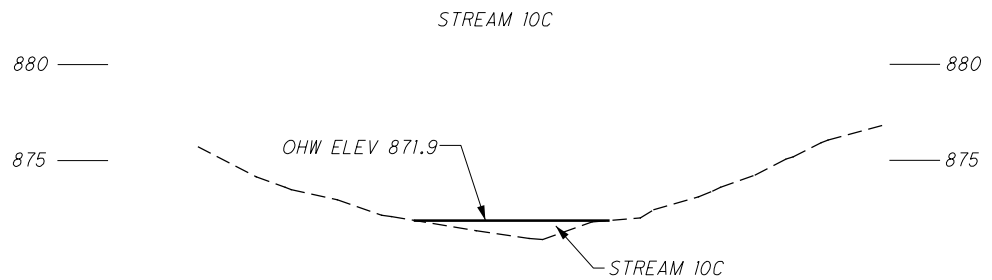
STREAM PROFILE 1" = 50'

DATE: AUGUST 15, 2013

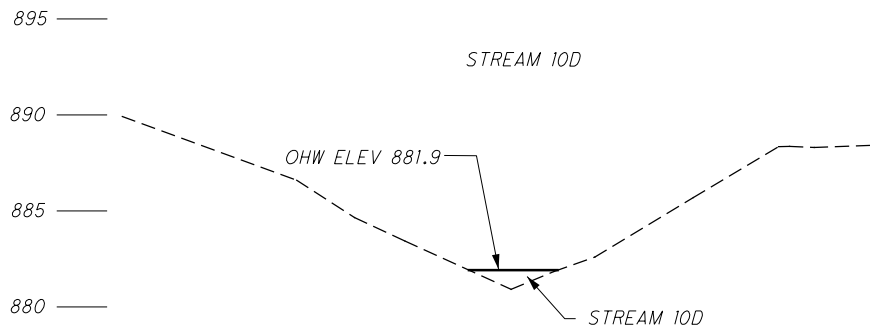
# FIGURE 3-15A



## CROSS SECTION A-A



## CROSS SECTION B-B



## CROSS SECTION C-C



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 10 STREAM 10C STREAM 10D

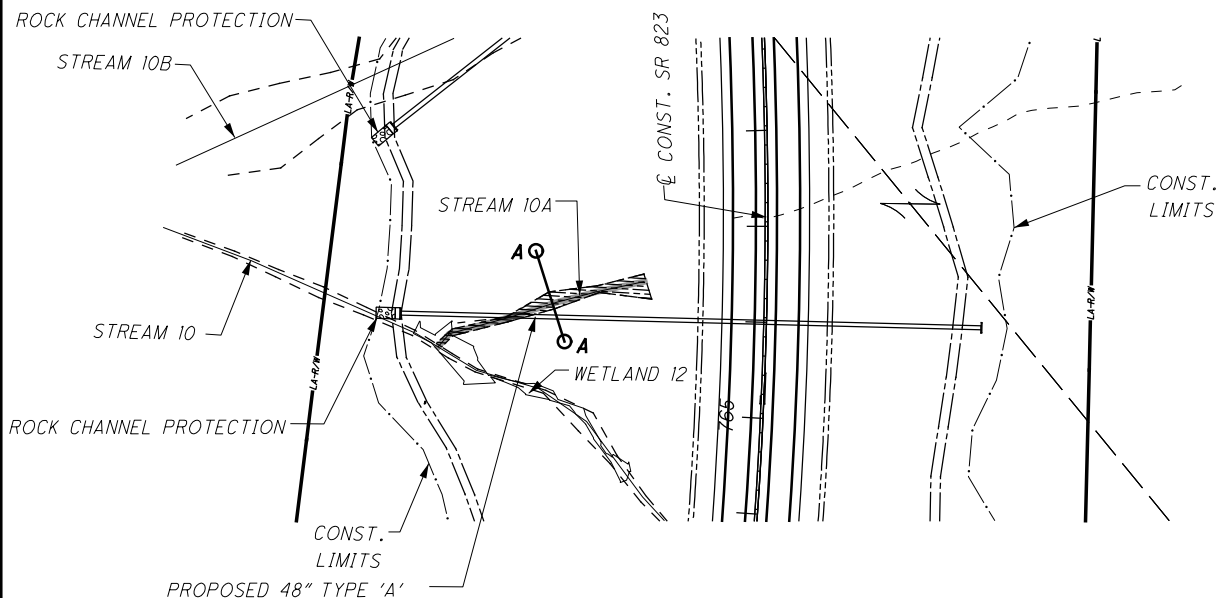
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

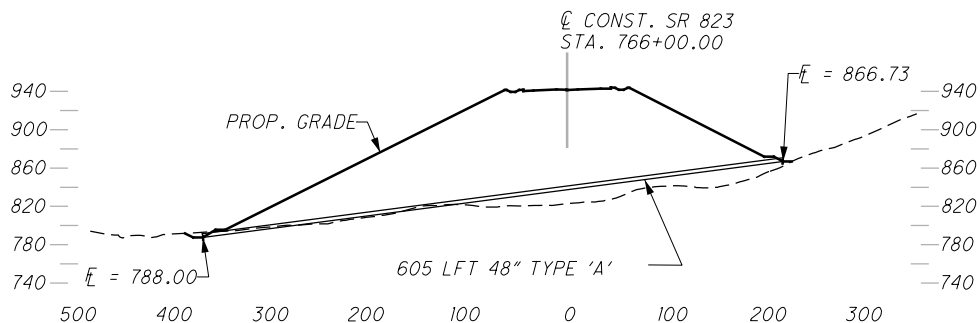
CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

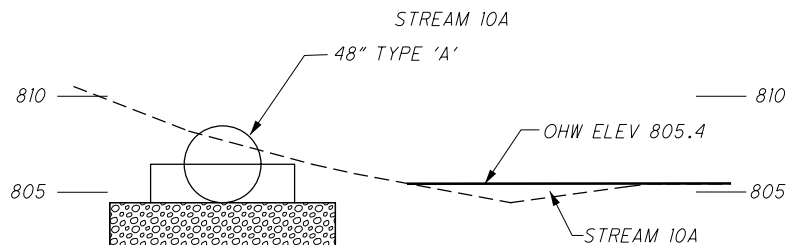
## FIGURE 3-15B



**PLAN**



**CULVERT PROFILE**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
SCOTT WEST AND RONNIE WEST

LENGTH OF IMPACT:	229 LF
AREA EXCAVATED OR FILLED:	0.030 ACRE
EXCAVATION BELOW OHW:	34 CY
NET FILL BELOW OHW:	15 CY

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 10A**

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

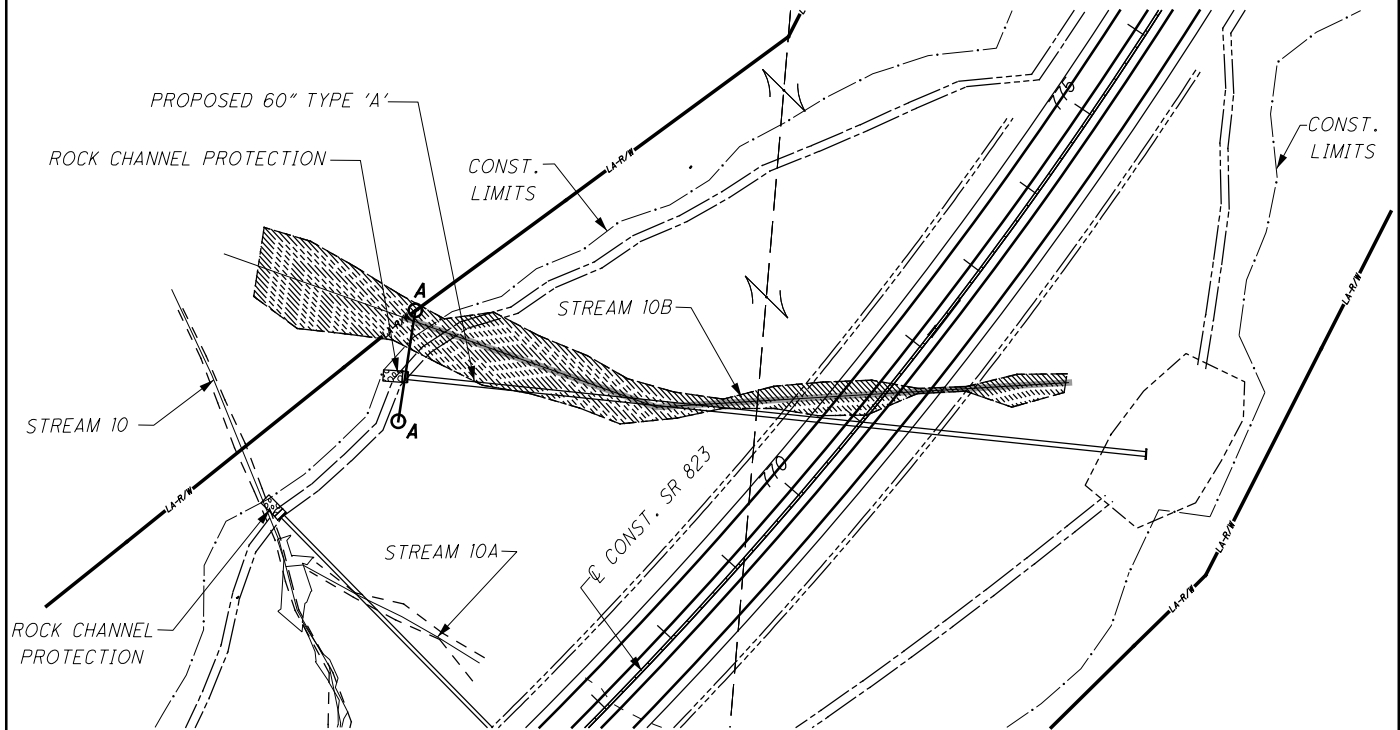
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
CULVERT PROFILE 1" = 50'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-16**





PROPERTY OWNERS:  
SCOTT WEST AND RONNIE WEST

LENGTH OF IMPACT:	708 LF
AREA EXCAVATED OR FILLED:	0.072 ACRE
EXCAVATION BELOW OHW:	35 CY
NET FILL BELOW OHW:	29 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 10B

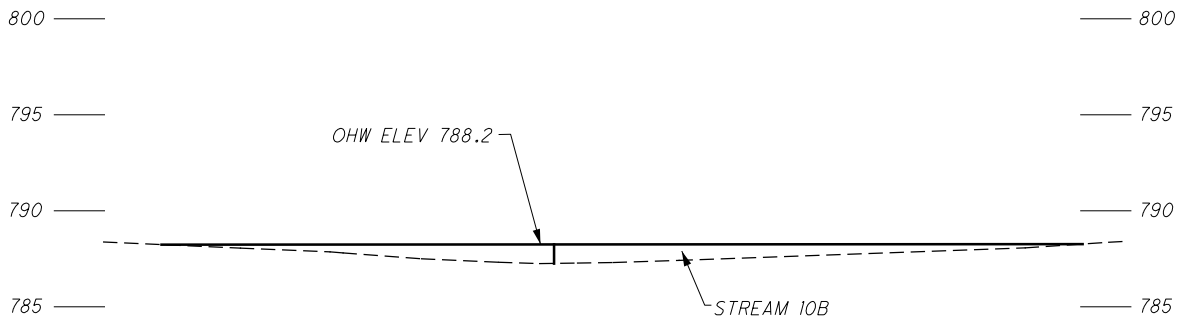
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

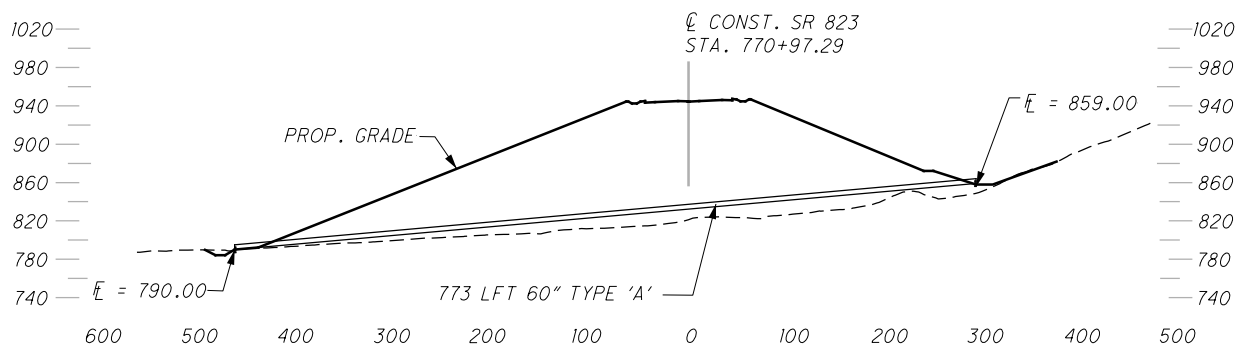
PLAN SCALE: 1" = 200'

DATE: AUGUST 15, 2013

# FIGURE 3-17



## CROSS SECTION A-A



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 10B

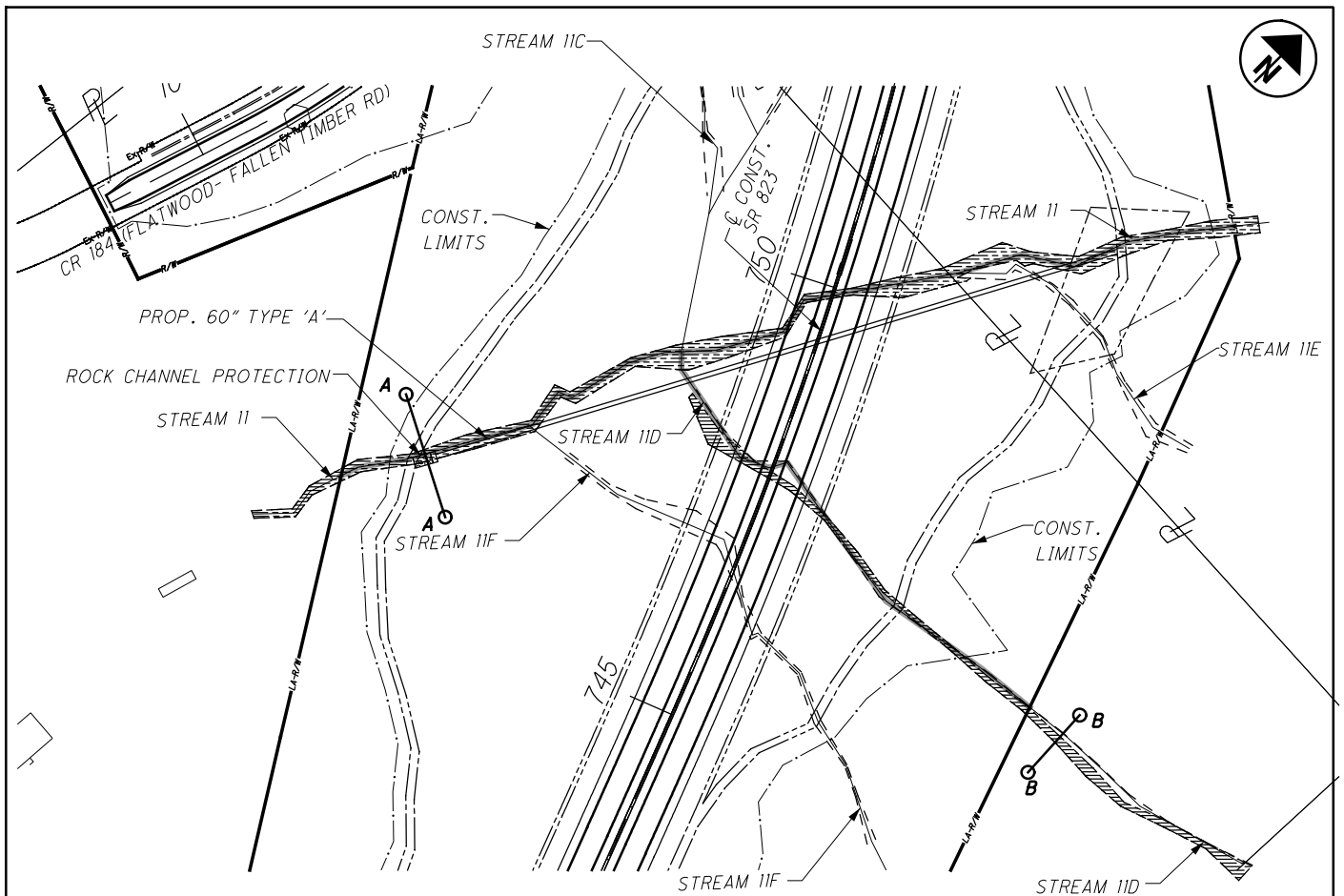
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

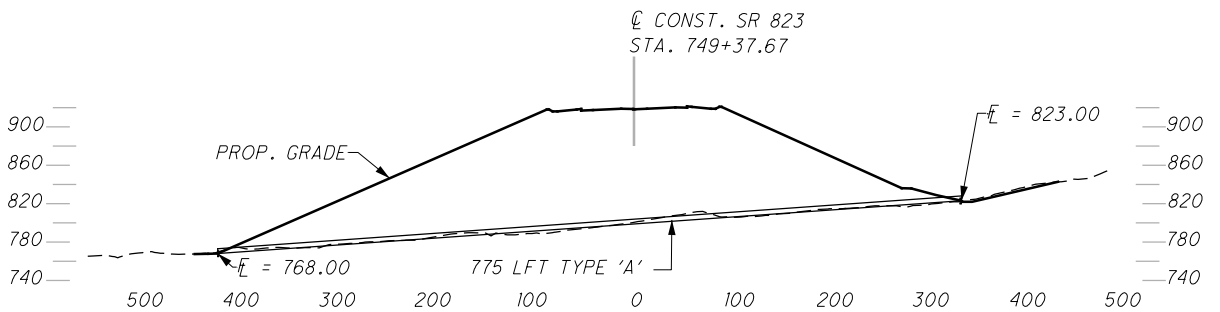
CULVERT PROFILE 1" = 50'  
CROSS SECTION 1"-10'

DATE: AUGUST 15, 2013

## FIGURE 3-17A



**PLAN**



**CULVERT PROFILE**

PROPERTY OWNERS:  
 STEVEN R. REINHARDT, MARK B. REINHARDT  
 AND MICHAEL J. REINHARDT  
 FORREST S. BAUER AND EVELENA J. BAUER

**STREAM 11**

LENGTH OF IMPACT:	1050 LF
AREA EXCAVATED OR FILLED:	0.226 ACRE
EXCAVATION BELOW OHW:	35 CY
NET FILL BELOW OHW:	243 CY

**STREAM 11D**

LENGTH OF IMPACT:	570 LF
AREA EXCAVATED OR FILLED:	0.039 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	32 CY

LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 11  
 STREAM 11D**

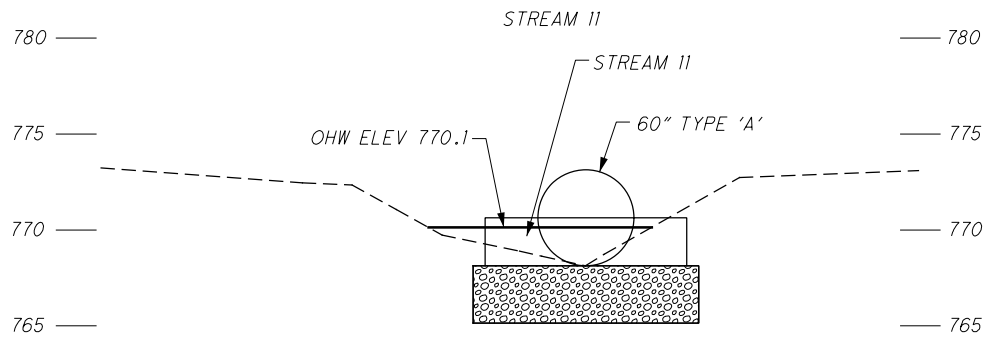
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

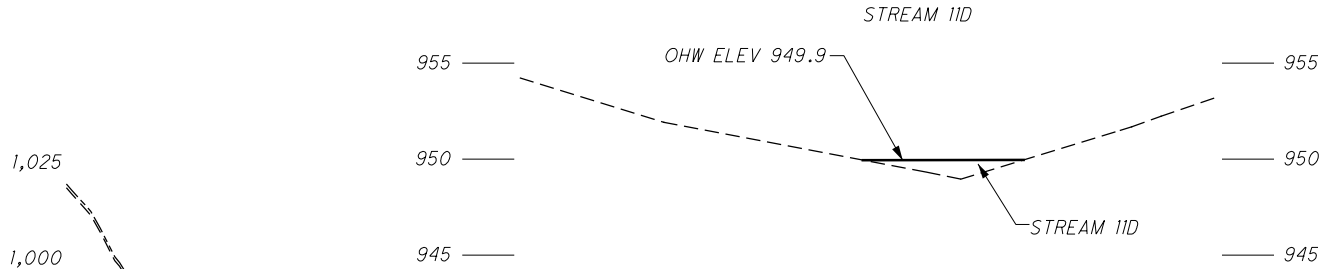
PLAN SCALE: 1" = 200'  
 CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

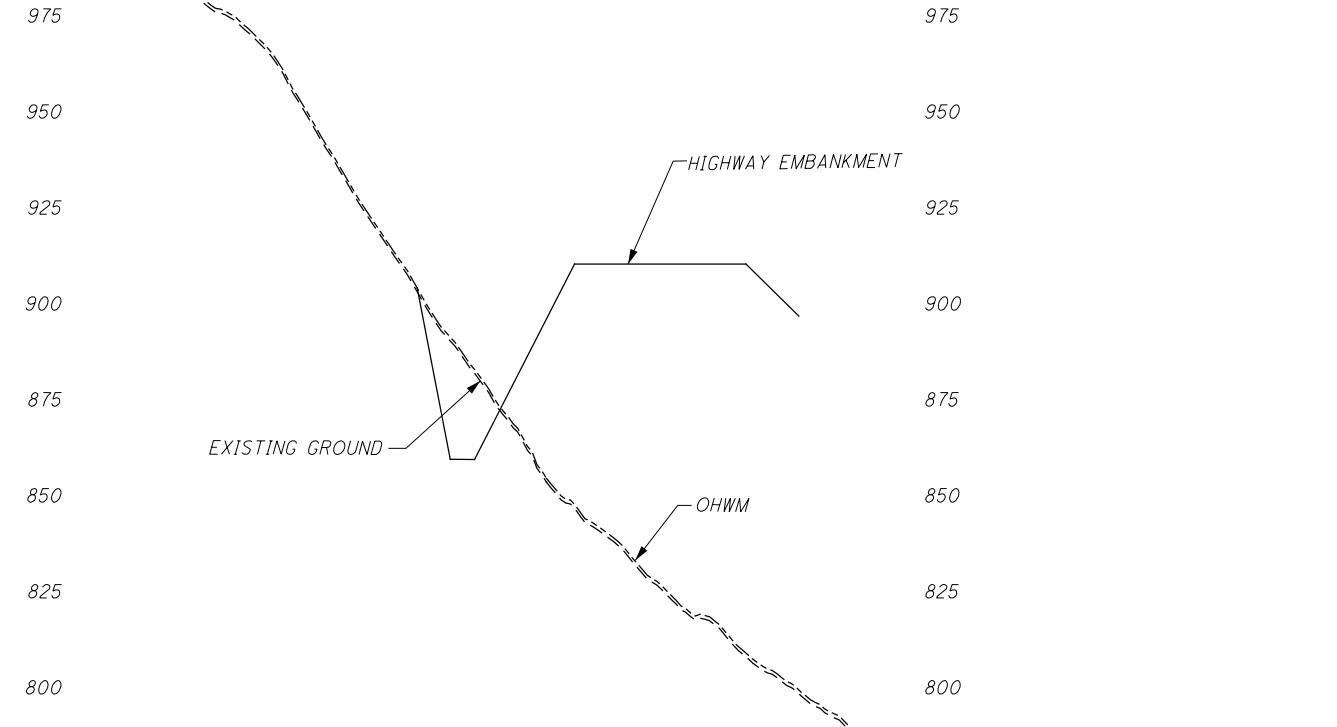
**FIGURE  
 3-18**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 11D PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 11  
STREAM 11D**

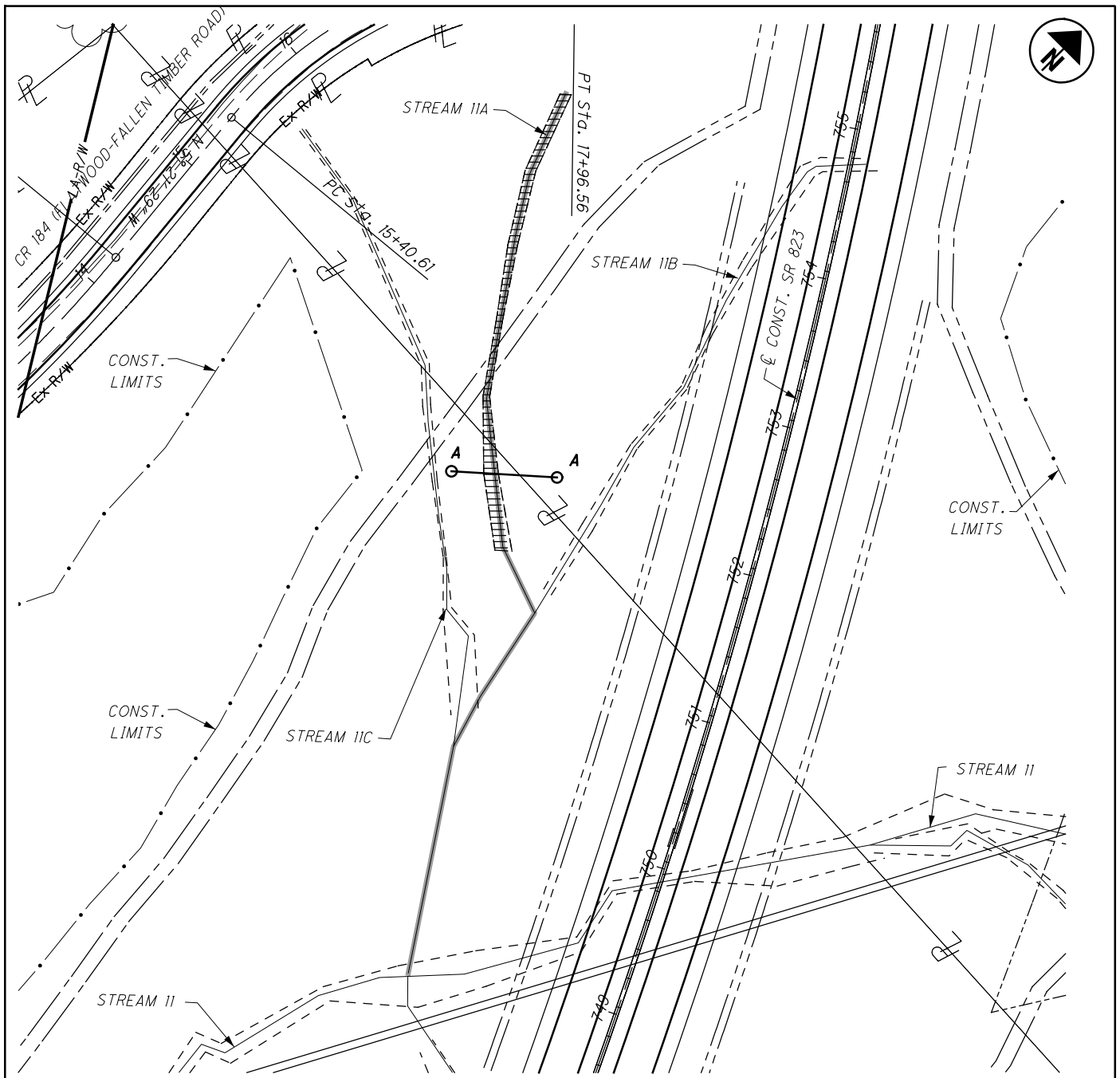
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"-10'  
STREAM PROFILE 1"-200'

DATE: AUGUST 15, 2013

**FIGURE  
3-18A**



### PLAN

PROPERTY OWNERS:  
 STEVEN R. REINHART, MARK B. REINHART  
 AND MICHAEL J. REINHART  
 FORREST S. BAUER AND EVELENA J. BAUER

LENGTH OF IMPACT: 606 LF  
 AREA EXCAVATED OR FILLED: 0.056 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 45 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 11A

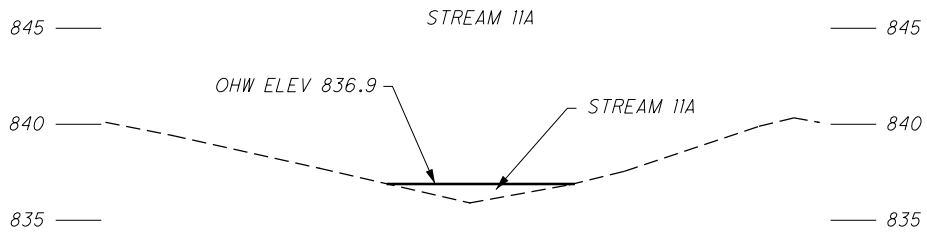
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

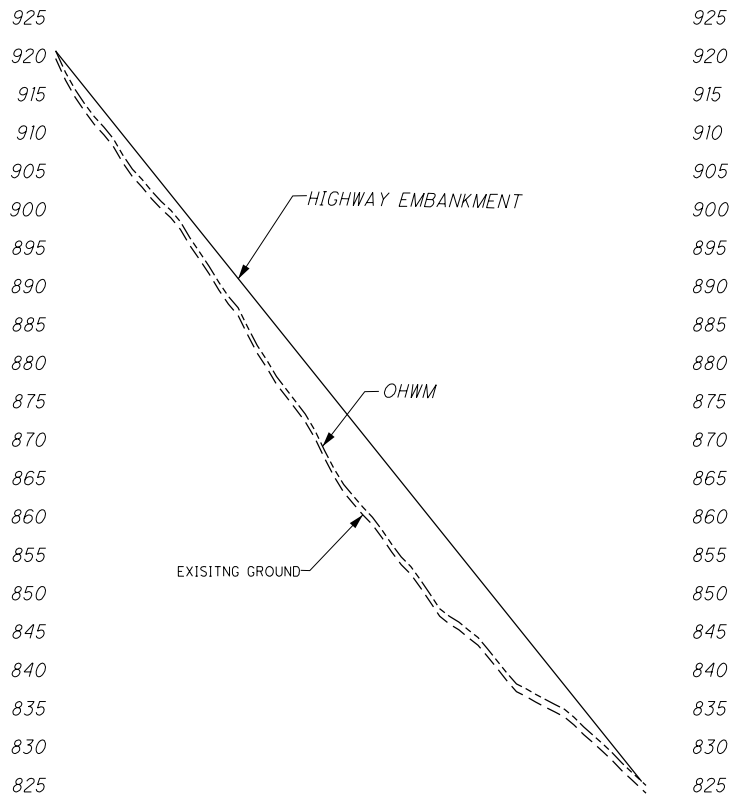
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-19



### CROSS SECTION A-A



### STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 11A

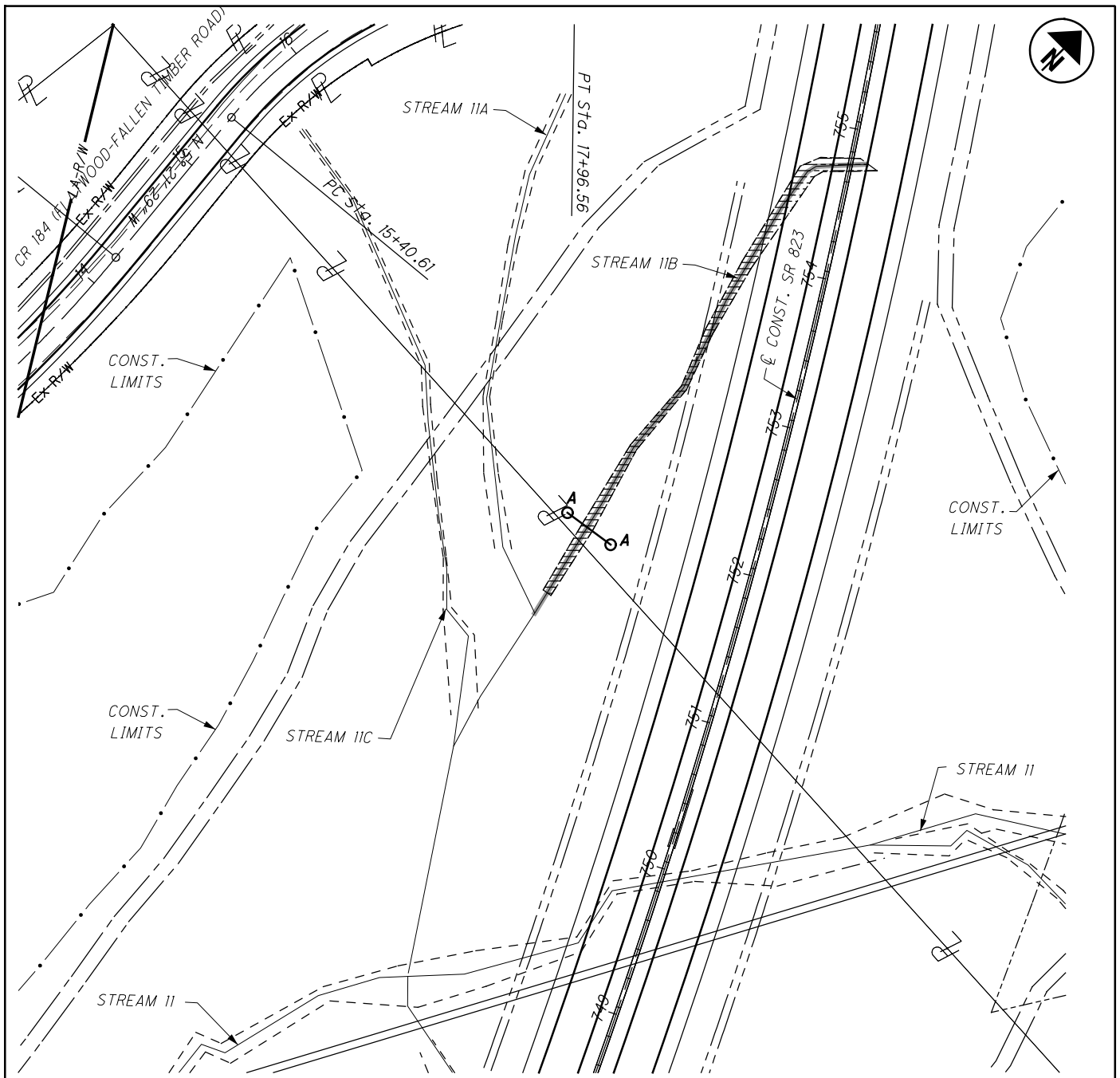
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION: 1"=10'  
STREAM PROFILE: 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-19A



### PLAN

PROPERTY OWNERS:  
 STEVEN R. REINHARDT, MARK B. REINHART  
 AND MICHAEL J. REINHART  
 FORREST S. BAUER AND EVELENA J. BAUER

LENGTH OF IMPACT: 379 LF  
 AREA EXCAVATED OR FILLED: 0.026 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 21 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 11B

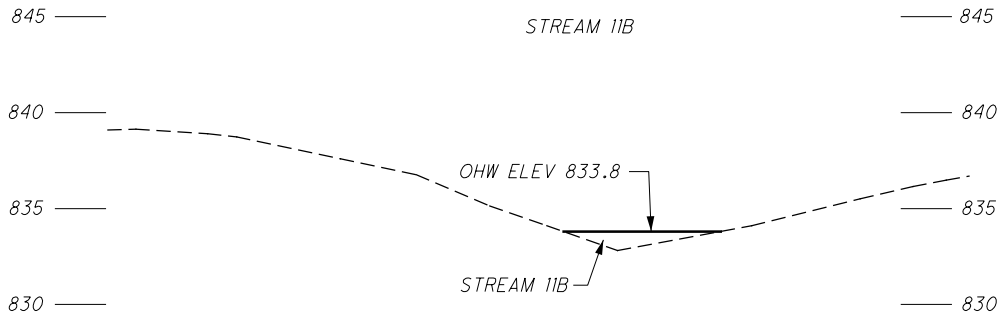
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

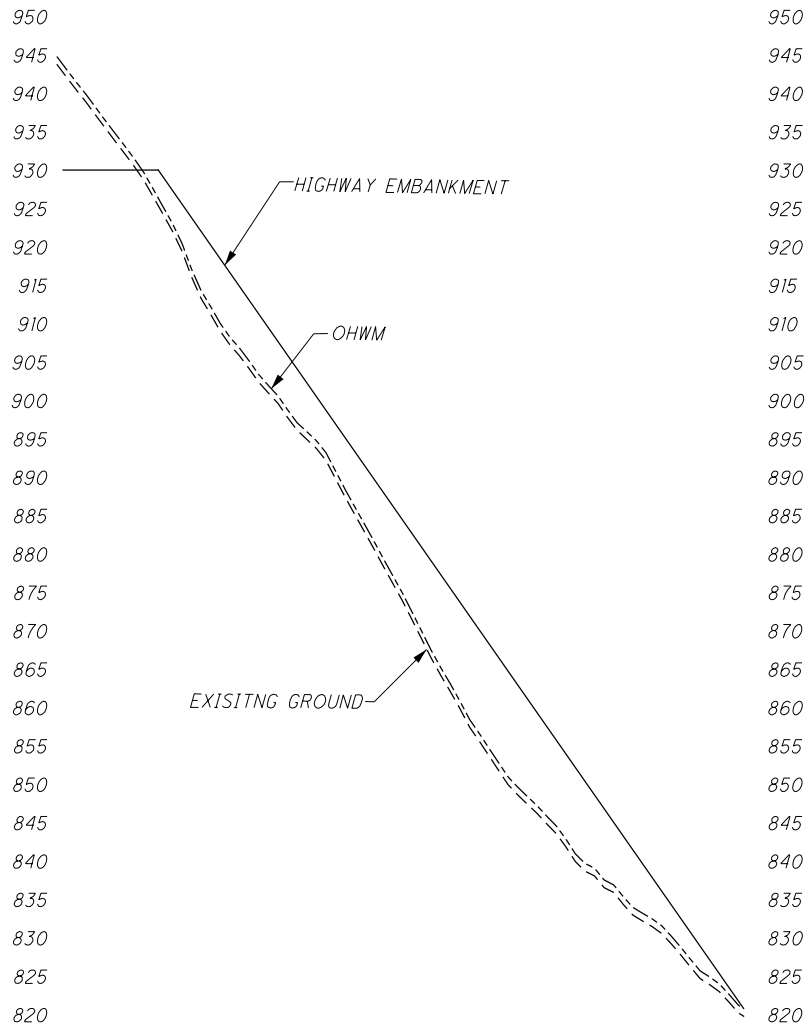
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-20



## CROSS SECTION A-A



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 11B

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

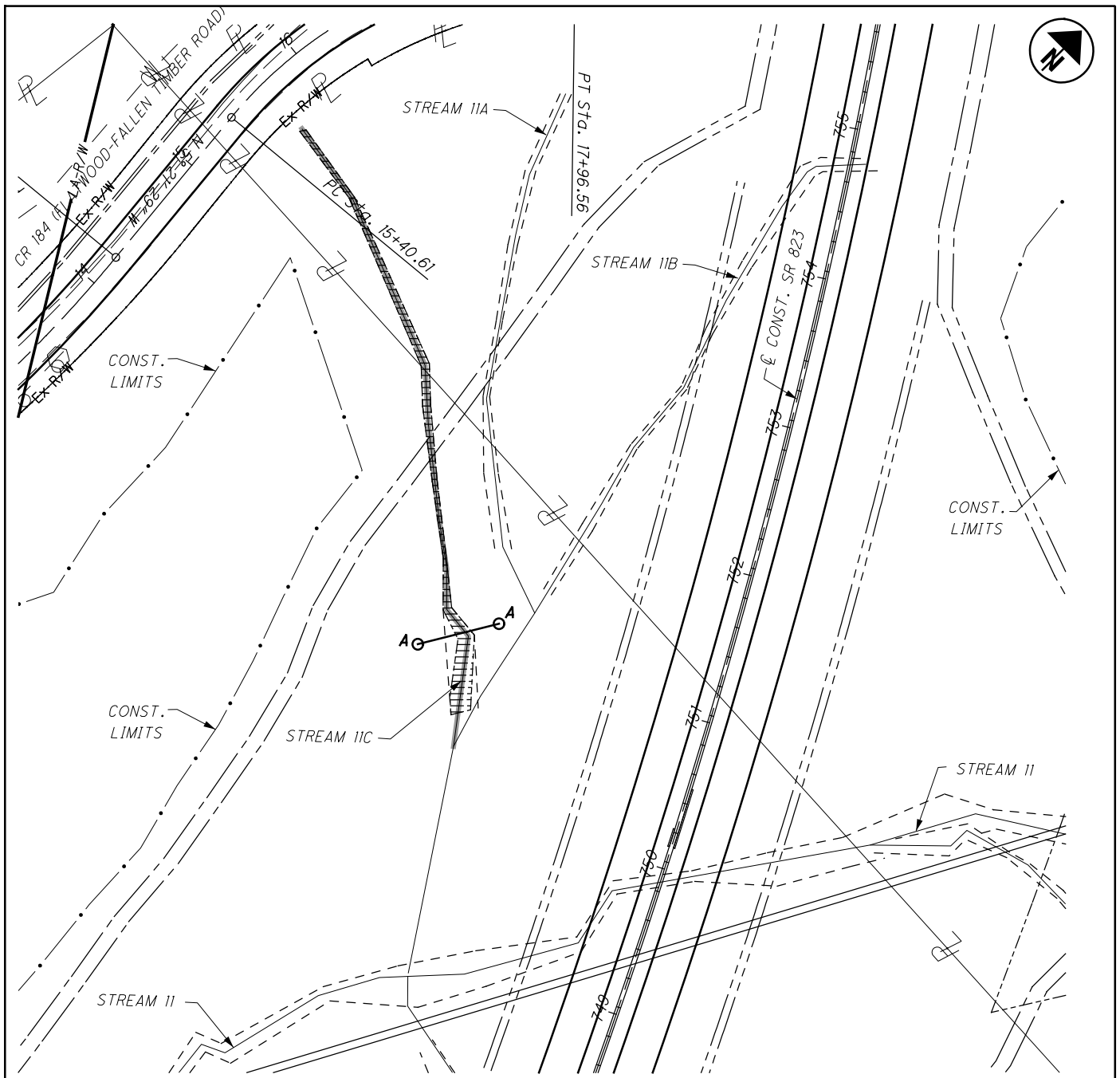
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

CROSS SECTION 1"=10'  
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-20A





### PLAN

PROPERTY OWNERS:  
 STEVEN R. REINHARDT, MARK B. REINHART  
 AND MICHAEL J. REINHART  
 FORREST S. BAUER AND EVELENA J. BAUER

LENGTH OF IMPACT:	431 LF
AREA EXCAVATED OR FILLED:	0.030 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	24 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 11C

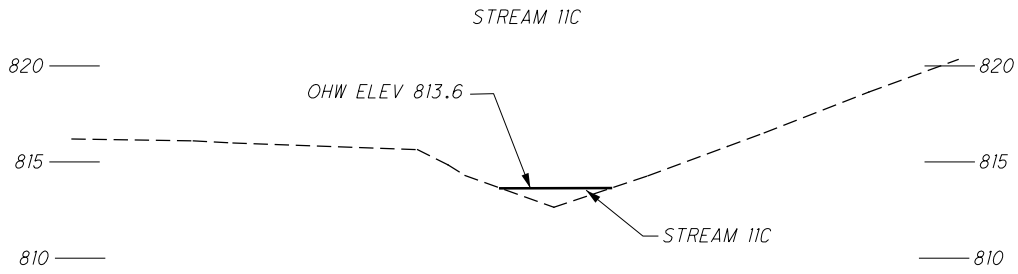
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

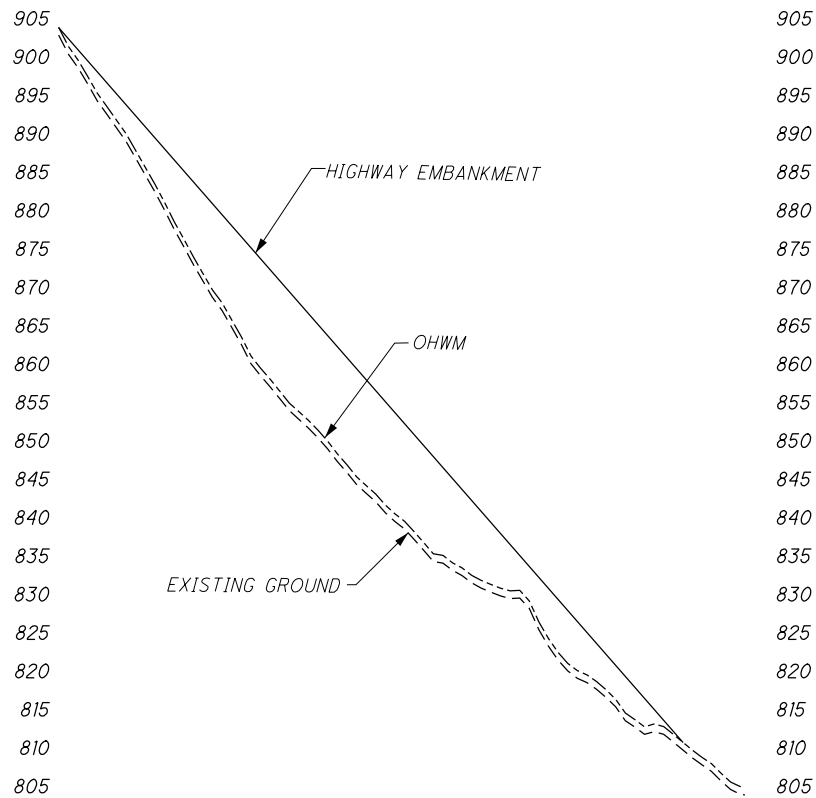
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-21



## CROSS SECTION A-A



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 11C

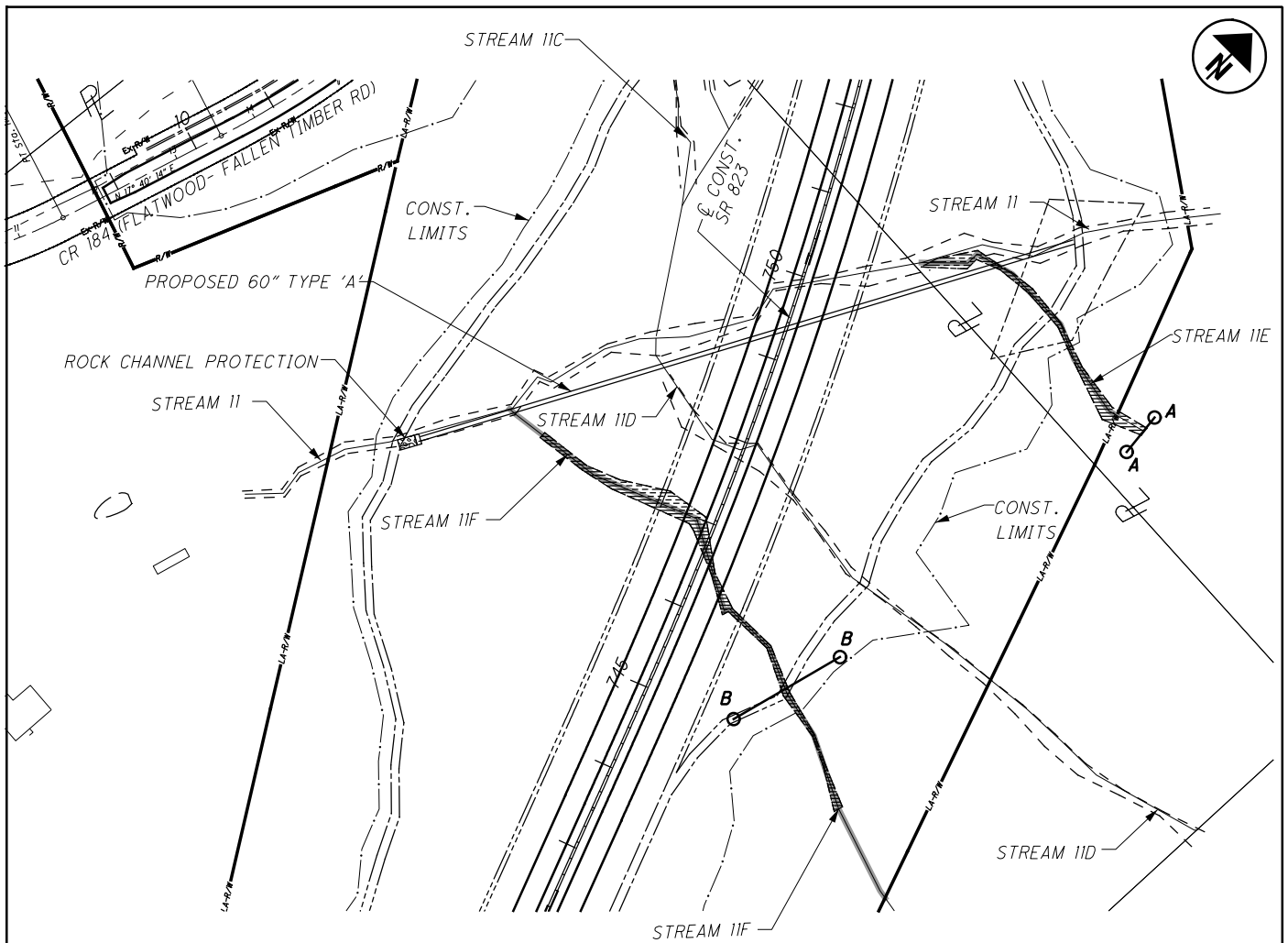
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'  
PROFILE SECTION 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-21A



**PLAN**

PROPERTY OWNERS:  
 STEVEN R. REINHARDT, MARK B. REINHART  
 AND MICHAEL J. REINHART  
 FORREST S. BAUER AND EVELENA J. BAUER

**STREAM 11E**

LENGTH OF IMPACT:	317 LF
AREA EXCAVATED OR FILLED:	0.029 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	23 CY

**STREAM 11F**

LENGTH OF IMPACT:	742 LF
AREA EXCAVATED OR FILLED:	0.051 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	41 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 11E  
 STREAM 11F**

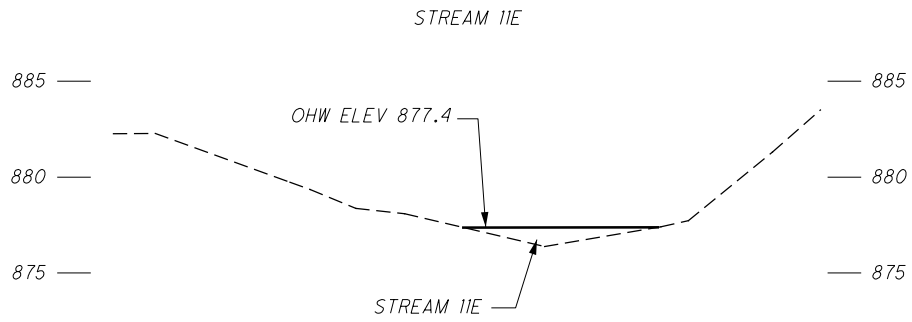
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

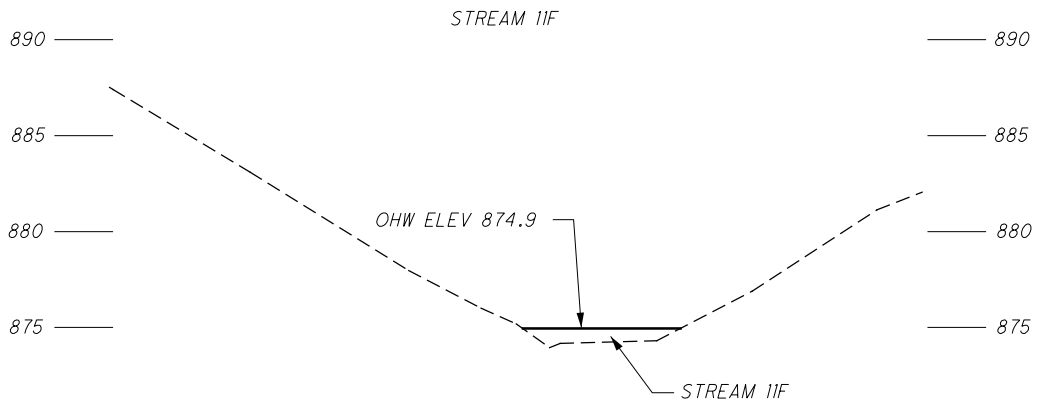
PLAN SCALE: 1" = 200'

DATE: AUGUST 15, 2013

**FIGURE  
 3-22**



### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 11E STREAM 11F

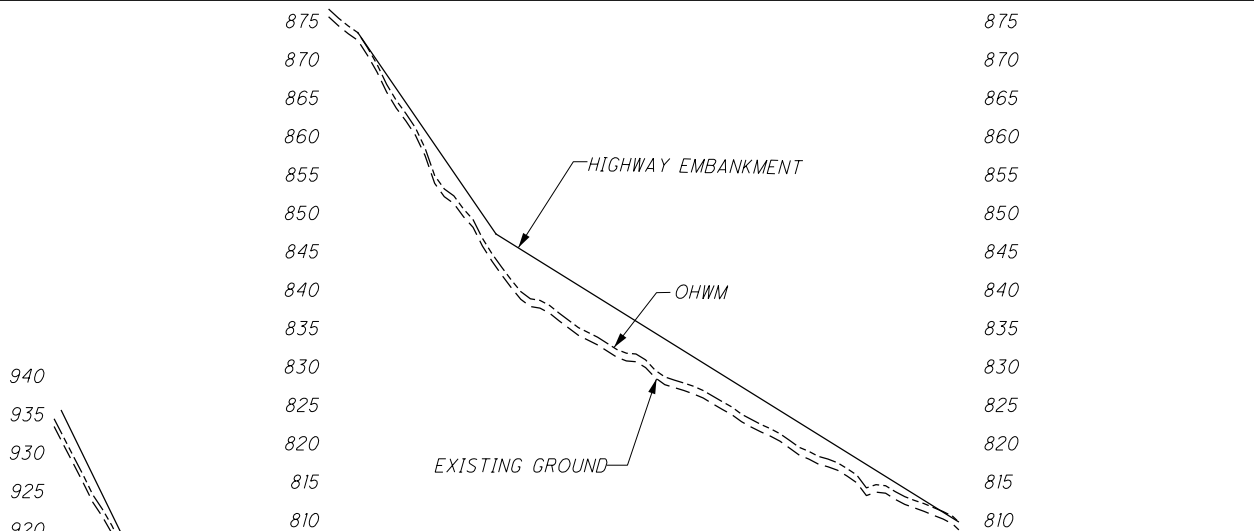
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

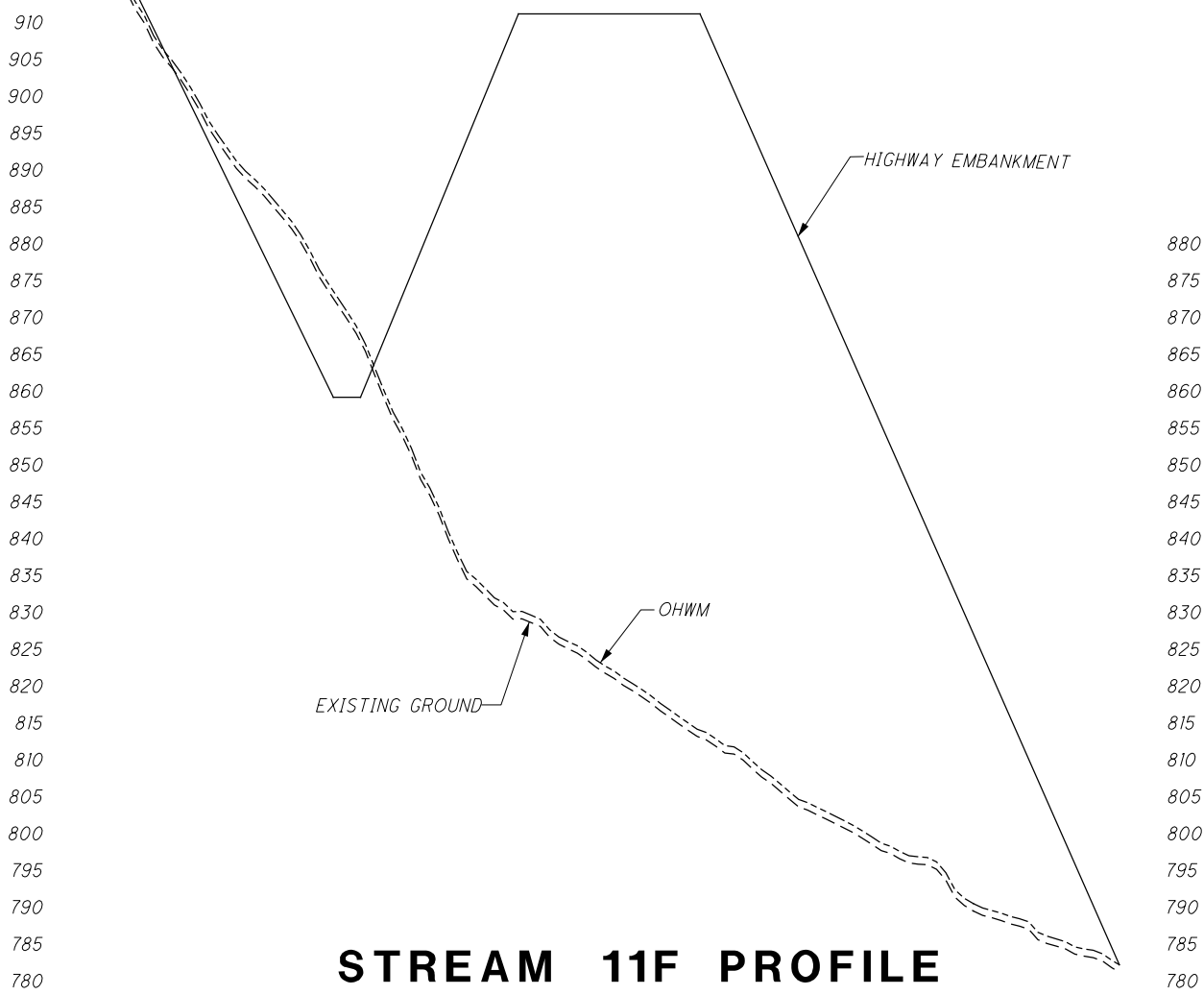
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

# FIGURE 3-22A



**STREAM 11E PROFILE**



**STREAM 11F PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 11E  
STREAM 11F**

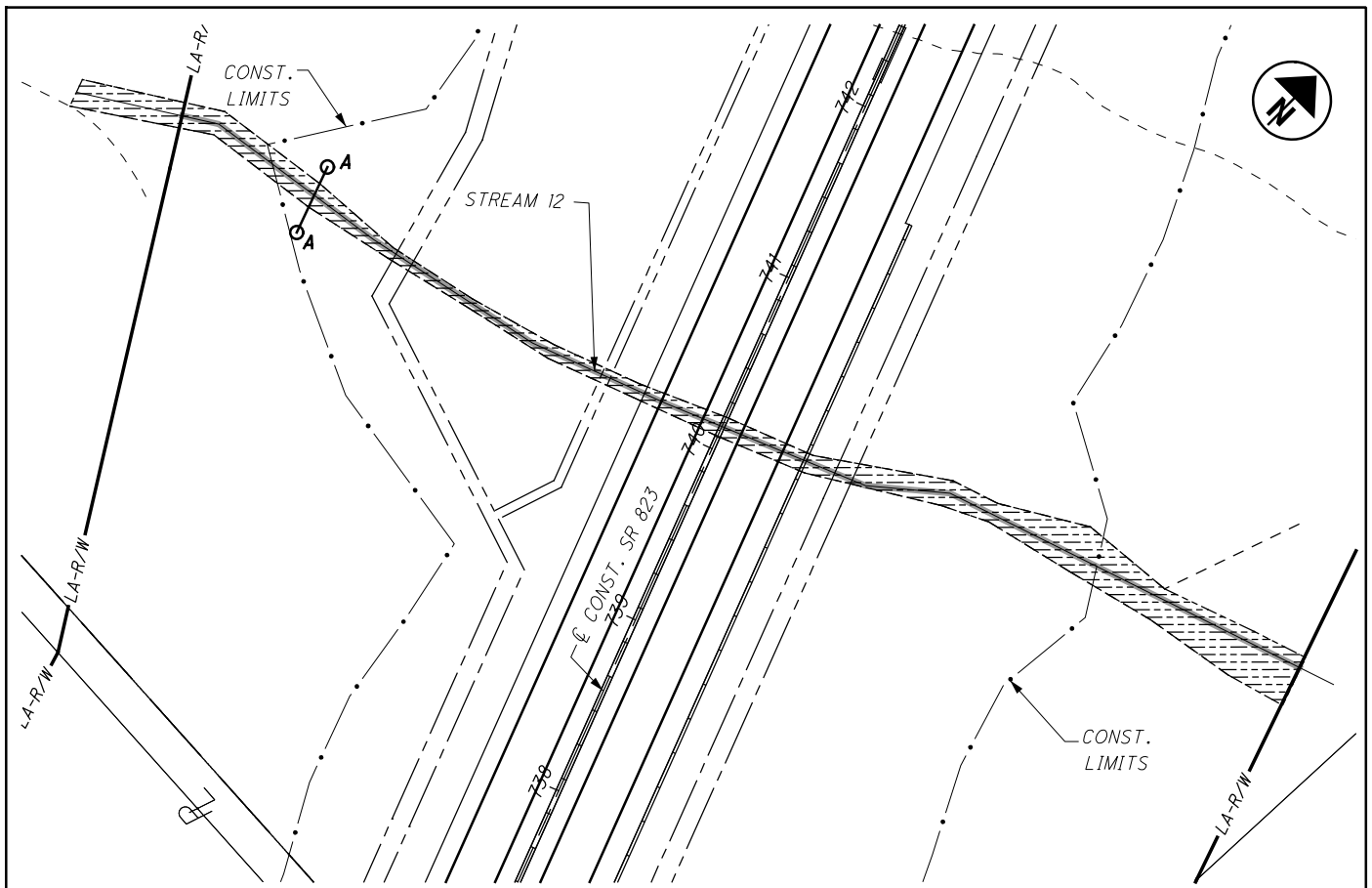
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

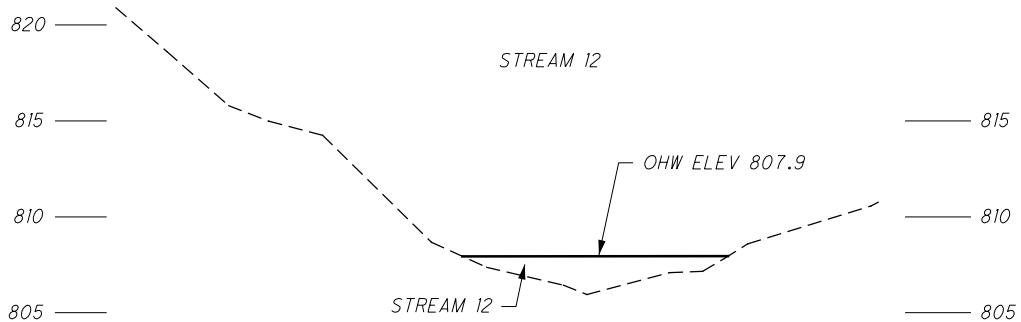
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

**FIGURE  
3-22B**



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
FORREST S. BAUER AND EVELENA J. BAUER

LENGTH OF IMPACT: 671 LF  
 AREA EXCAVATED OR FILLED: 0.062 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 99 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 \_\_\_\_\_ STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 12**

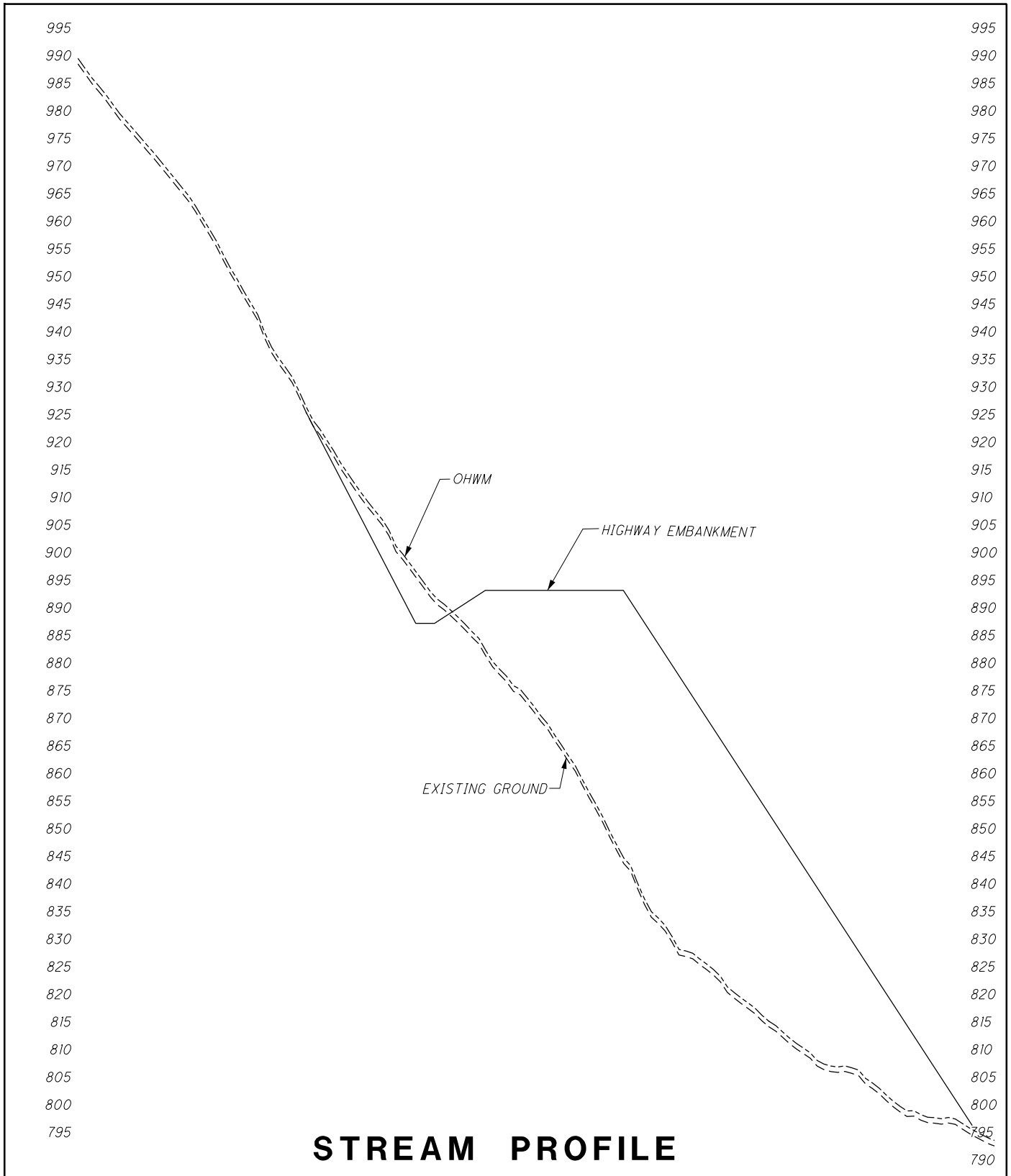
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-23**



**STREAM PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 12**

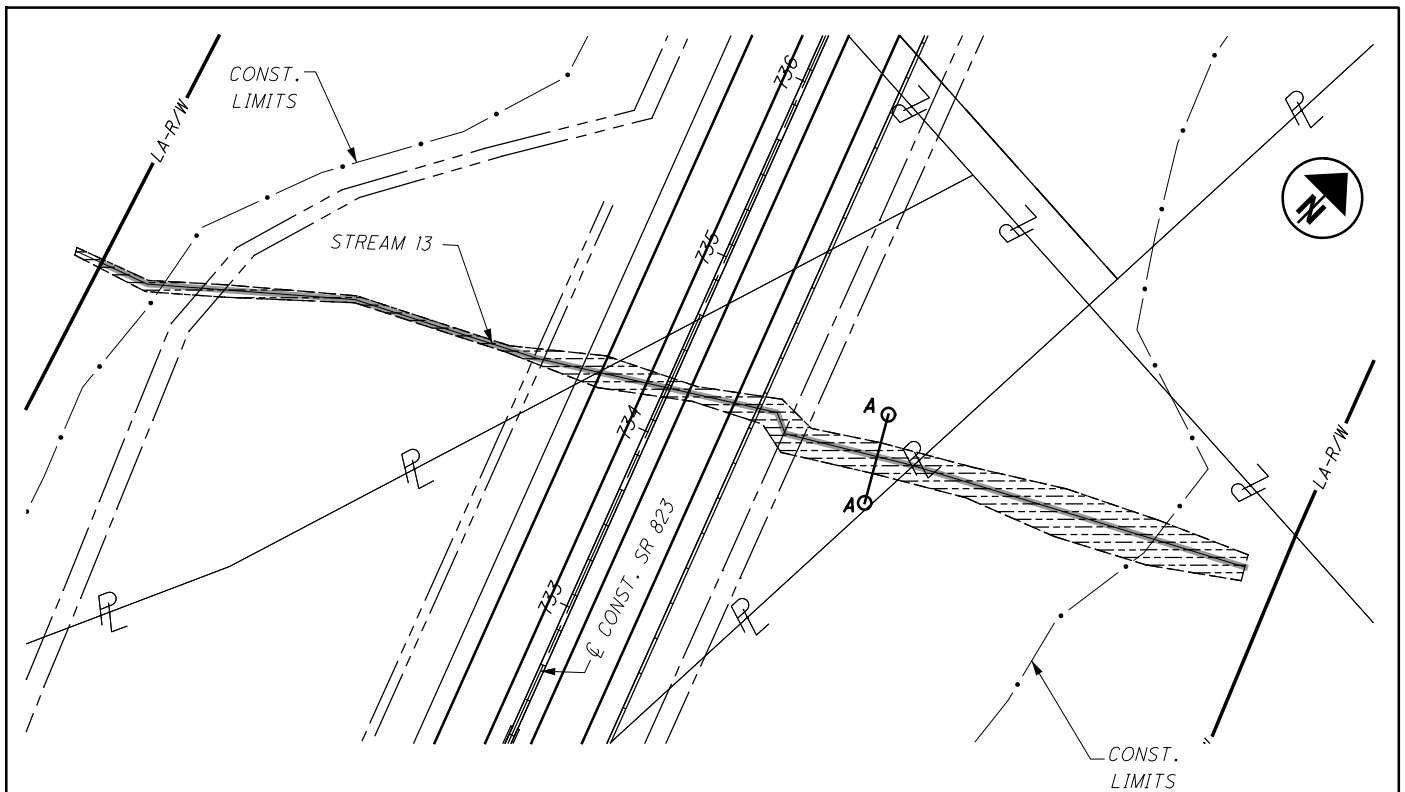
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

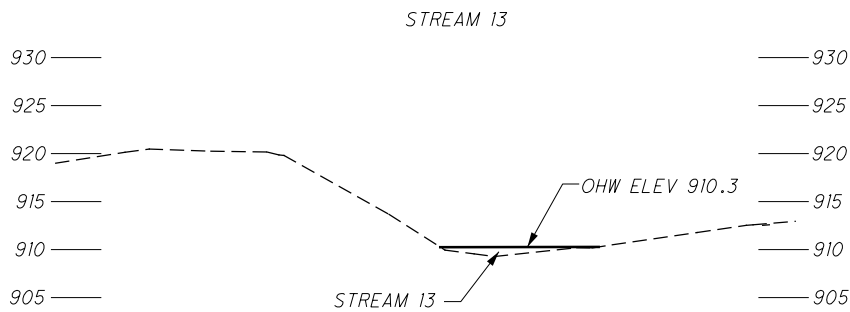
STREAM PROFILE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
3-23A**



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
 DDONALD E. STAMBAUGH  
 PHYLLIS J. WILLS AND LANETTE WAGNER

LENGTH OF IMPACT: 624 LF  
 AREA EXCAVATED OR FILLED: 0.100 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 81 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 13**

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

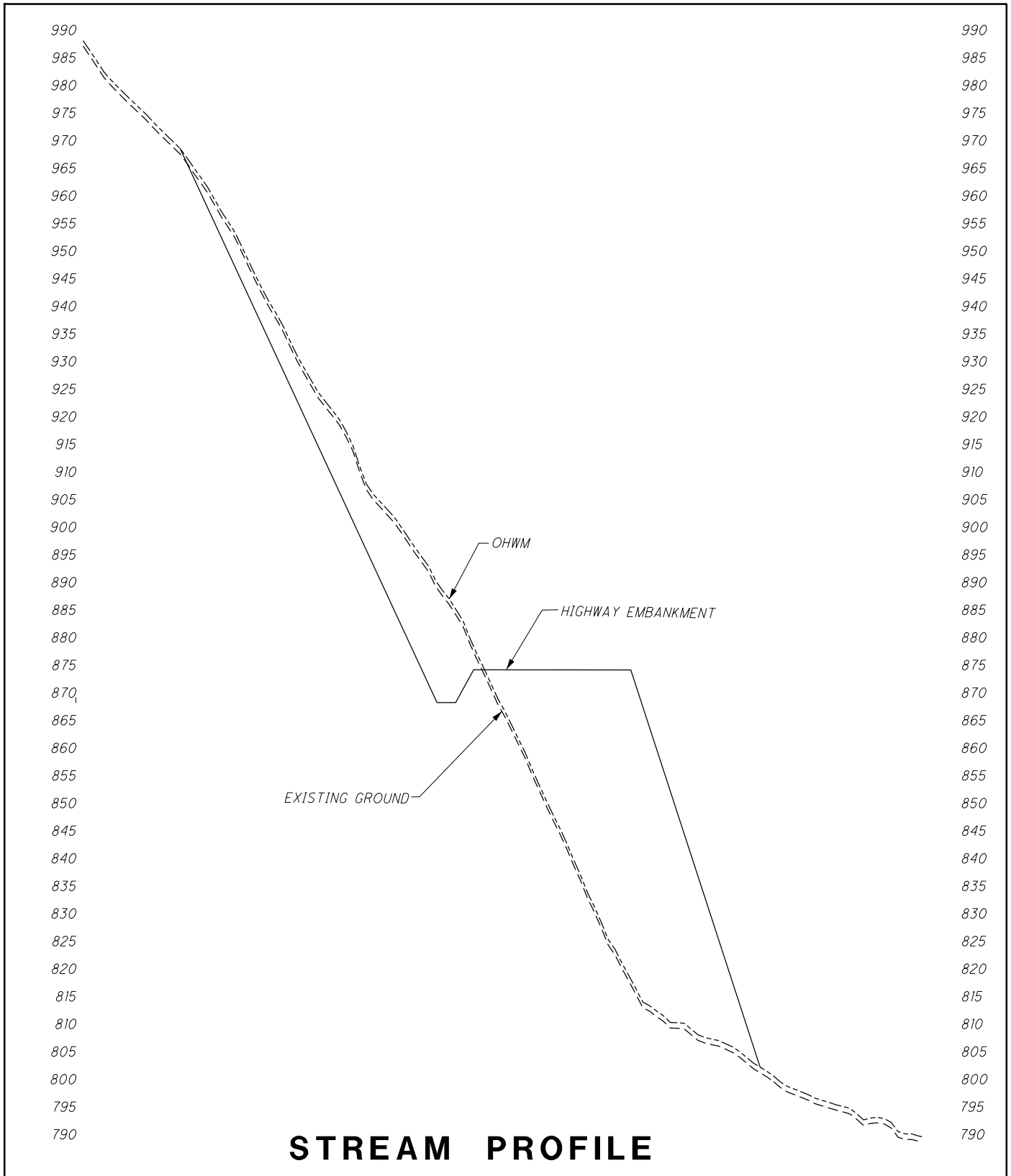
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-24**





**STREAM PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 13**

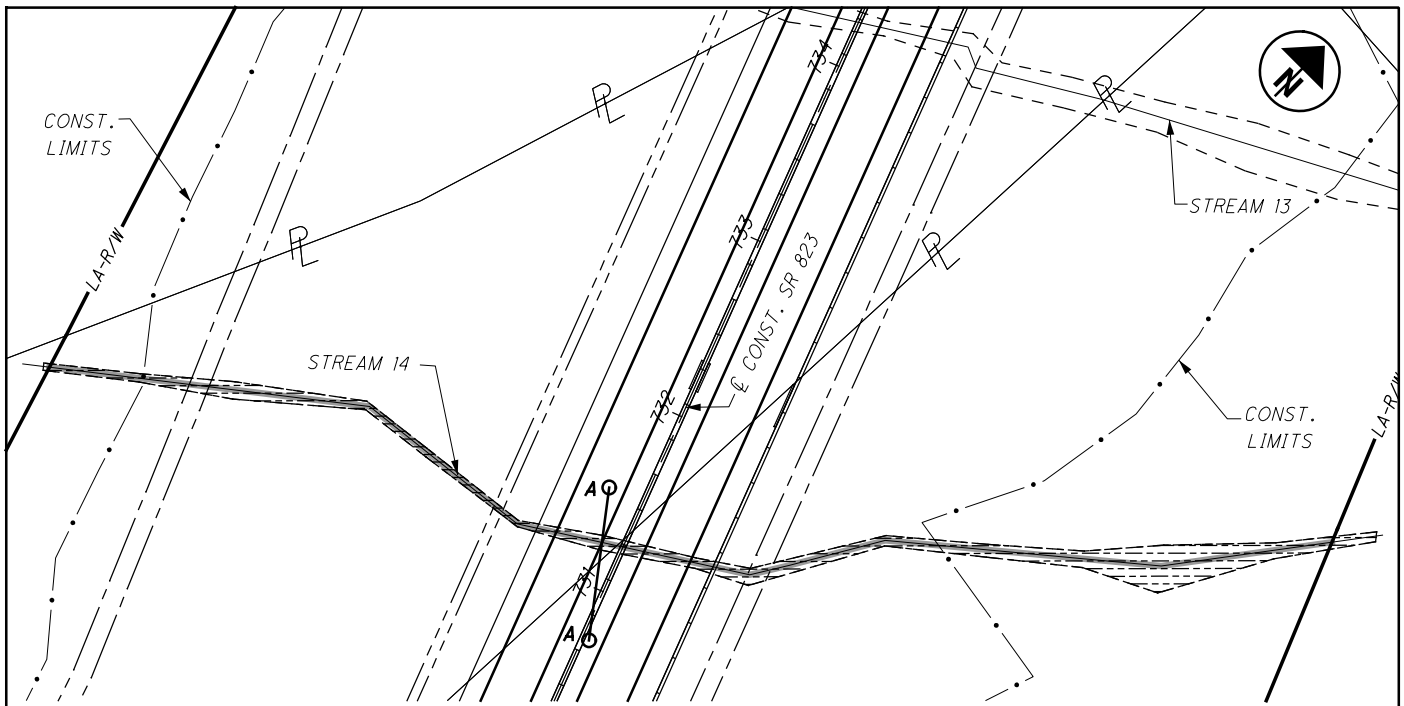
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

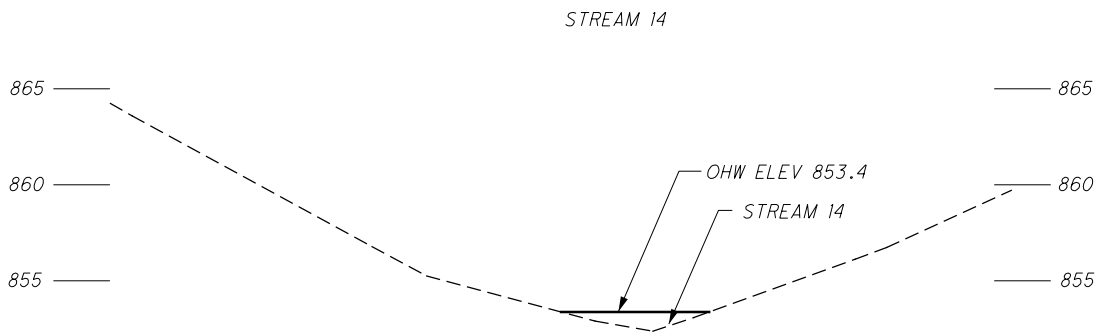
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

**FIGURE  
3-24A**



## PLAN



## CROSS SECTION A-A

PROPERTY OWNERS:  
 DDONALD E. STAMBAUGH  
 PHYLLIS J. WILLS AND LANETTE WAGNER

LENGTH OF IMPACT: 697 LF  
 AREA EXCAVATED OR FILLED: 0.048 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 39 CY

### LEGEND

----- PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 14

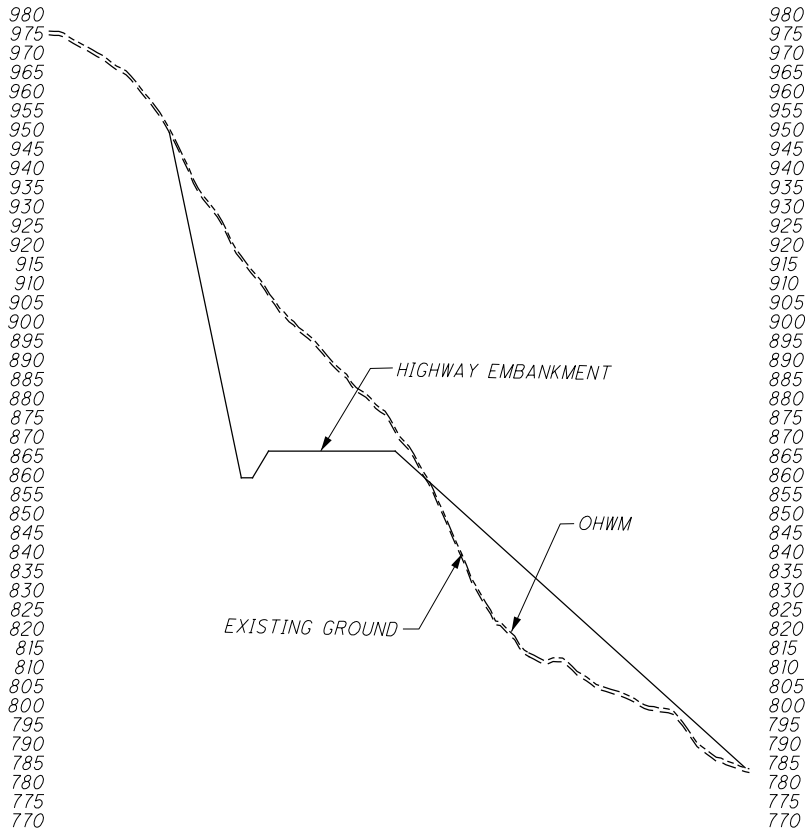
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-25



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 14

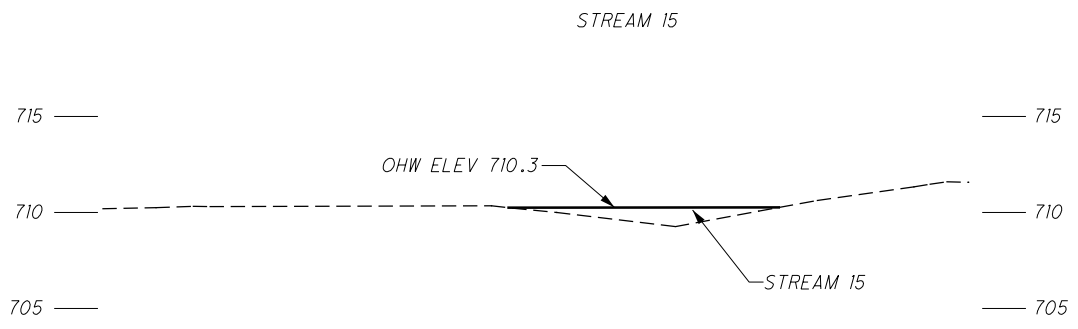
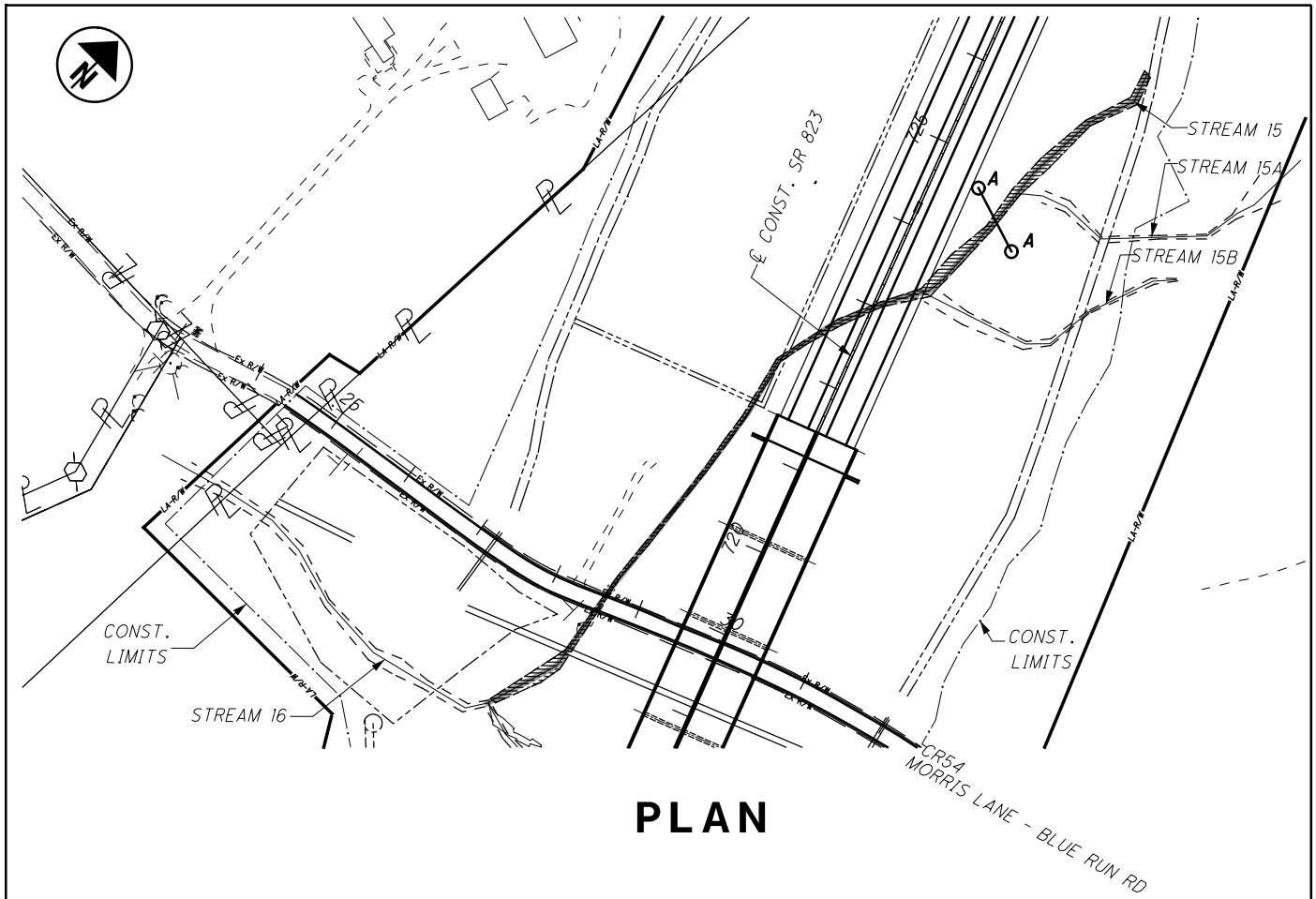
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1"=200'

DATE: AUGUST 15, 2013

## FIGURE 3-25A



PROPERTY OWNERS:  
 PHYLLIS J. WILLS AND LANETTE WAGNER

LENGTH OF IMPACT: 1040 LF  
 AREA EXCAVATED OR FILLED: 0.096 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 77 CY

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 ▨ OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 15**

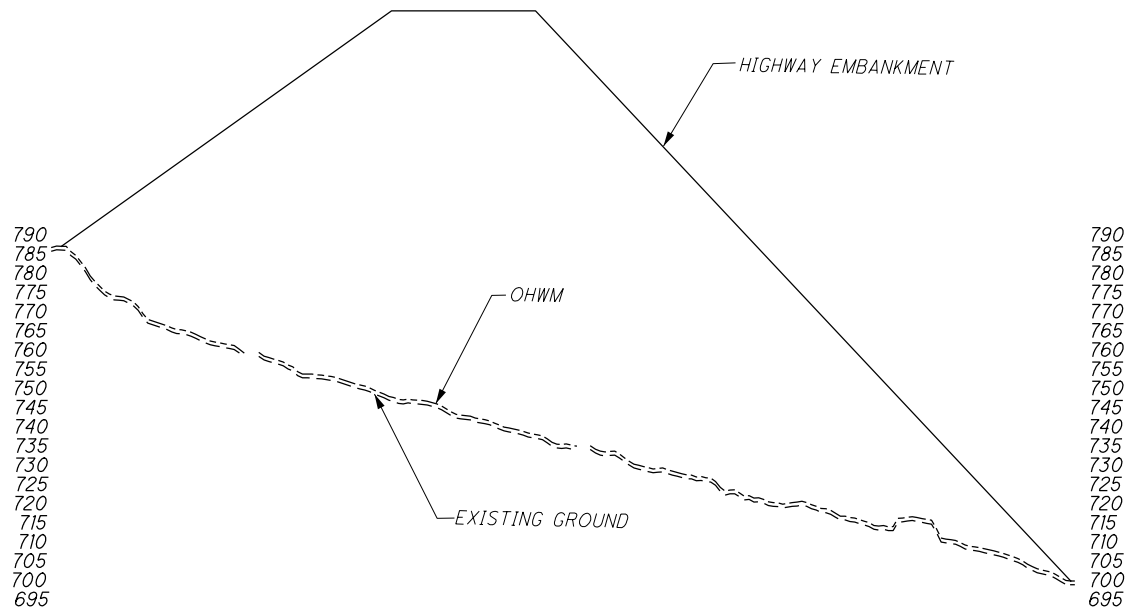
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-26**



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 15

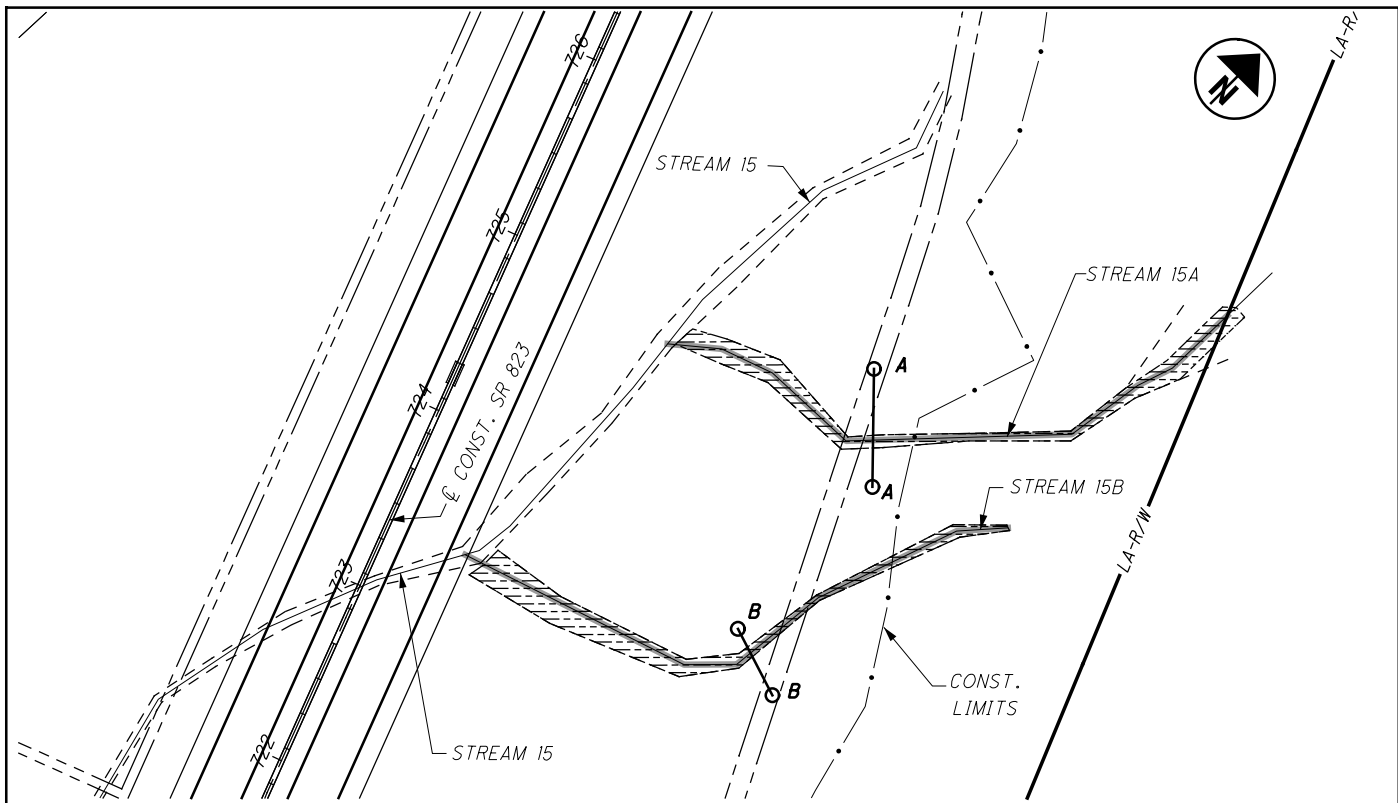
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

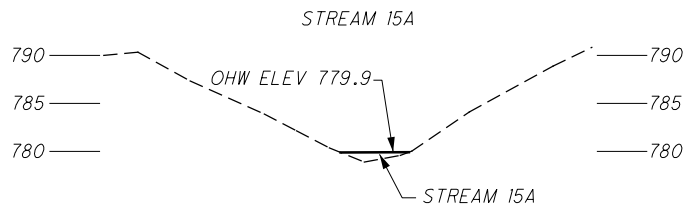
STREAM PROFILE 1"=200'

DATE: AUGUST 15, 2013

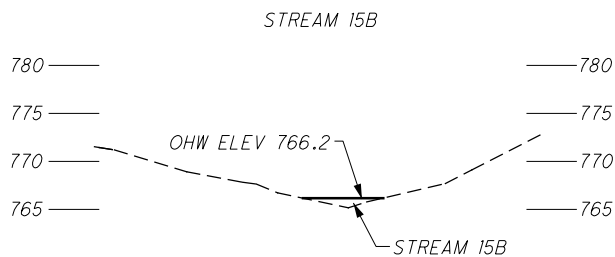
## FIGURE 3-26A



## PLAN



## CROSS SECTION A-A



## CROSS SECTION B-B

### LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨ OHW

### PROPERTY OWNERS:

PHYLLIS J. WILLS AND LANETTE WAGNER

## STREAM 15A

LENGTH OF IMPACT:	330 LF
AREA EXCAVATED OR FILLED:	0.030 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	24 CY

## STREAM 15B

LENGTH OF IMPACT:	317 LF
AREA EXCAVATED OR FILLED:	0.022 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	18 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 15A STREAM 15B

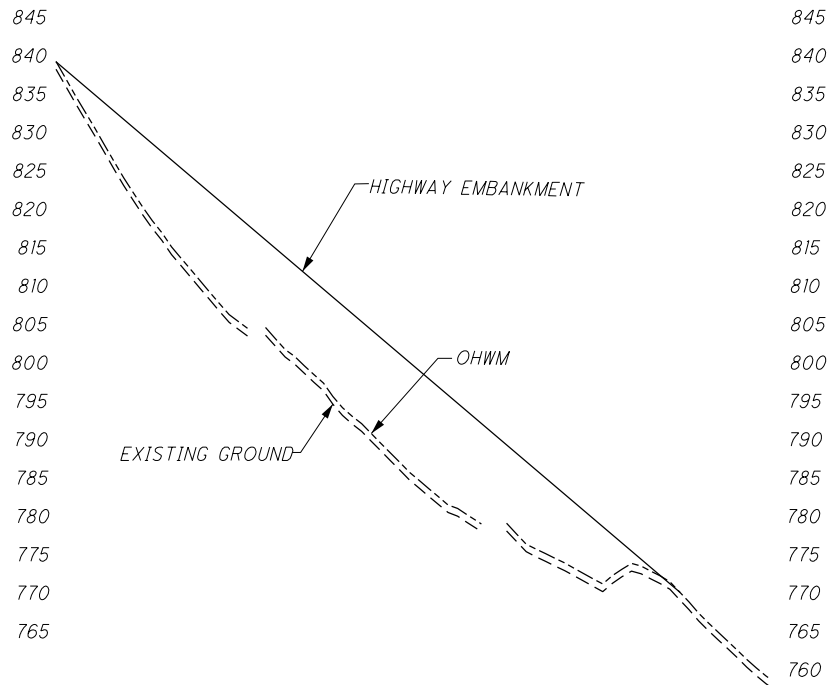
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

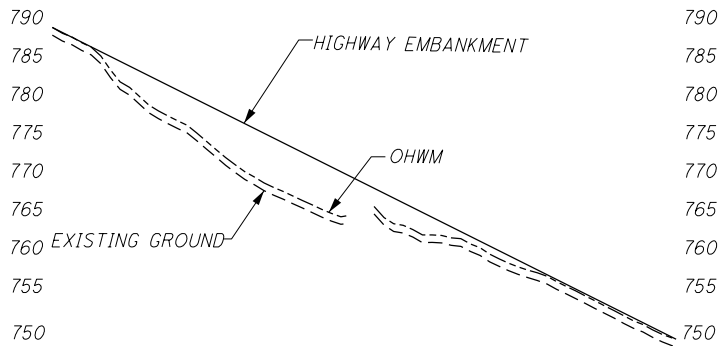
PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-27



### STREAM 15A PROFILE



### STREAM 15B PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 15A STREAM 15B

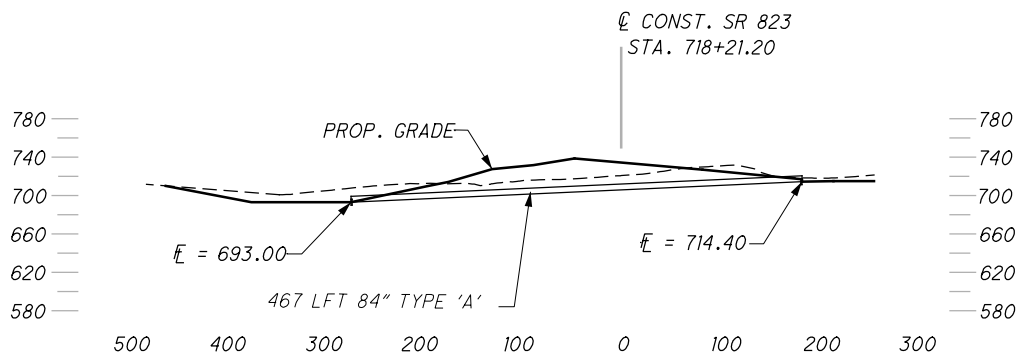
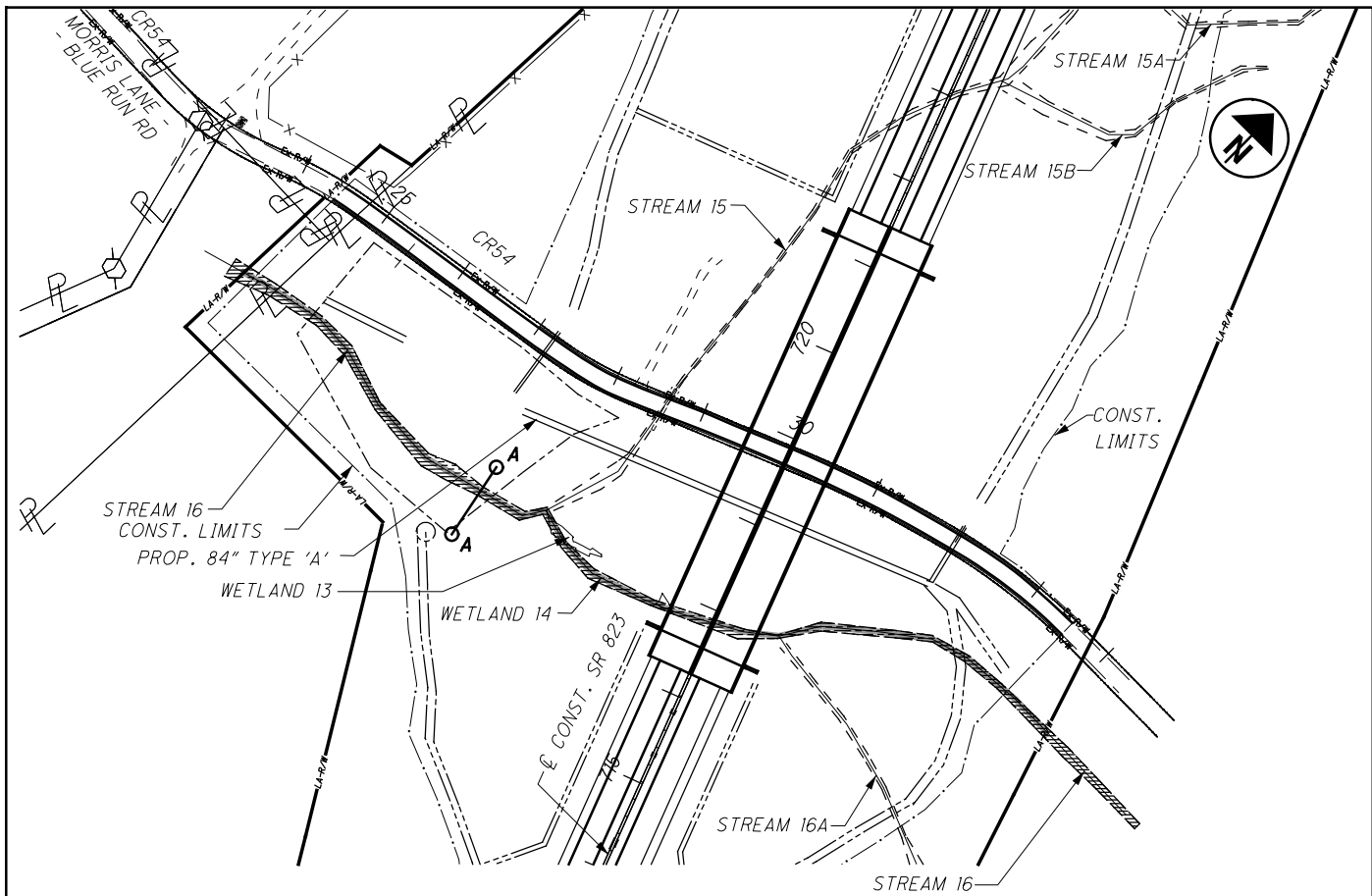
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-27A



### CULVERT PROFILE

PROPERTY OWNERS:  
ROBERT R. ADKINS AND DONA M. ADKINS

LENGTH OF IMPACT: 1042 LF  
 AREA EXCAVATED OR FILLED: 0.127 ACRE  
 EXCAVATION BELOW OHW: 32 CY  
 NET FILL BELOW OHW: 96 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 16

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

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1" = 50'

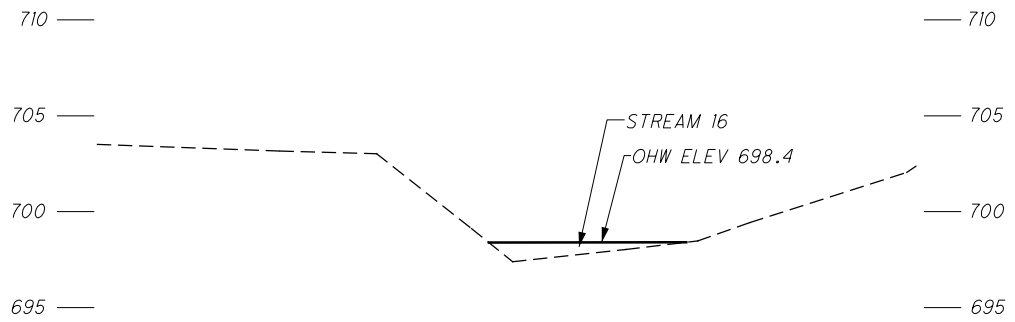
DATE: AUGUST 15, 2013

**FIGURE 3-28**

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



STREAM 16



## CROSS SECTION A-A



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 16

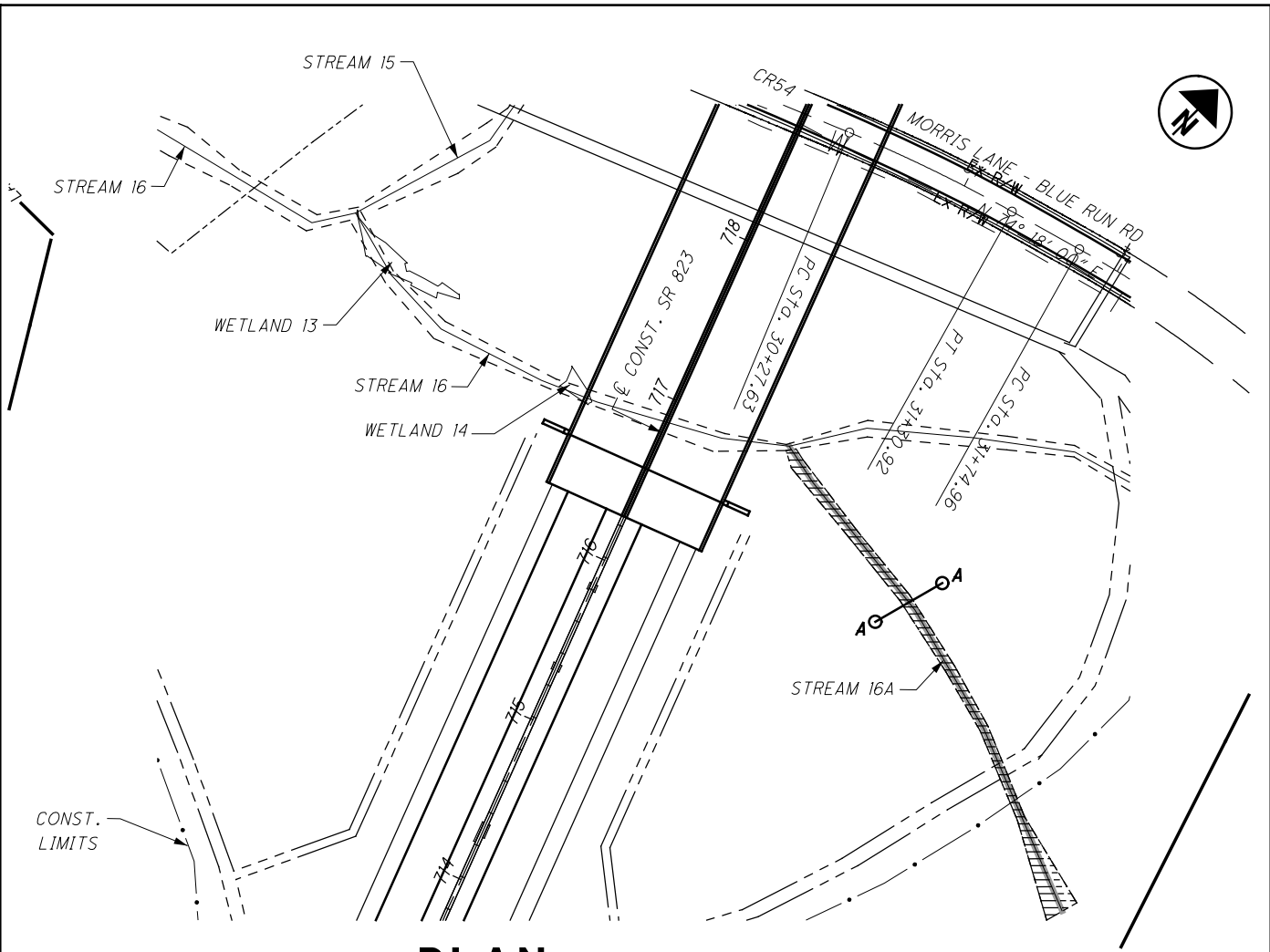
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

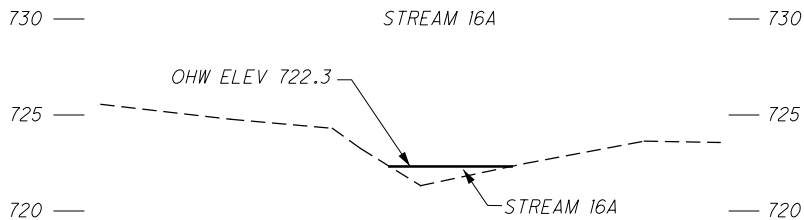
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-28A



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
 PHYLLIS J. WILLS AND LANETTE WAGNER

LENGTH OF IMPACT: 310 LF  
 AREA EXCAVATED OR FILLED: 0.021 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 17 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 ▨ OHWM



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 16A**

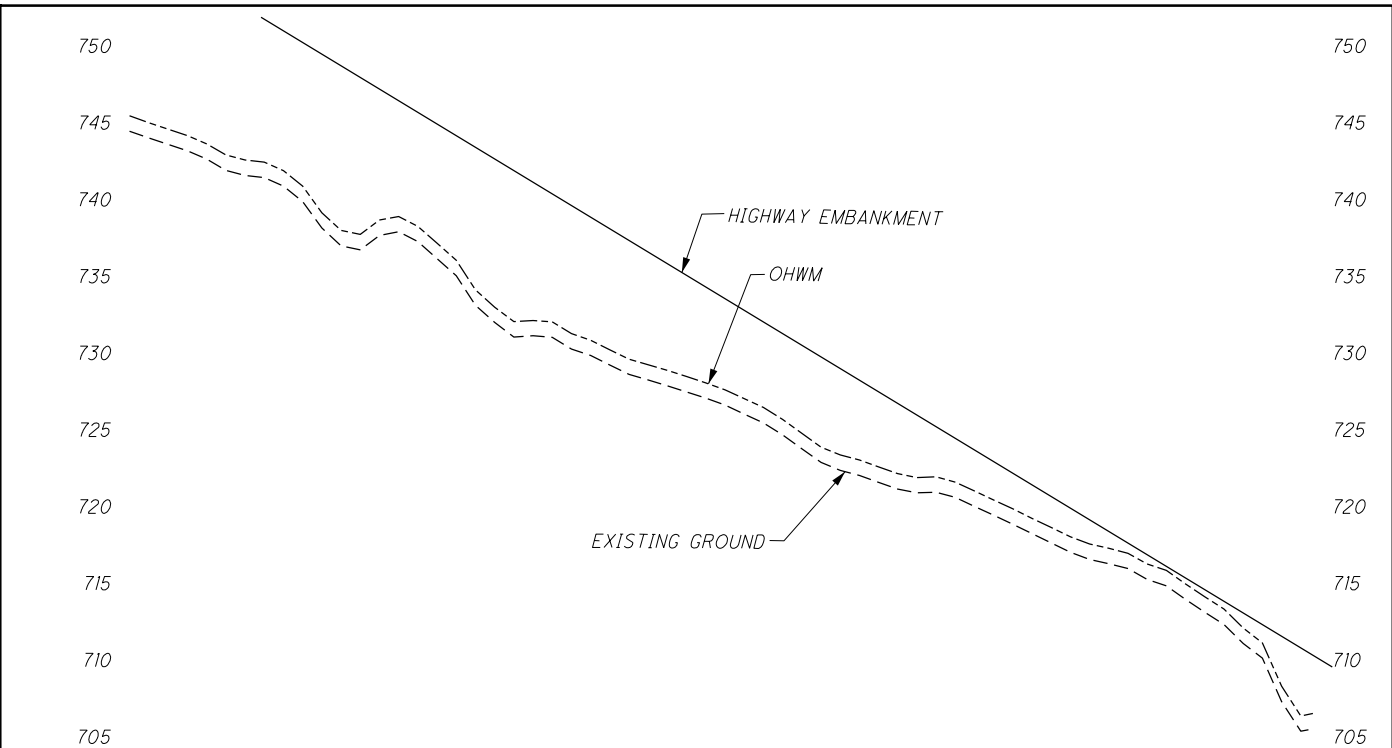
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-29**



# STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 16A

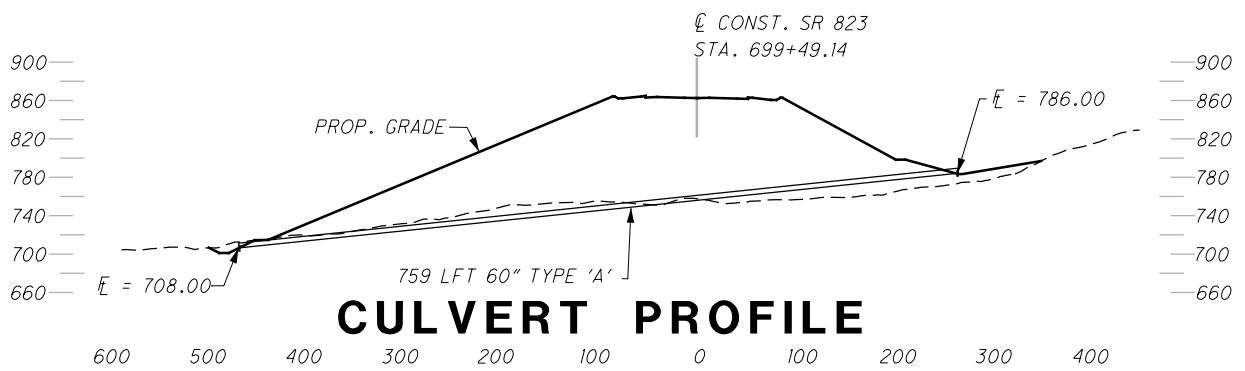
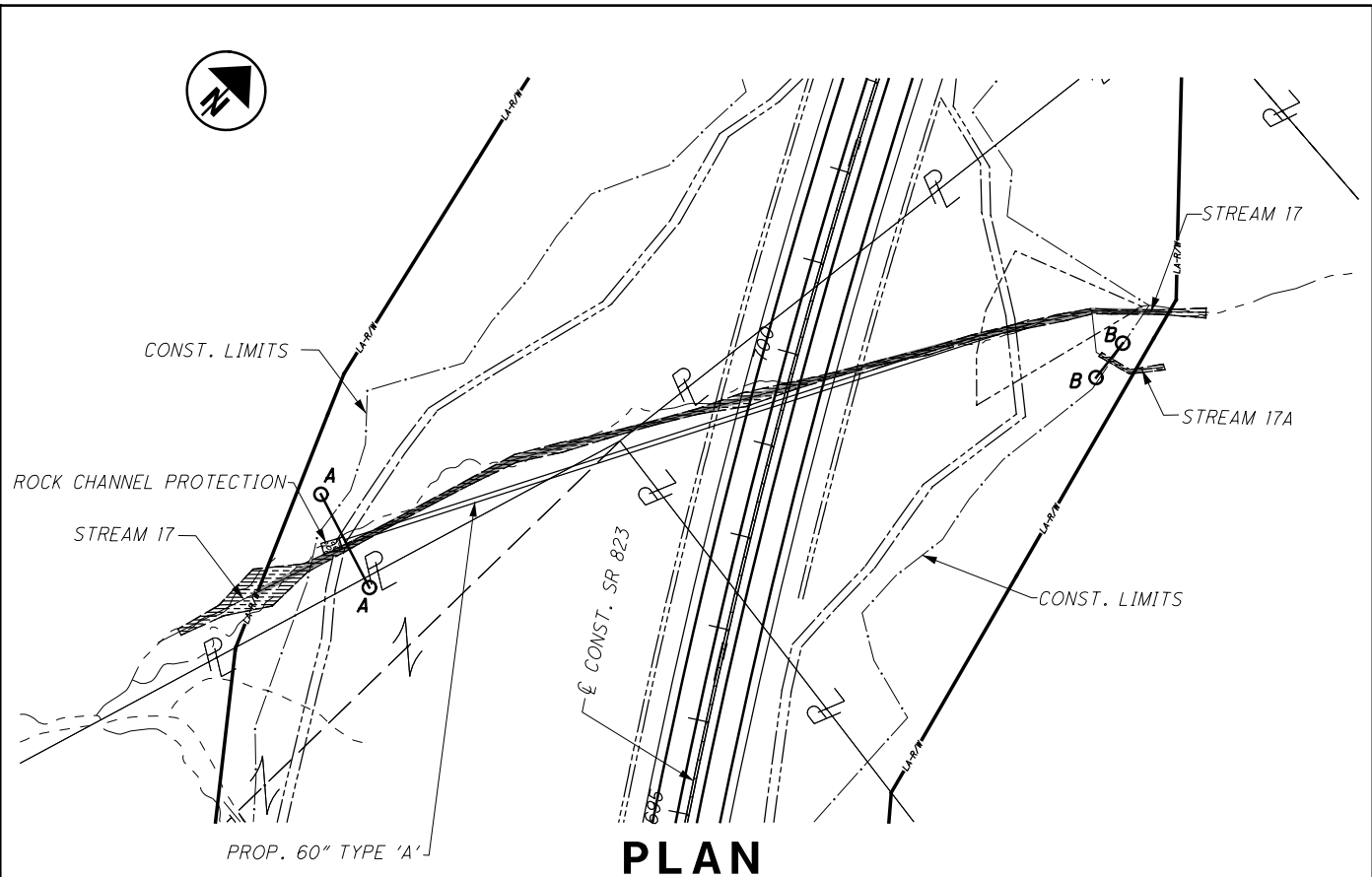
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

STREAM PROFILE : 1" = 50'

DATE: AUGUST 15, 2013

### FIGURE 3-29A



**STREAM 17**

PROPERTY OWNERS:  
 J & J SHELTON FAMILY, LLC,  
 AN OHIO LIMITED LIABILITY COMPANY  
 MIKE BRADLEY, KIM BRADLEY,  
 JOHN W. PICK AND SHARON L. PICK  
 LEANNE M. FUHRMANN, INITIAL TRUSTEE  
 OF THE LEANNE M. FUHRMANN REVOCABLE  
 TRUST DATED MAY 31, 2007 (1/2 INTEREST)  
 PAUL W. FUHRMANN, INITIAL TRUSTEE  
 OF THE PAUL W. FUHRMANN REVOCABLE  
 TRUST DATED MAY 31, 2007 (1/2 INTEREST)

LENGTH OF IMPACT:	1018 LF
AREA EXCAVATED OR FILLED:	0.160 ACRE
EXCAVATION BELOW OHW:	34 CY
NET FILL BELOW OHW:	150 CY

**STREAM 17A**

LENGTH OF IMPACT:	91 LF
AREA EXCAVATED OR FILLED:	0.006 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	5 CY

LEGEND

----- PROPOSED DITCH

———— STREAM IMPACT LENGTH

OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 17  
 STREAM 17A**

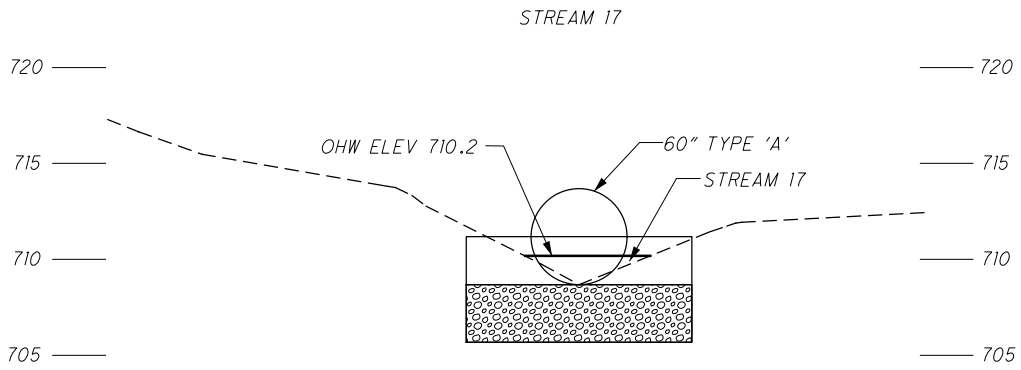
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

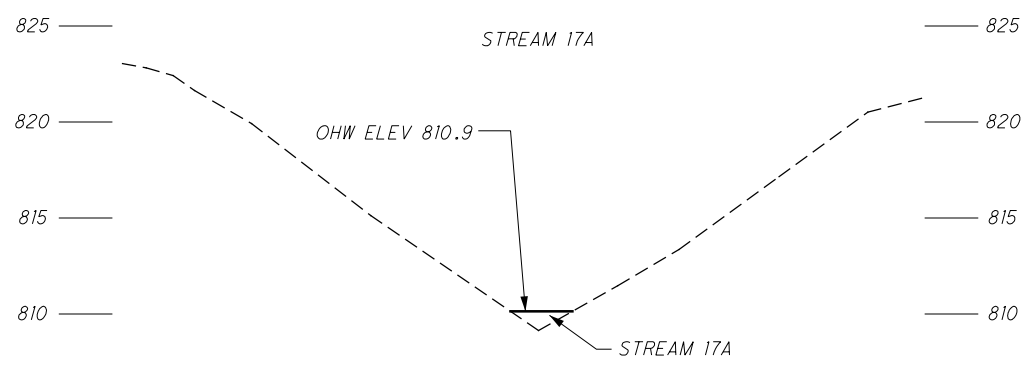
PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1"-200'

DATE: AUGUST 15, 2013

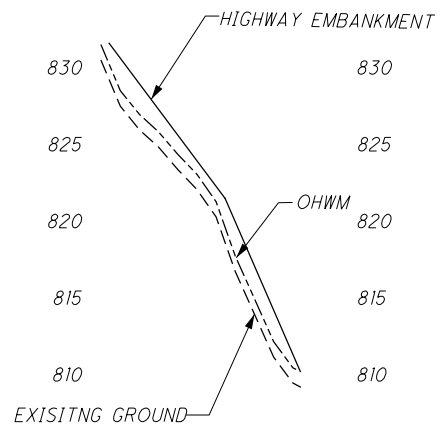
**FIGURE  
 3-30**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 17A PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 17  
STREAM 17A**

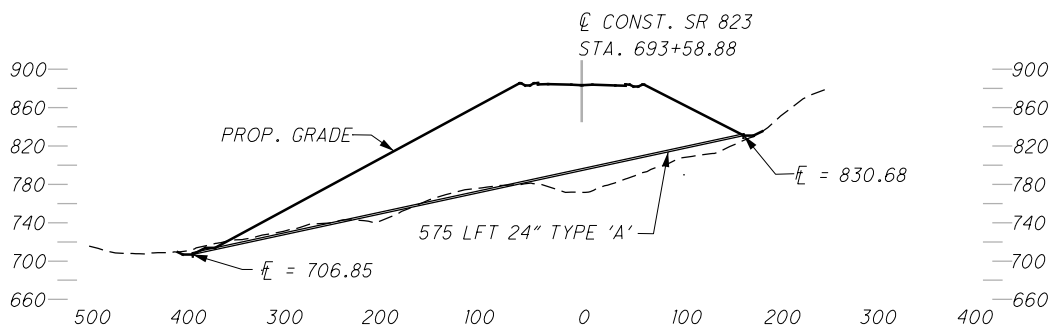
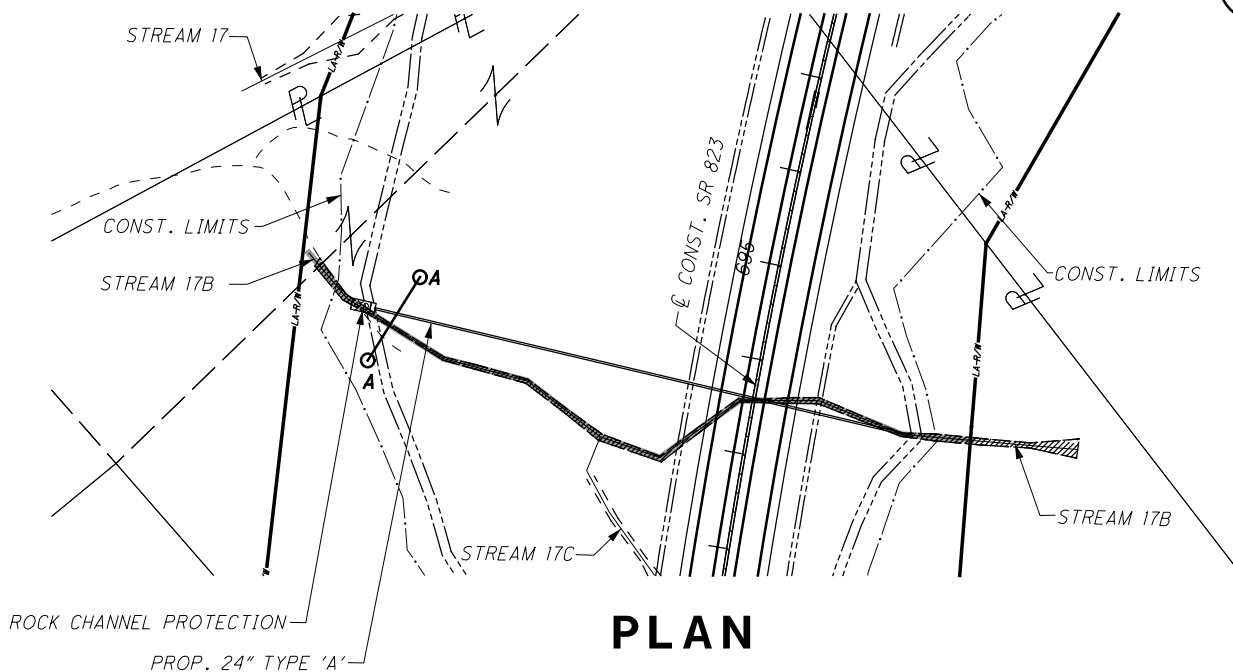
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION: 1"-10'  
STREAM PROFILE: 1"-50'

DATE: AUGUST 15, 2013

**FIGURE  
3-30A**



### CULVERT PROFILE

PROPERTY OWNERS:  
 MIKE BRADLEY, KIM BRADLEY, JOHN W. PICK,  
 AND SHARON L. PICK

LENGTH OF IMPACT: 783 LF  
 AREA EXCAVATED OR FILLED: 0.082 ACRE  
 EXCAVATION BELOW OHW: 27 CY  
 NET FILL BELOW OHW: 54 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 17B

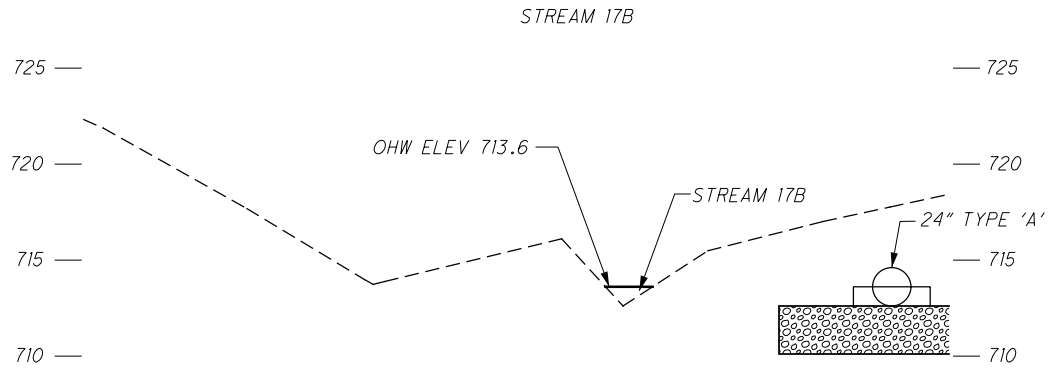
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

## FIGURE 3-31



## CROSS SECTION A-A



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 17B

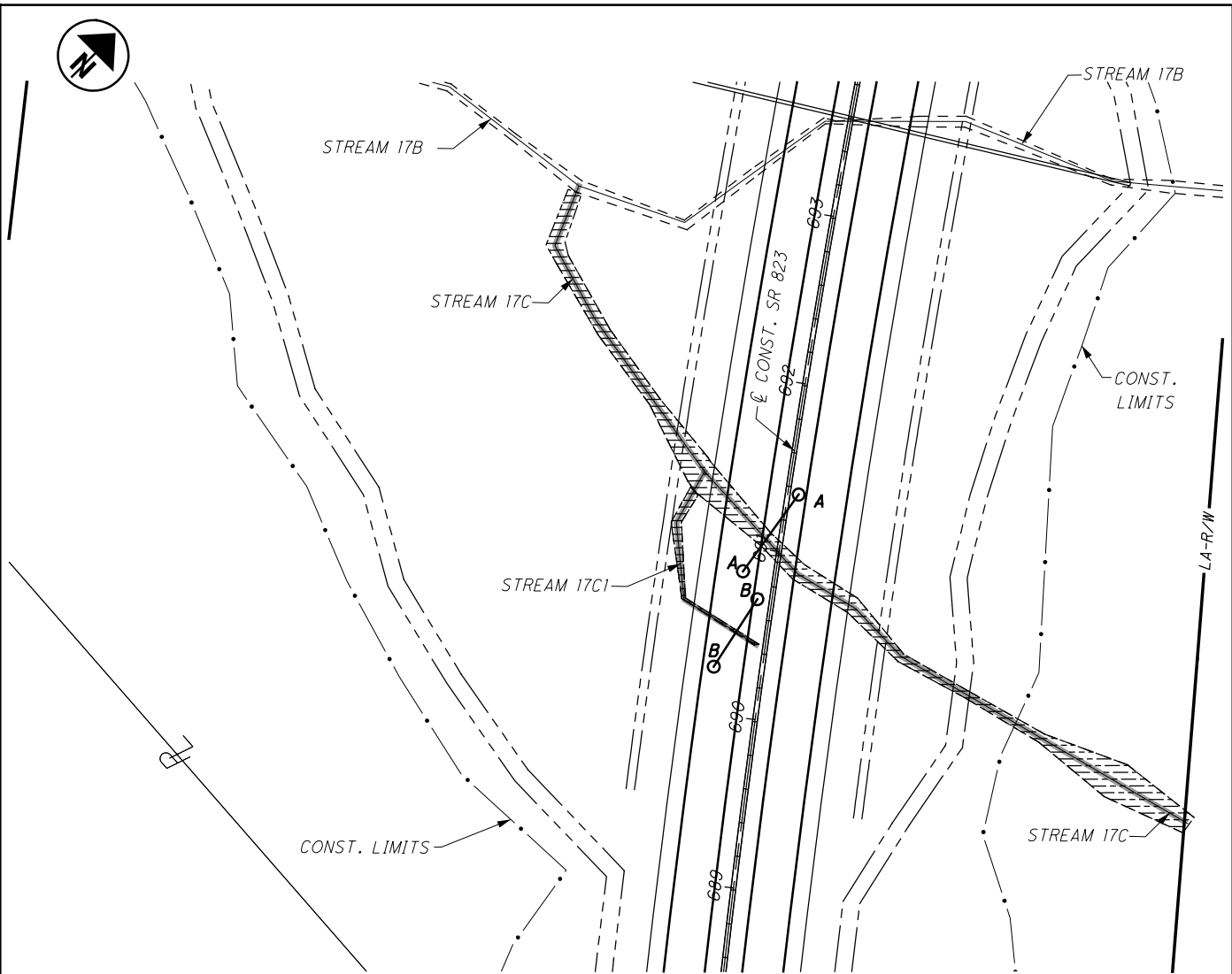
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1'-10'

DATE: AUGUST 15, 2013

## FIGURE 3-31A



**PLAN**

**STREAM 17C**

LENGTH OF IMPACT:	551 LF
AREA EXCAVATED OR FILLED:	0.051 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	61 CY

**STREAM 17C1**

LENGTH OF IMPACT:	130 LF
AREA EXCAVATED OR FILLED:	0.009 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	7 CY

PROPERTY OWNERS:  
MIKE BRADLEY, KIM BRADLEY, JOHN W. PICK,  
AND SHARON L. PICK

**LEGEND**

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 17C  
STREAM 17C1**

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

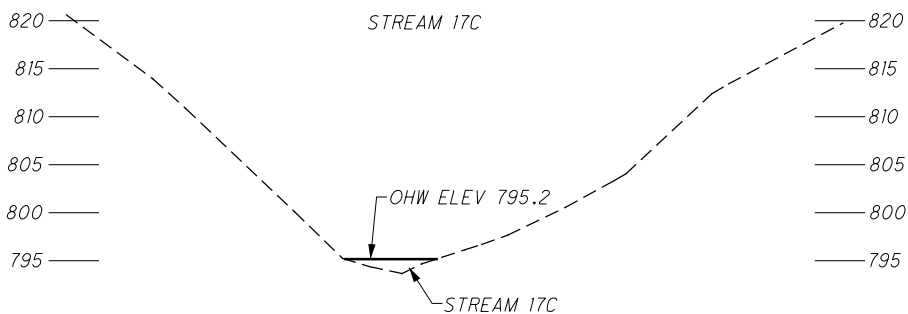
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

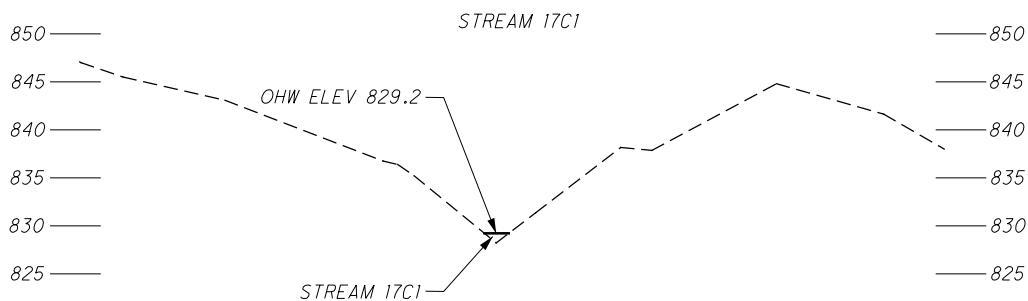
DATE: AUGUST 15, 2013

**FIGURE  
3-32**





### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 17C STREAM 17C1

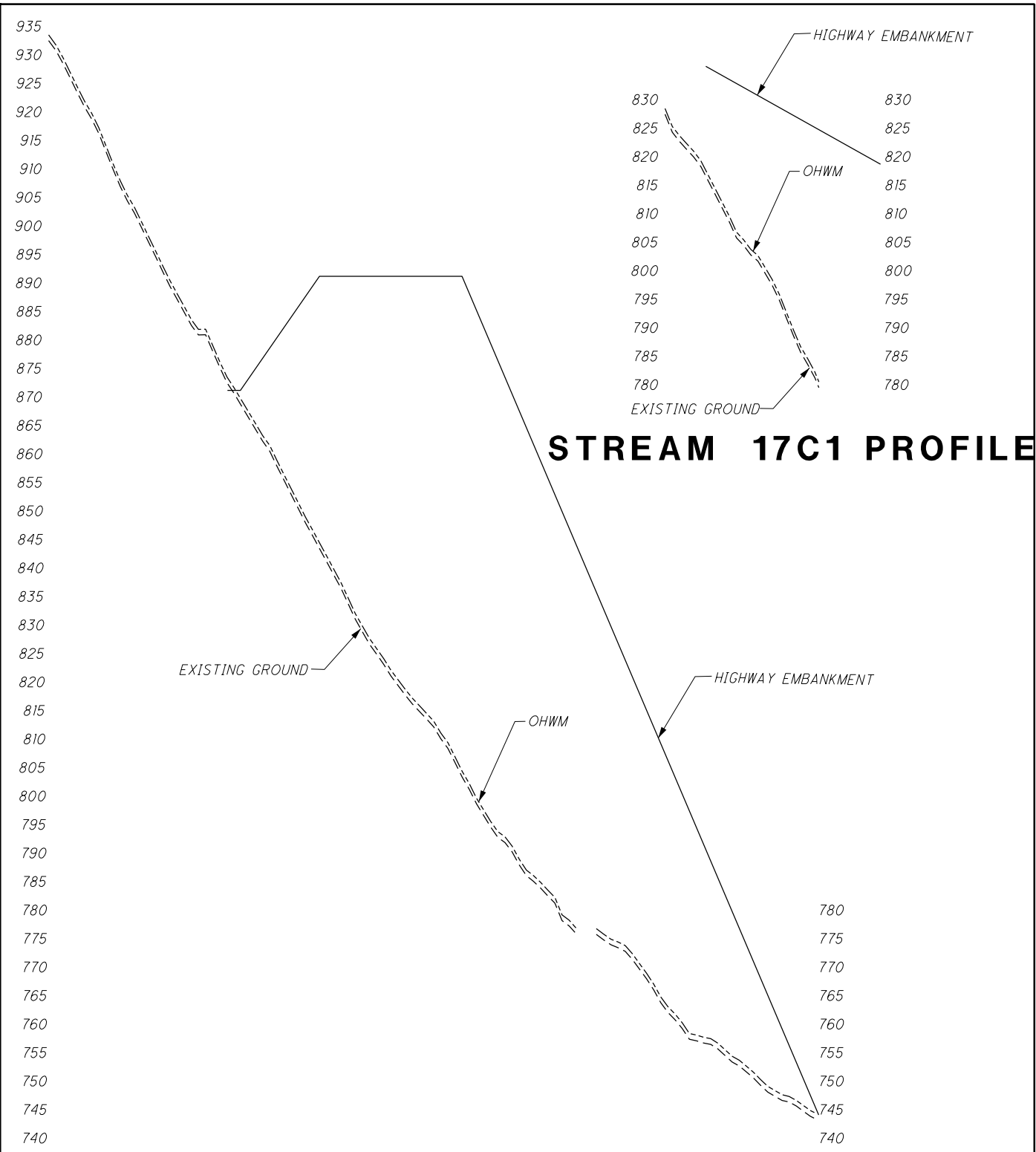
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

# FIGURE 3-32A



**STREAM 17C PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 17C  
STREAM 17C1**

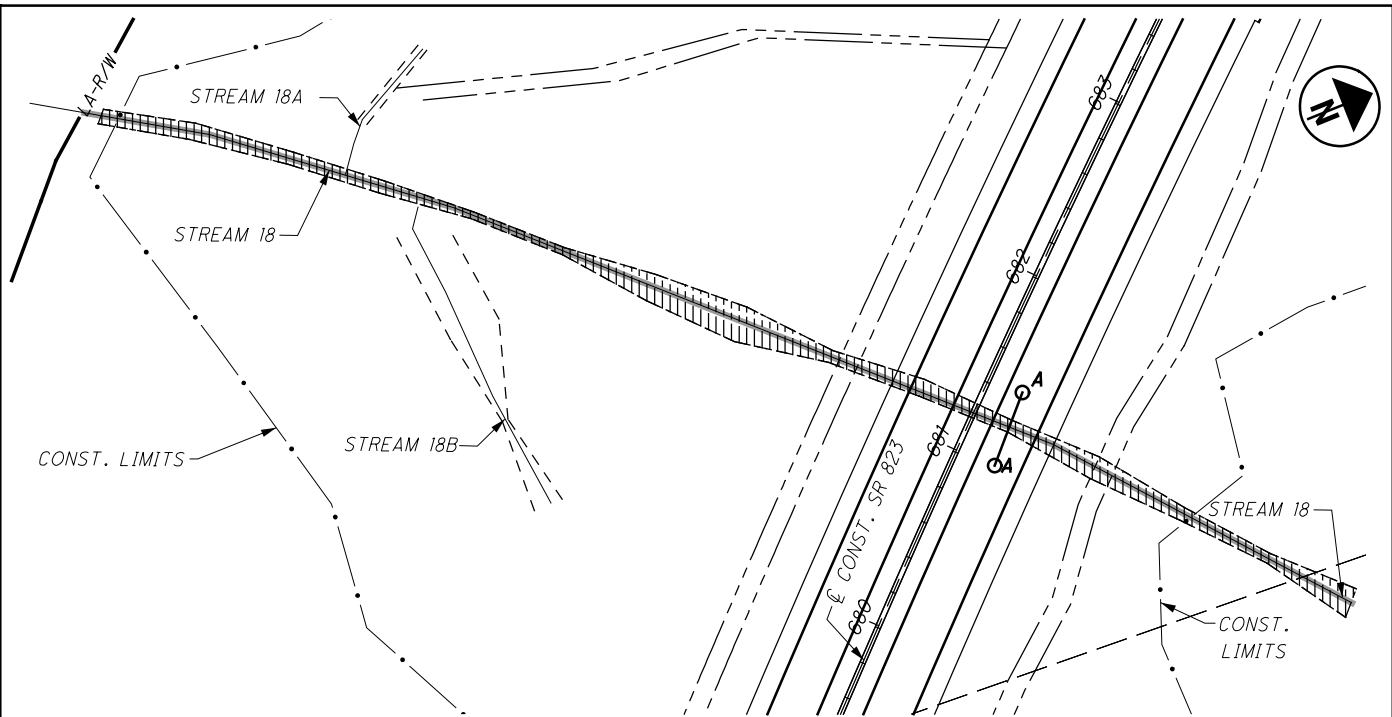
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

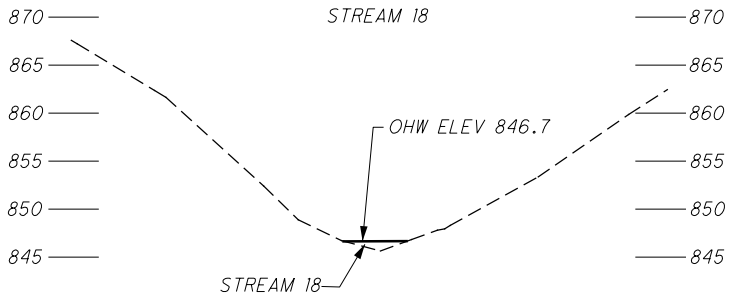
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

**FIGURE  
3-32B**



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
 MARY JANE BURCHETT AND  
 STEPHEN E. BURCHETT

LENGTH OF IMPACT: 712 LF  
 AREA EXCAVATED OR FILLED: 0.098 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 79 CY

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 18**

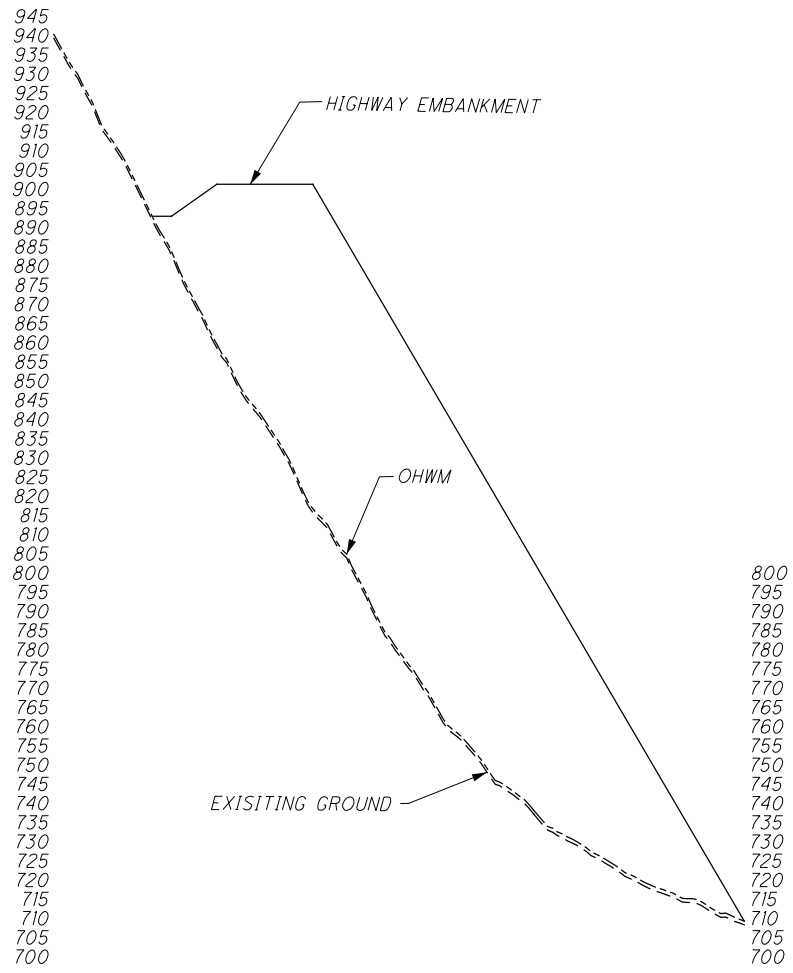
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-33**



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 18

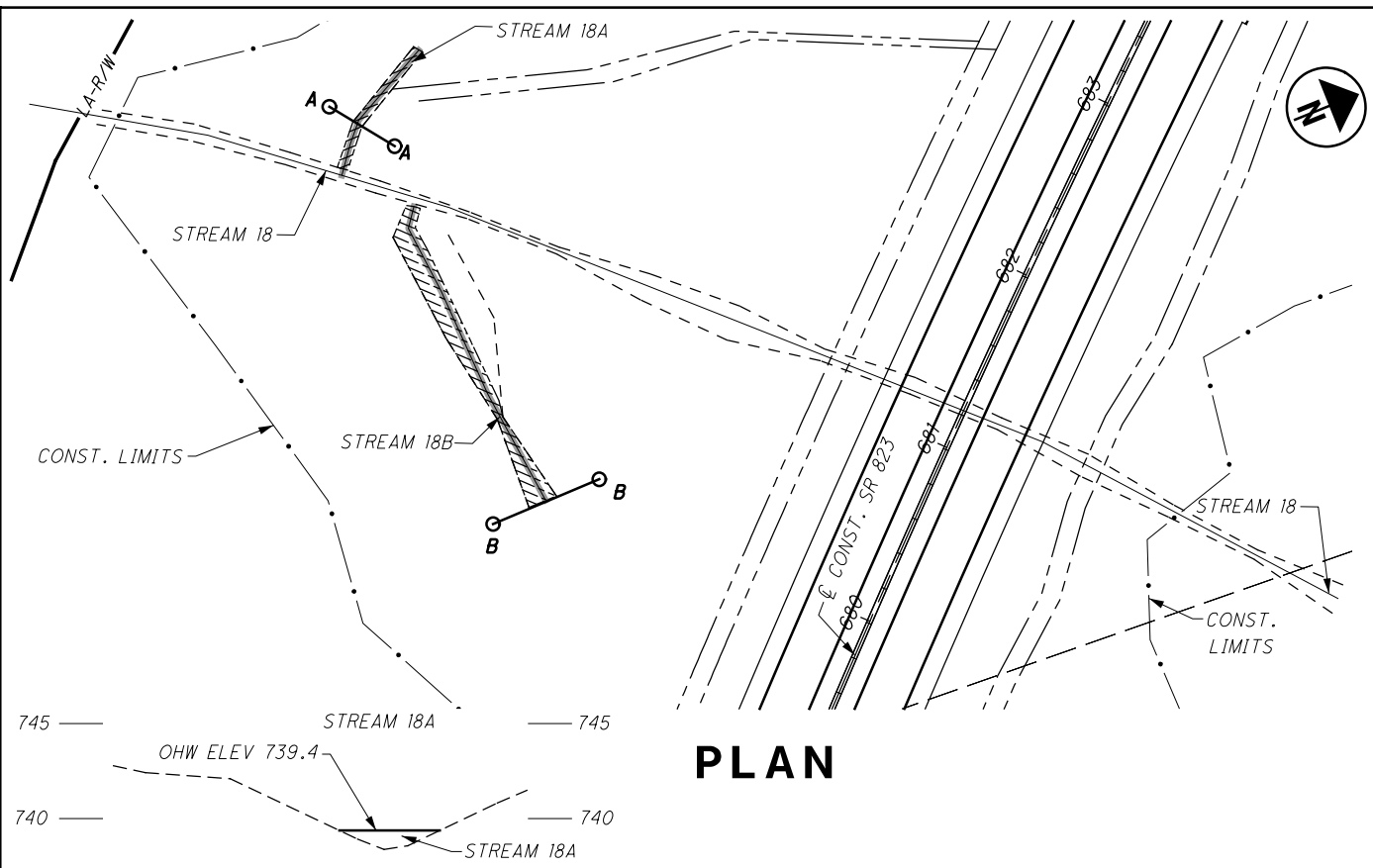
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

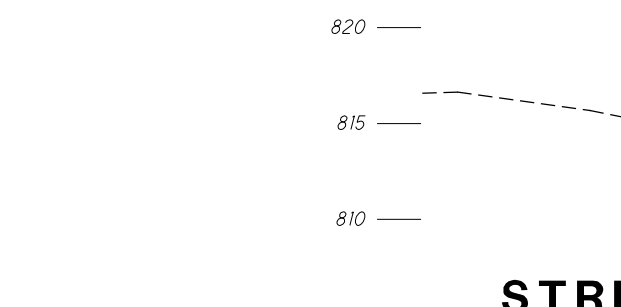
STREAM PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

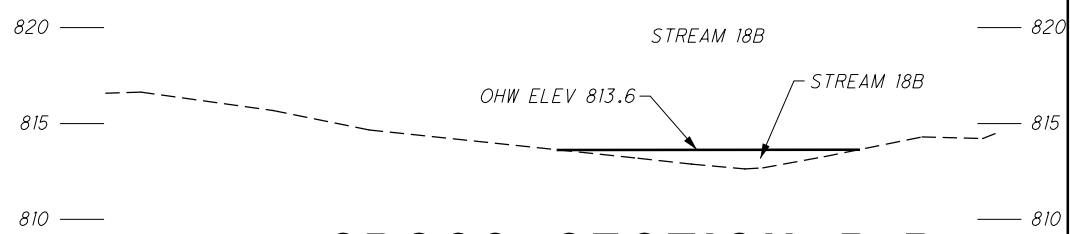
## FIGURE 3-33A



**CROSS SECTION A-A**



**CROSS SECTION B-B  
STREAM 18A**



LENGTH OF IMPACT:	79 LF
AREA EXCAVATED OR FILLED:	0.004 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	3 CY

**STREAM 18B**

LENGTH OF IMPACT:	172 LF
AREA EXCAVATED OR FILLED:	0.012 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	10 CY

PROPERTY OWNERS:  
MARY JANE BURCHETT AND  
STEPHEN E. BURCHETT

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 18A  
STREAM 18B**

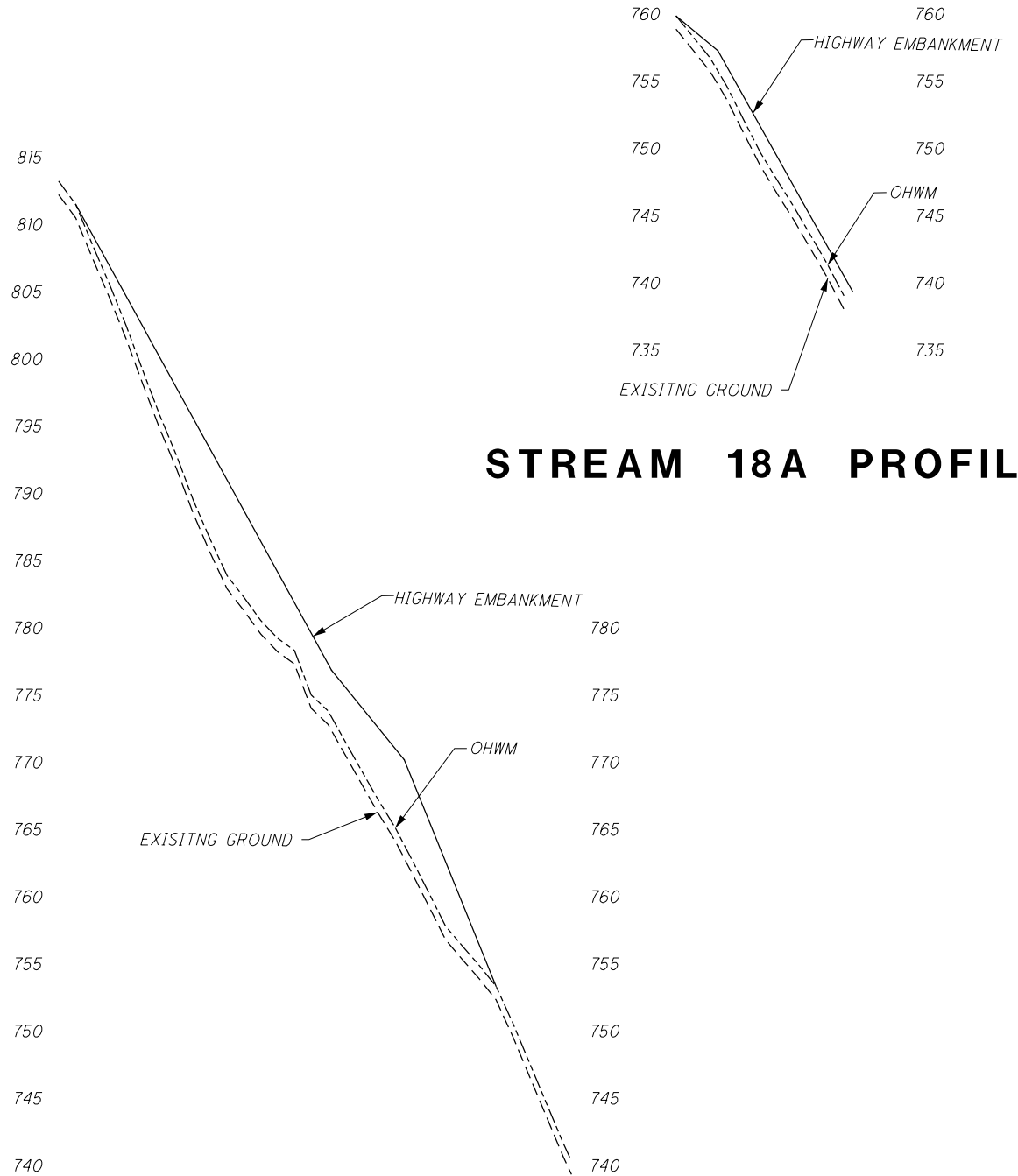
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
3-34**



**STREAM 18B PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 18A  
STREAM 18B**

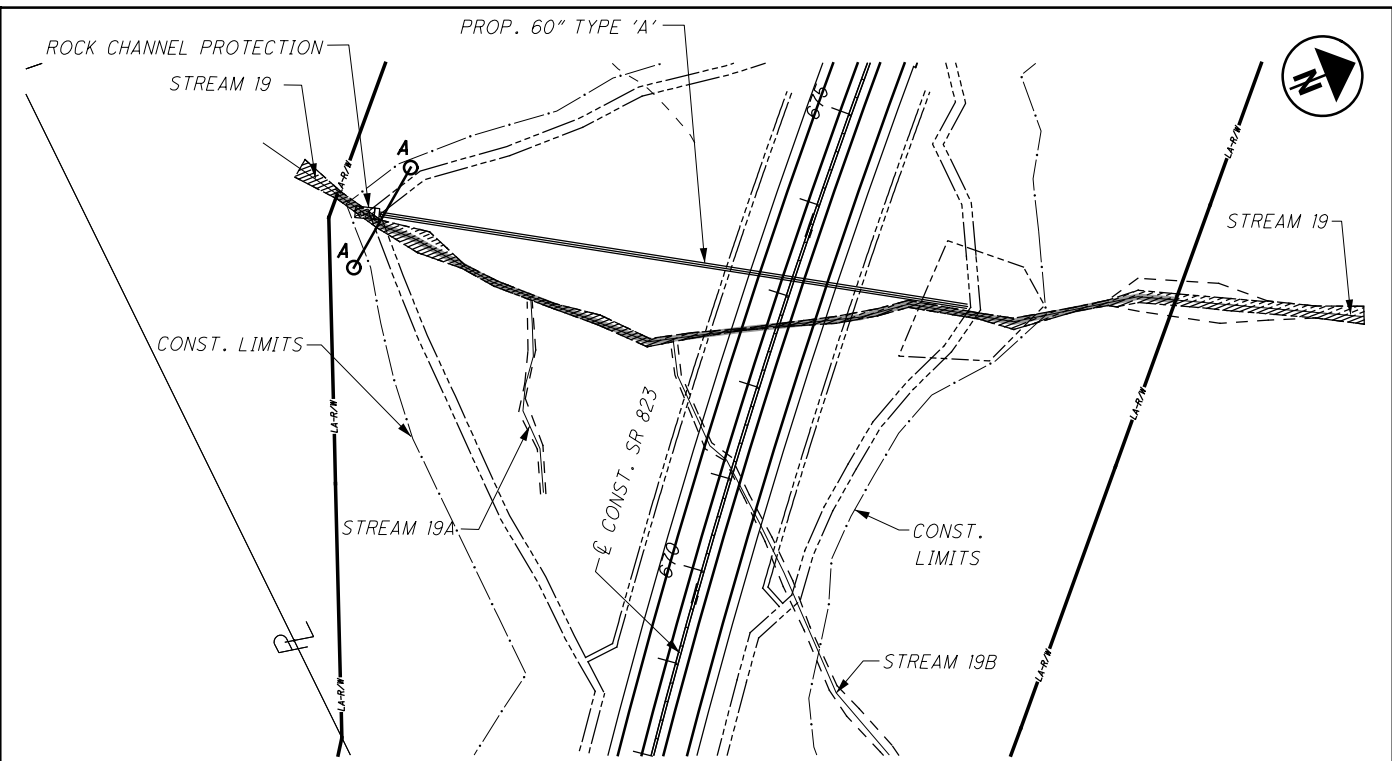
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

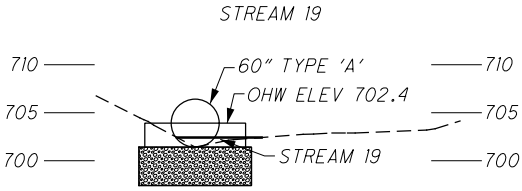
STREAM PROFILE: 1" = 50'

DATE: AUGUST 15, 2013

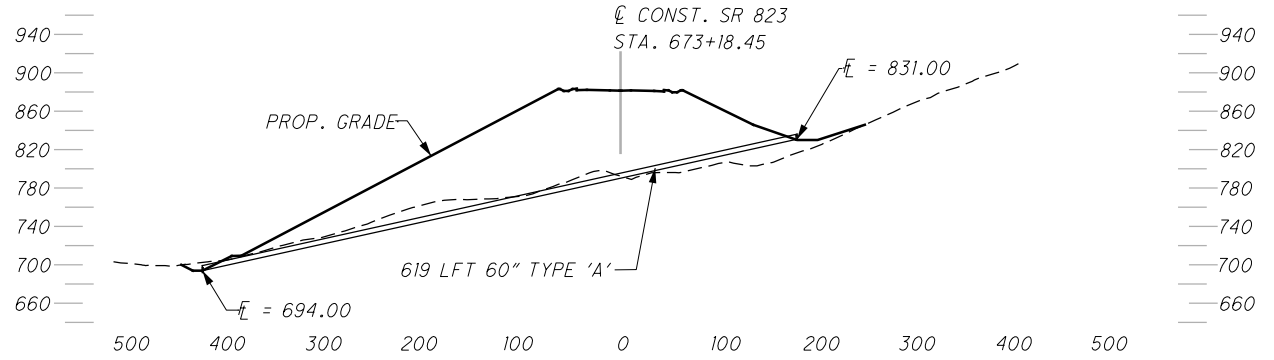
**FIGURE  
3-34A**



**PLAN**



**CROSS SECTION A-A**



**CULVERT PROFILE**

PROPERTY OWNERS:  
 MARY JANE BURCHETT AND  
 STEPHEN E. BURCHETT

LENGTH OF IMPACT: 917 LF  
 AREA EXCAVATED OR FILLED: 0.113 ACRE  
 EXCAVATION BELOW OHW: 45 CY  
 NET FILL BELOW OHW: 84 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 19**

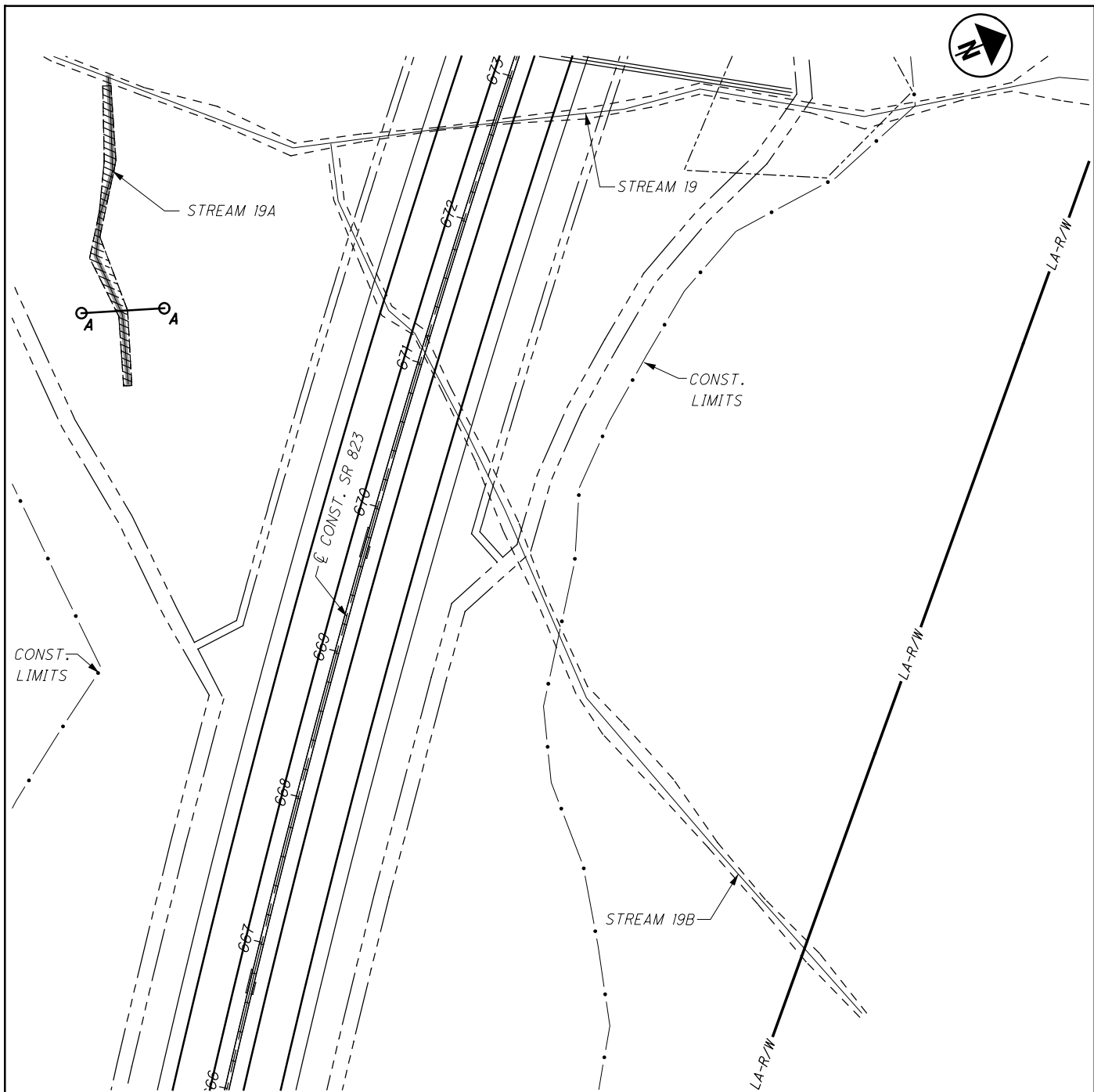
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1" = 50'  
 CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-35**

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



**PLAN**

PROPERTY OWNERS:  
 MARY JANE BURCHETT AND  
 STEPHEN E. BURCHETT

LENGTH OF IMPACT: 210 LF  
 AREA EXCAVATED OR FILLED: 0.010 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 8 CY

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 19A**

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

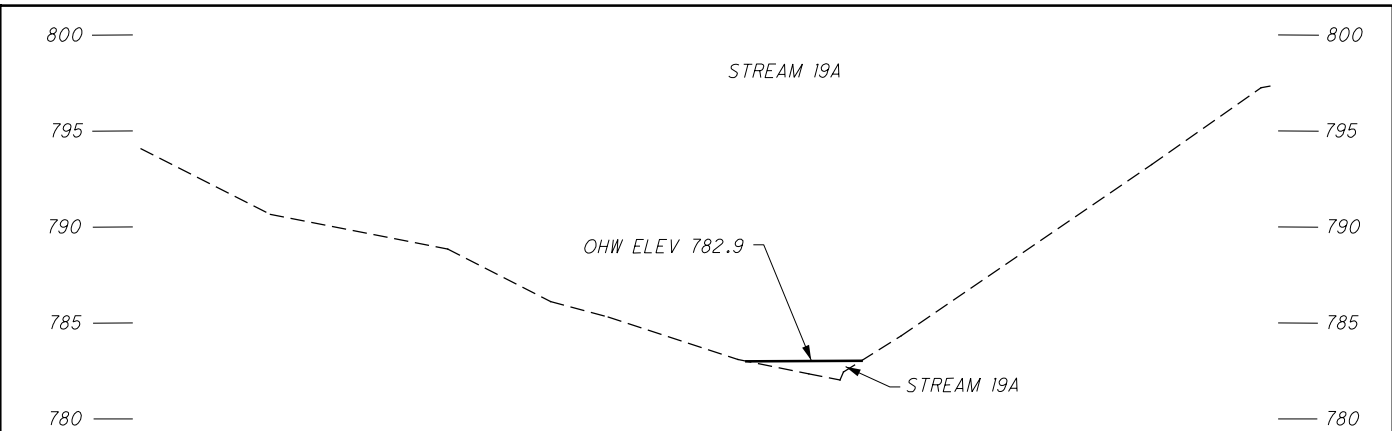
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

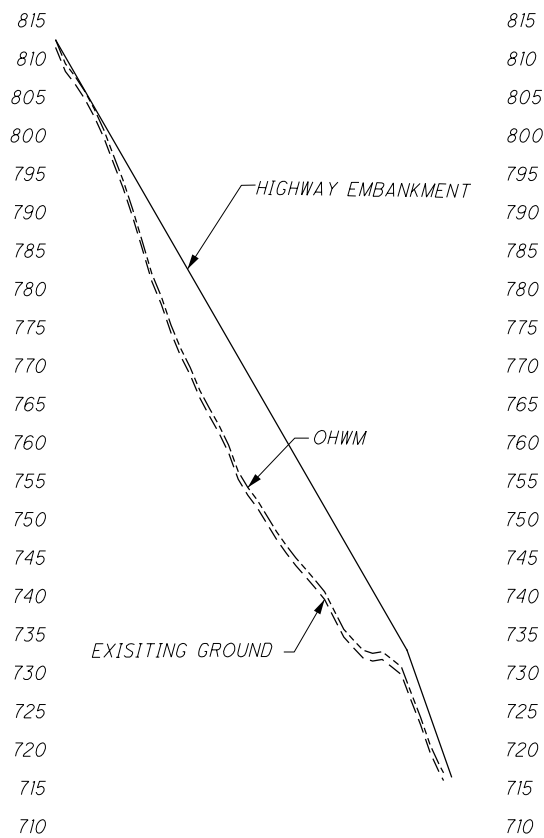
DATE: AUGUST 15, 2013

**FIGURE  
 3-36**





## CROSS SECTION A-A



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 19A

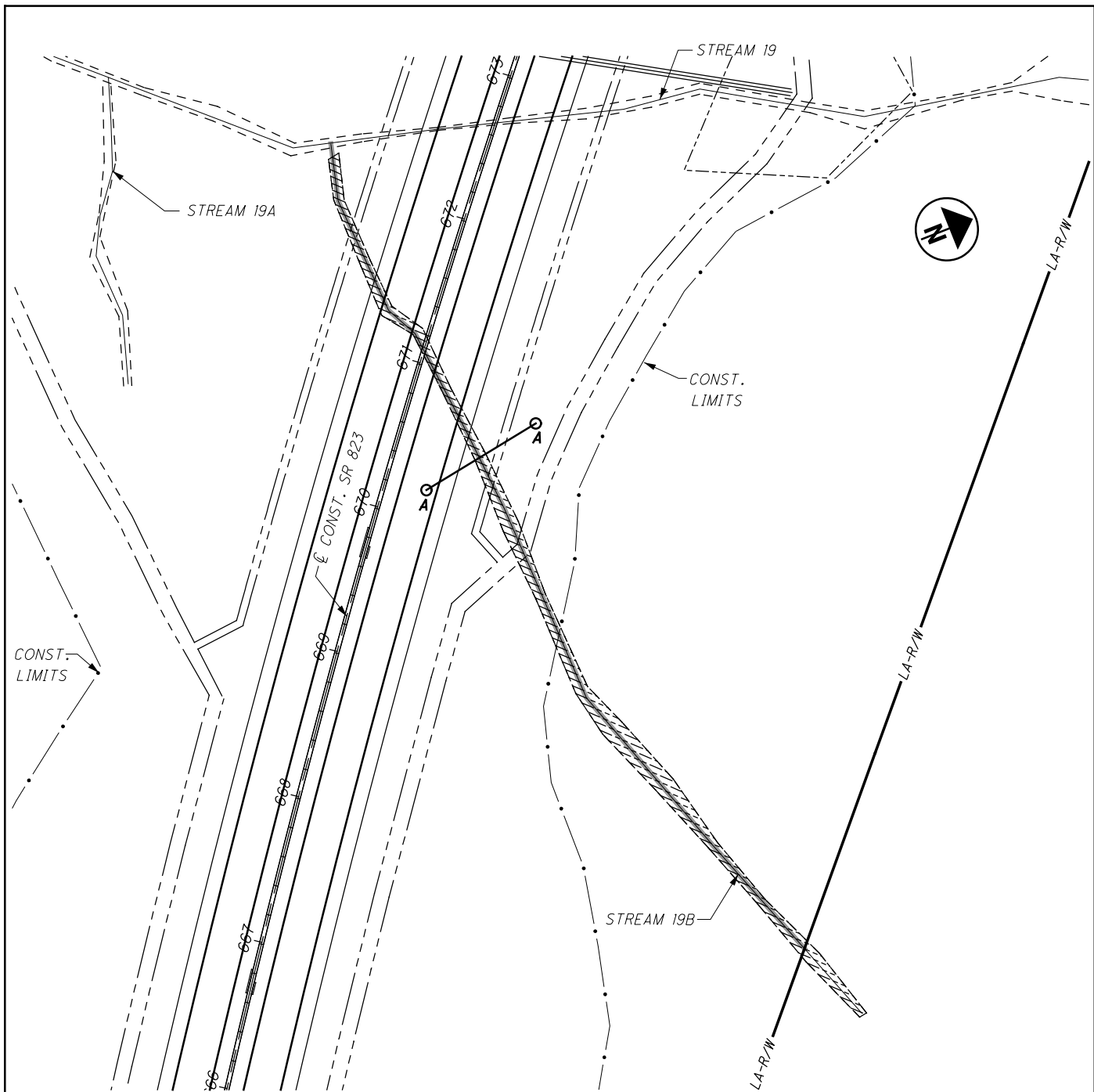
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'  
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-36A



**PLAN**

PROPERTY OWNERS:  
 MARY JANE BURCHETT AND  
 STEPHEN E. BURCHETT

LENGTH OF IMPACT:	631 LF
AREA EXCAVATED OR FILLED:	0.043 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	35 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 19B**

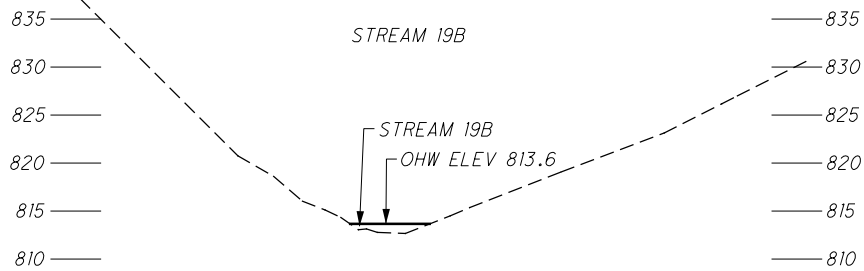
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

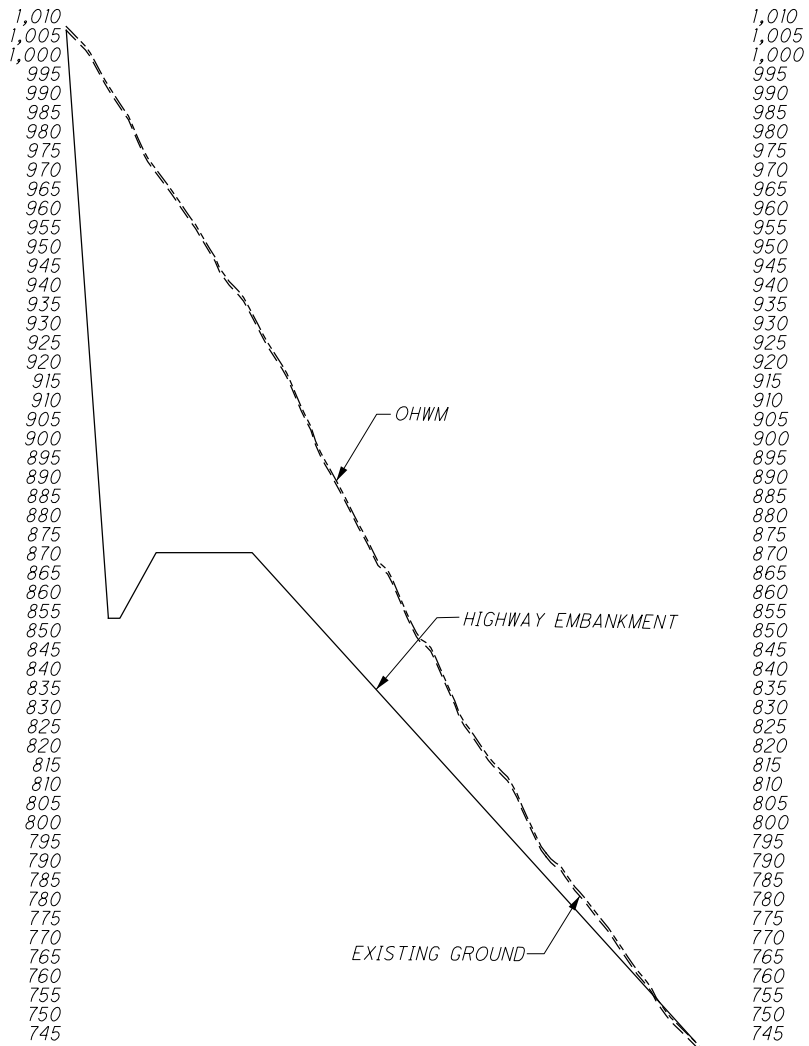
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-37**



**CROSS SECTION A-A**



**CROSS SECTION A-A**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 19B**

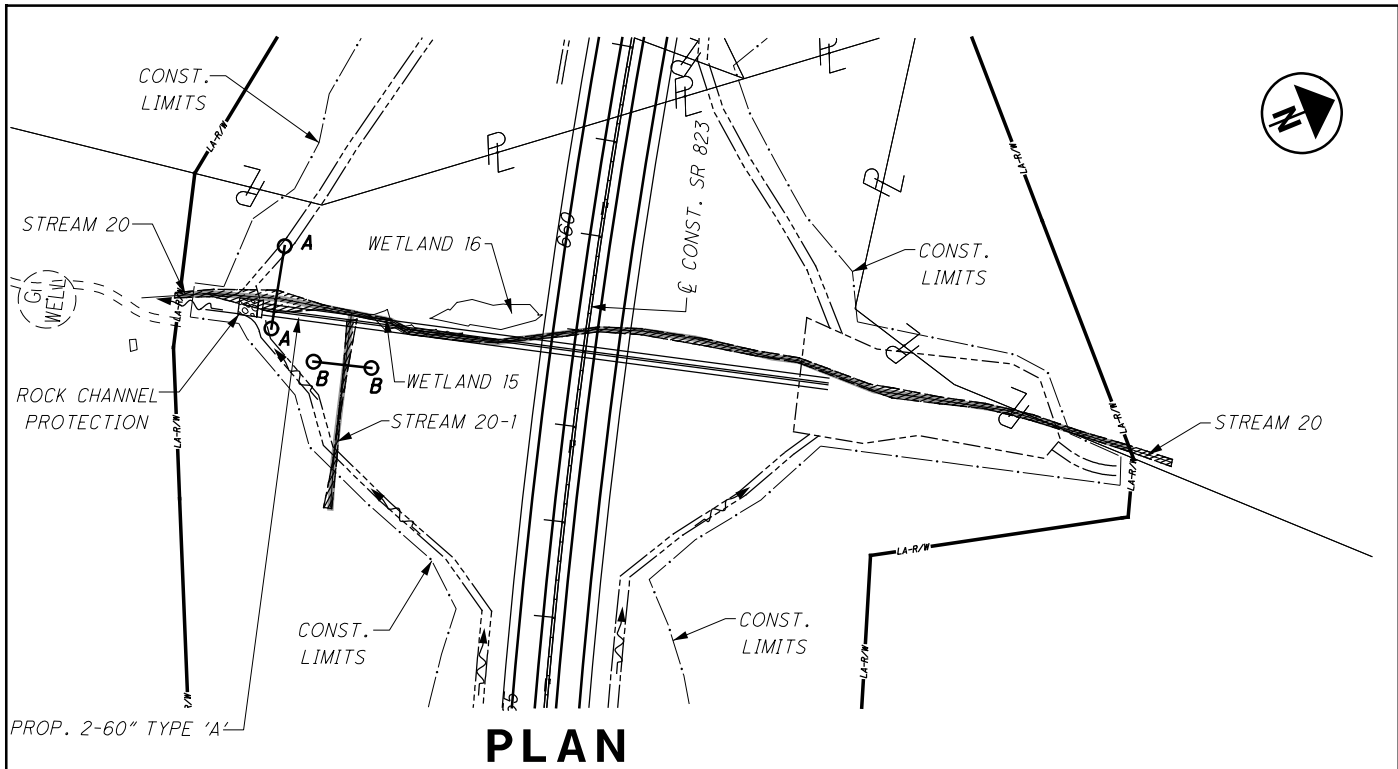
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

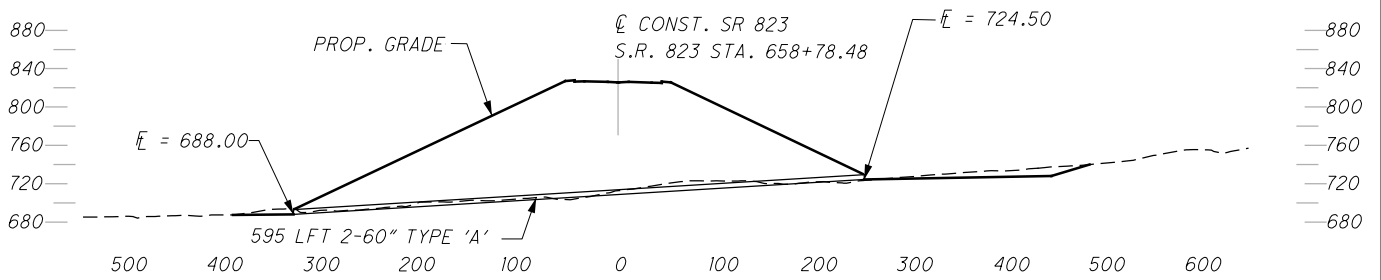
CROSS SECTION 1"=10'  
STREAM PROFILE 1"=200'

DATE: AUGUST 15, 2013

**FIGURE  
3-37A**



**PLAN**



**CULVERT PROFILE  
STREAM 20**

LENGTH OF IMPACT:	1014 LF
AREA EXCAVATED OR FILLED:	0.133 ACRE
EXCAVATION BELOW OHW:	45 CY
NET FILL BELOW OHW:	63 CY

**STREAM 20-1**

LENGTH OF IMPACT:	204 LF
AREA EXCAVATED OR FILLED:	0.014 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	11 CY

PROPERTY OWNERS:  
CURTIS HANNAH AND  
GLENN SCHULER HANNAH

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 20  
STREAM 20-1**

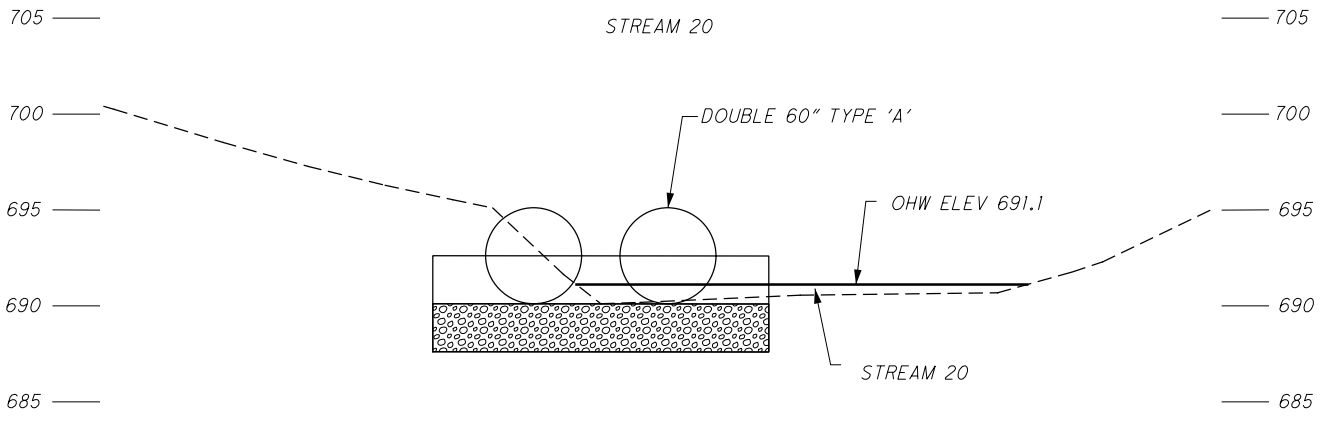
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

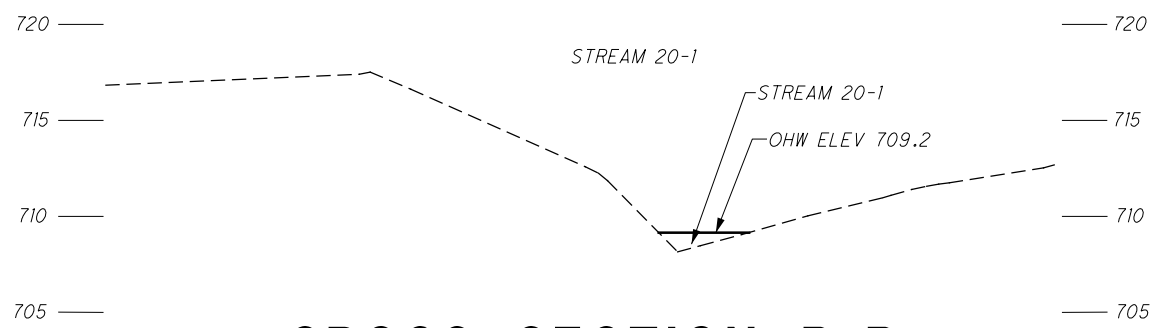
PLAN SCALE: 1" = 200'  
CULVERT PROFILE: 1" = 50'

DATE: AUGUST 15, 2013

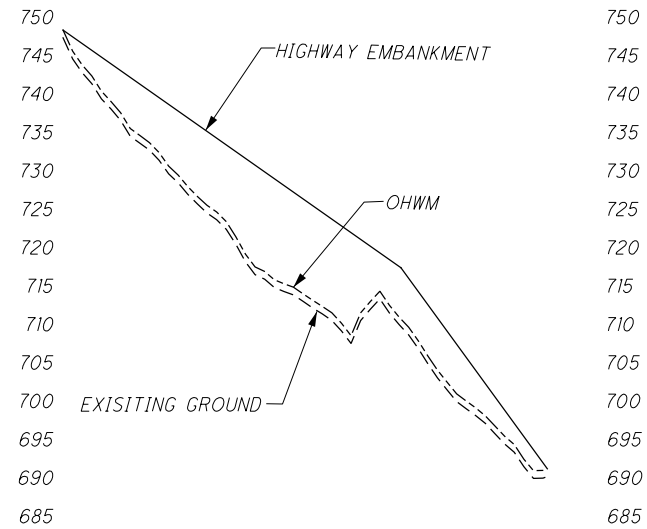
**FIGURE  
3-38**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 20-1 PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 20  
STREAM 20-1**

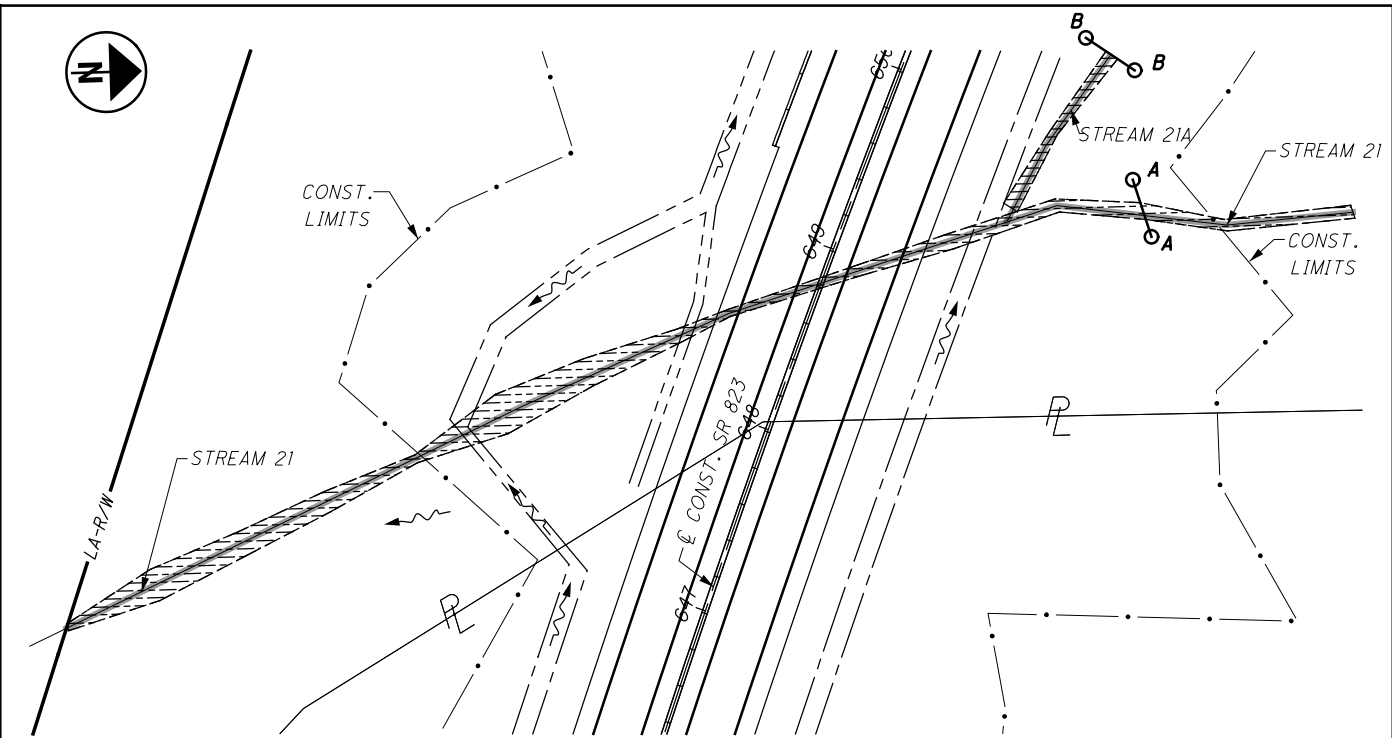
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

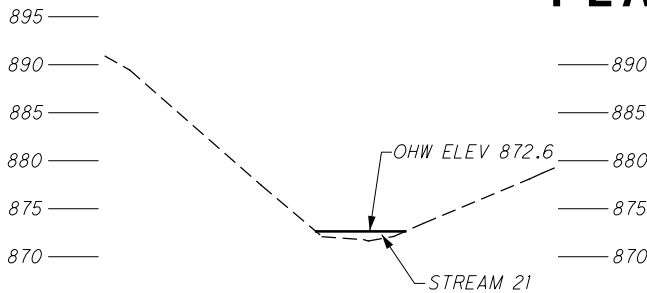
CROSS SECTION 1"=10'  
STREAM PROFILE 1"=100'

DATE: AUGUST 15, 2013

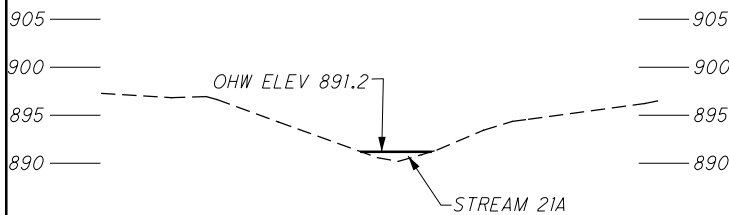
**FIGURE  
3-38A**



**PLAN**



**CROSS SECTION A-A**



**CROSS SECTION B-B**

**STREAM 21**

LENGTH OF IMPACT:	717 LF
AREA EXCAVATED OR FILLED:	0.115 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	93 CY

**STREAM 21A**

LENGTH OF IMPACT:	102 LF
AREA EXCAVATED OR FILLED:	0.007 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	6 CY

PROPERTY OWNERS:  
JOSEPH RAMSEY

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 21 STREAM 21A**

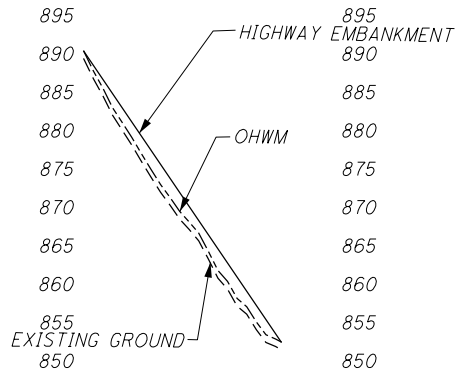
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

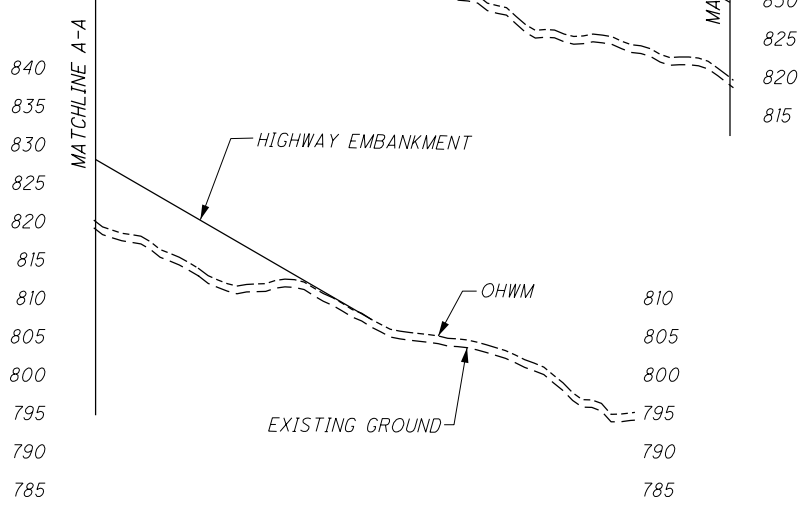
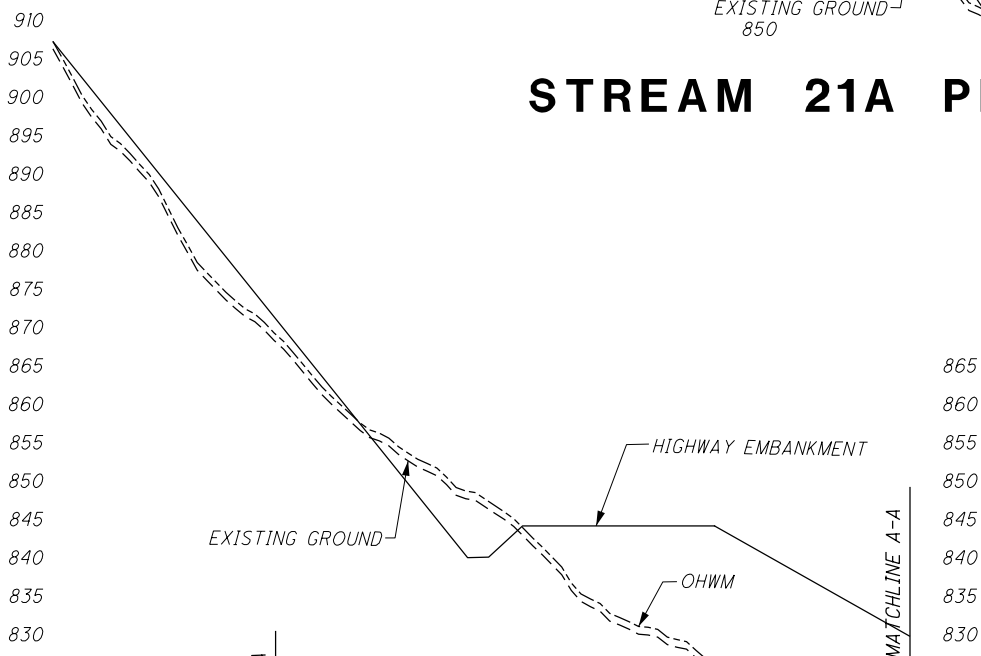
PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-39**



## STREAM 21A PROFILE



## STREAM 21 PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 21 STREAM 21A

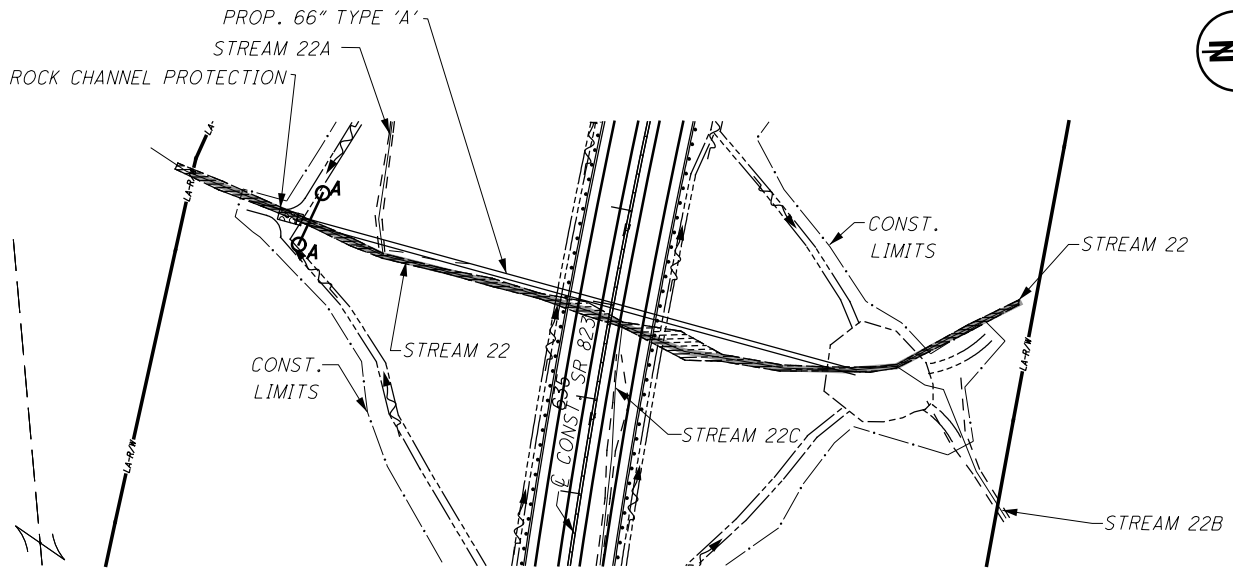
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

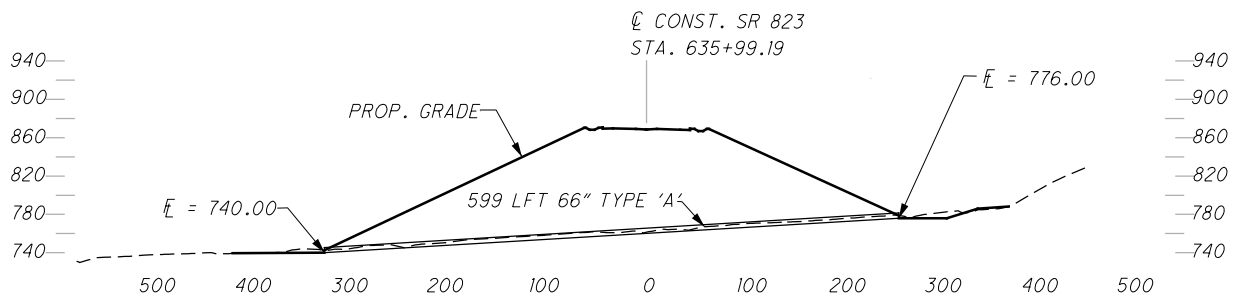
STREAM PROFILE : 1" = 100'

DATE: AUGUST 15, 2013

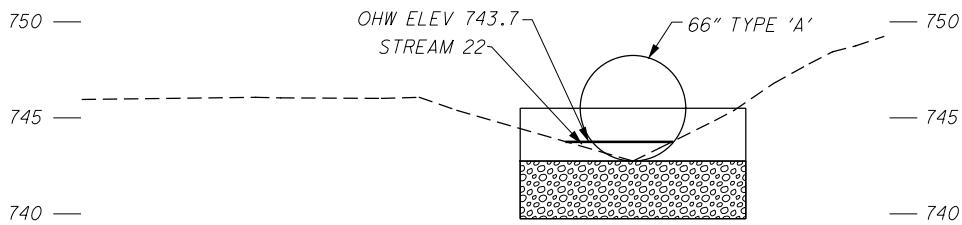
### FIGURE 3-39A



### PLAN



### CULVERT PROFILE



### CROSS SECTION A-A

PROPERTY OWNERS:  
SHIRLEY P. DAILEY

LENGTH OF IMPACT: 913 LF  
 AREA EXCAVATED OR FILLED: 0.222 ACRE  
 EXCAVATION BELOW OHW: 35 CY  
 NET FILL BELOW OHW: 158 CY

LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 22

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

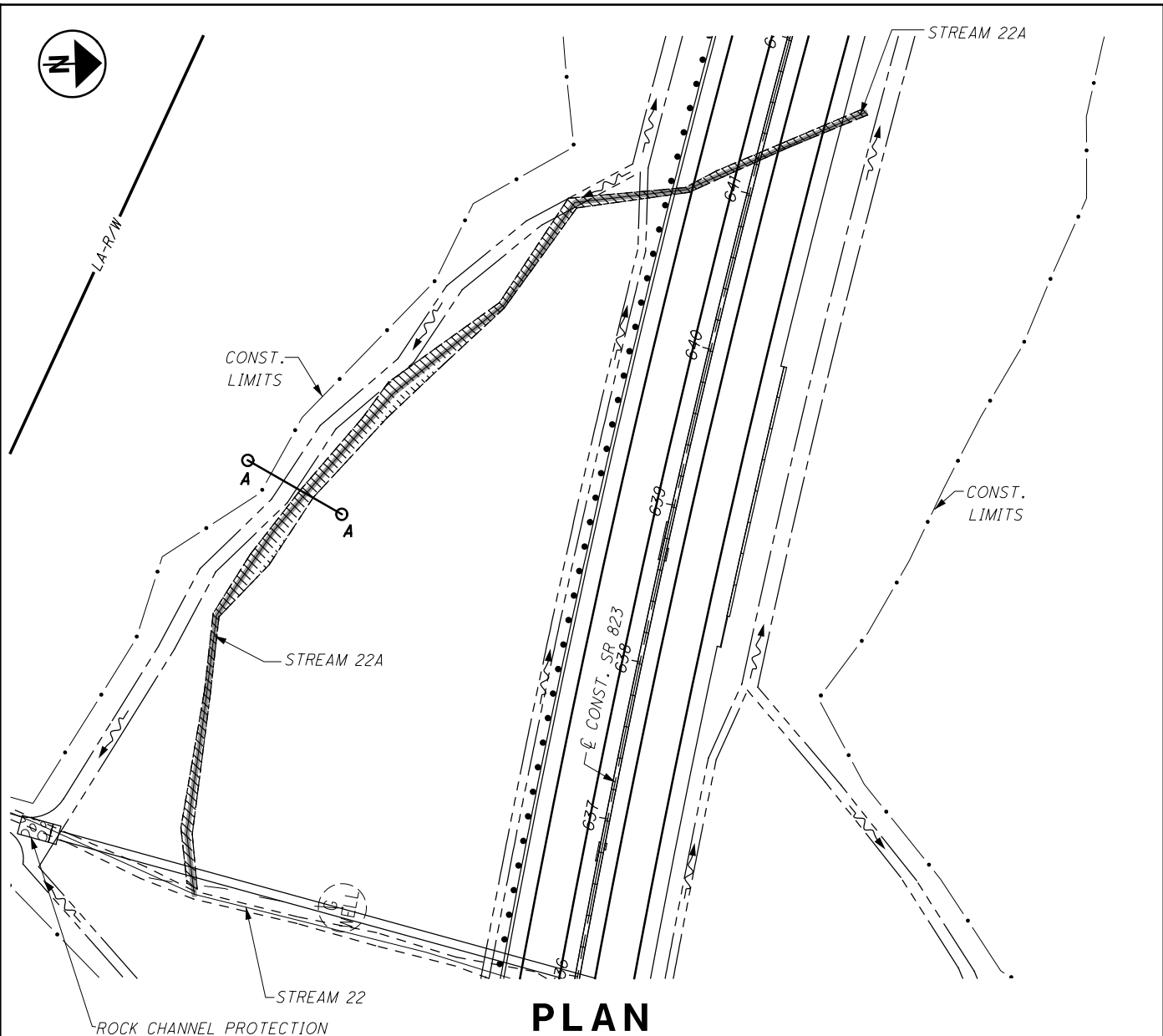
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE 1" = 50'  
 CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

## FIGURE 3-40





**PLAN**

PROPERTY OWNERS:  
SHIRLEY P. DAILEY

LENGTH OF IMPACT:	710 LF
AREA EXCAVATED OR FILLED:	0.065 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	53 CY

LEGEND

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 22A**

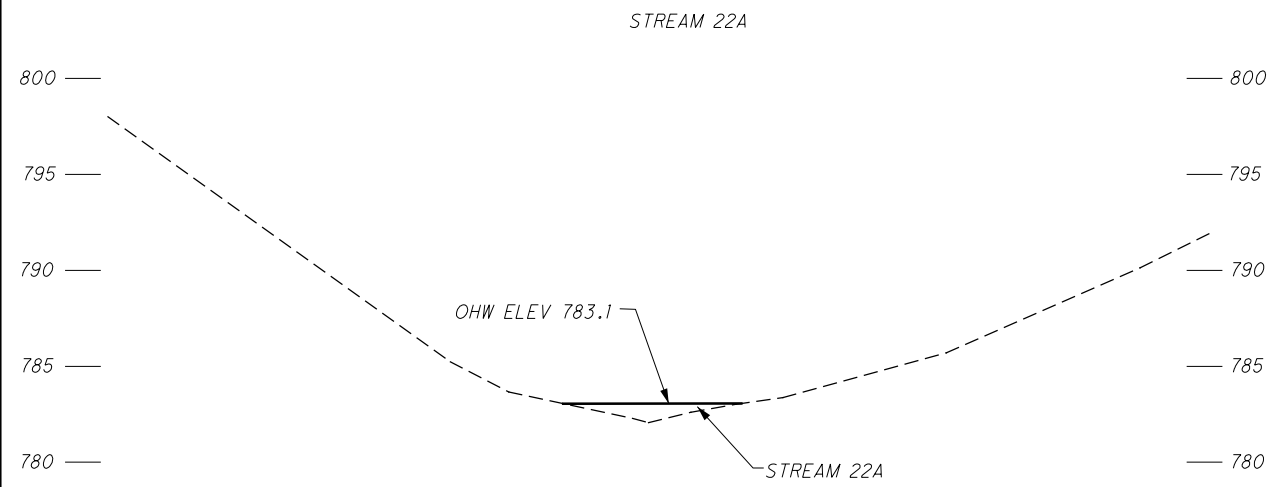
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

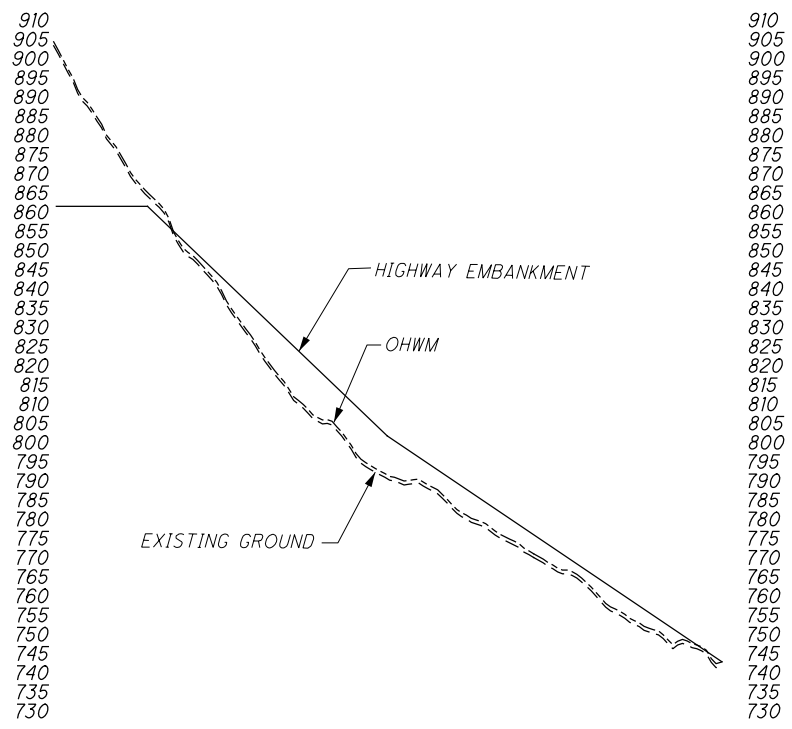
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
3-41**



## CROSS SECTION A-A



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 22A

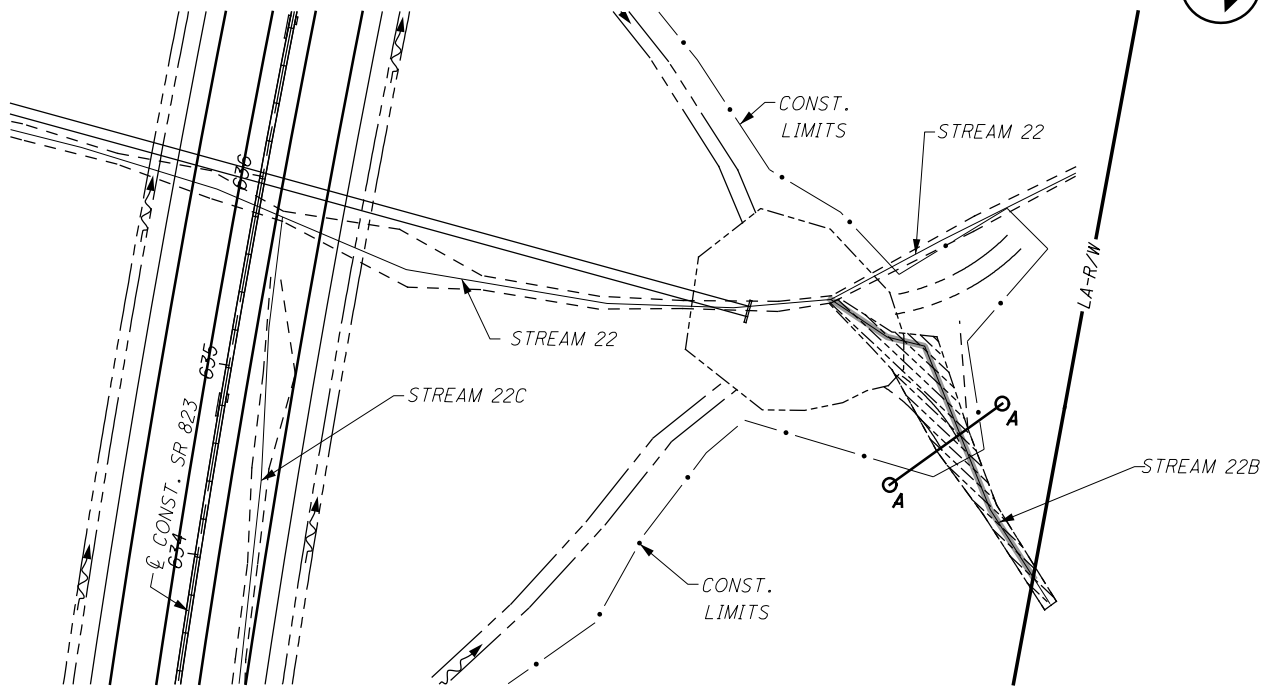
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

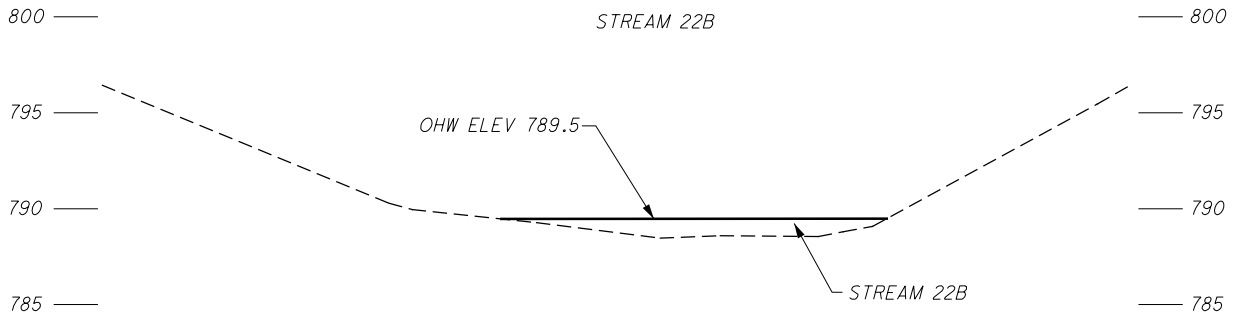
CROSS SECTION 1"=10'  
STREAM PROFILE 1"=200'

DATE: AUGUST 15, 2013

# FIGURE 3-41A



### PLAN



### CROSS SECTION A-A

PROPERTY OWNERS:  
SHIRLEY P. DAILEY

LENGTH OF IMPACT: 189 LF  
 AREA EXCAVATED OR FILLED: 0.013 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 11 CY

LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨▨ OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 22B

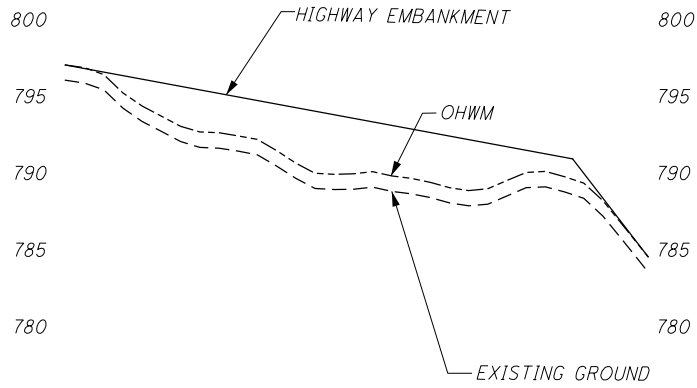
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-42



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 22B

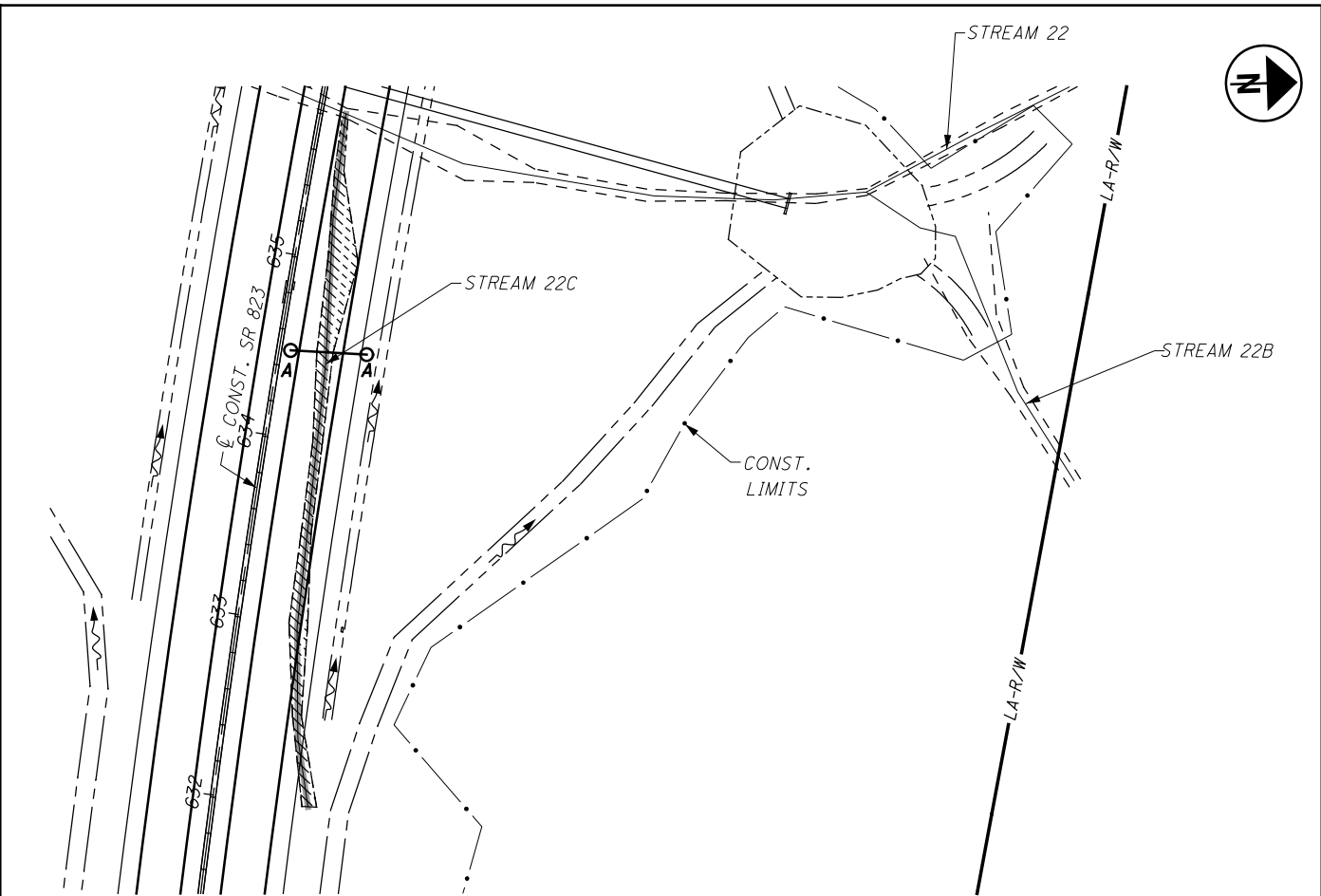
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

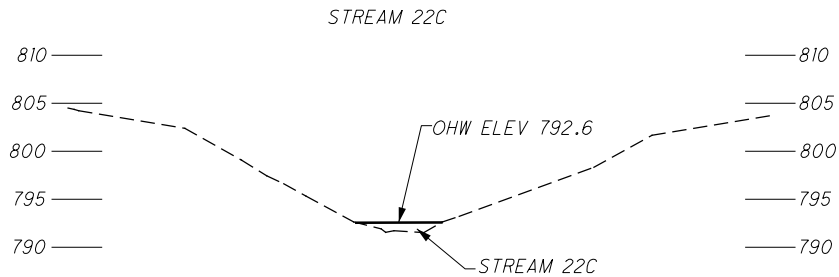
STREAM PROFILE 1" = 50'

DATE: AUGUST 15, 2013

**FIGURE  
3-42A**



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
SHIRLEY P. DAILEY

LENGTH OF IMPACT: 382 LF  
 AREA EXCAVATED OR FILLED: 0.026 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 21 CY

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 22C**

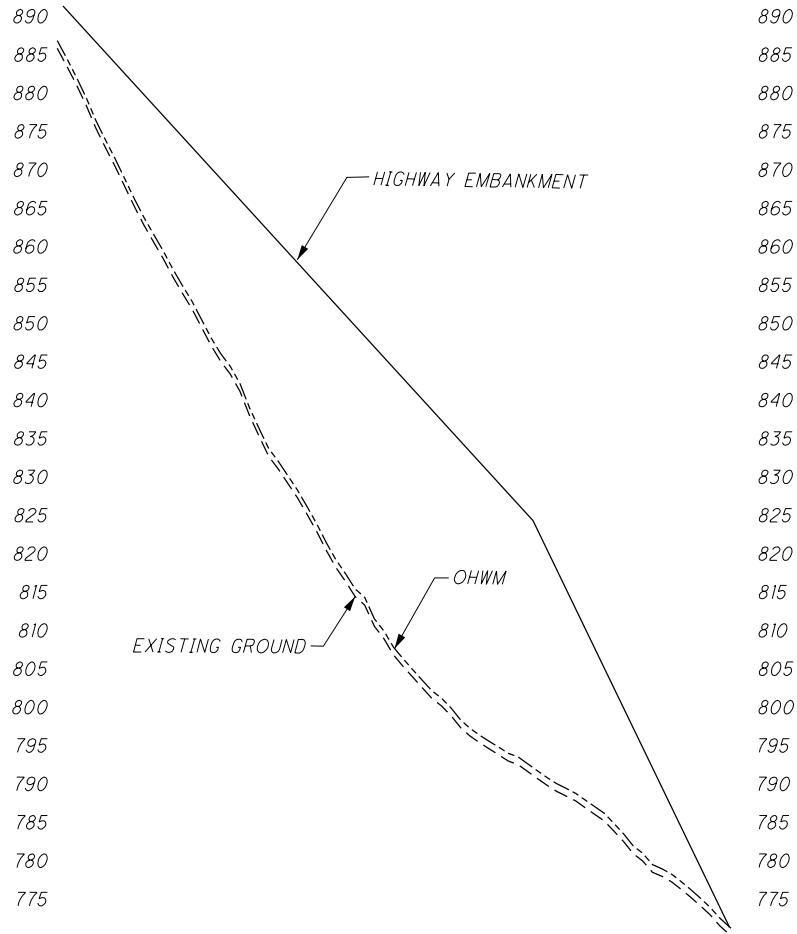
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
3-43**



## PROFILE STREAM



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 22C

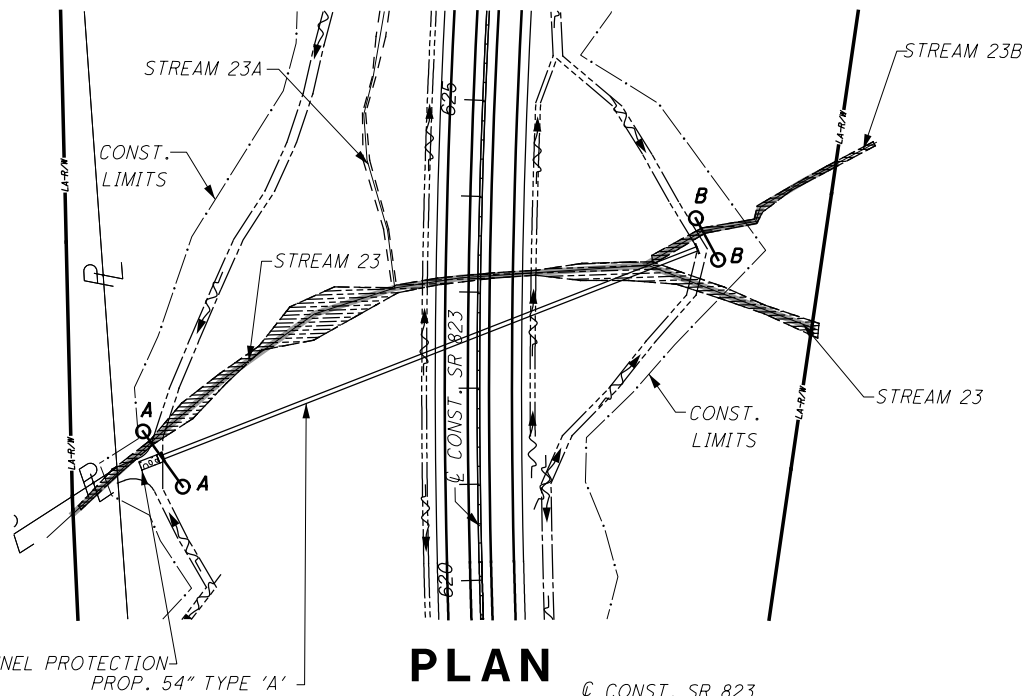
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1" = 100'

DATE: AUGUST 15, 2013

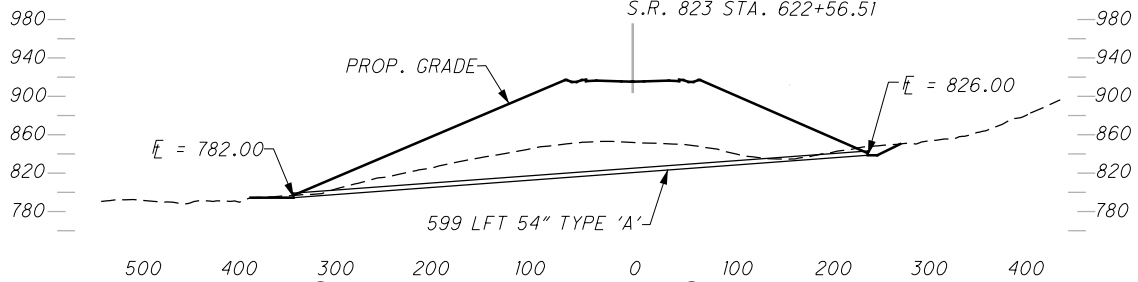
## FIGURE 3-43A



**PLAN**

ROCK CHANNEL PROTECTION  
PROP. 54" TYPE 'A'

CONST. SR 823  
S.R. 823 STA. 622+56.51



**CULVERT PROFILE**

**STREAM 23**

**STREAM 23B**

LENGTH OF IMPACT:	863 LF
AREA EXCAVATED OR FILLED:	0.148 ACRE
EXCAVATION BELOW OHW:	23 CY
NET FILL BELOW OHW:	160 CY

LENGTH OF IMPACT:	231 LF
AREA EXCAVATED OR FILLED:	0.016 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	13 CY

**PROPERTY OWNERS:**  
 NORMAN A. MEADOWS, JR. (9/270 INTEREST) BARBARA MEADOWS JOHNSTON (10/270 INTEREST)  
 DENNIS LEE MEADOWS (9/270 INTEREST) ELBERT O. MEADOWS (10/270 INTEREST)  
 ANTHONY WAYNE MEADOWS (9/270 INTEREST) TIM COLDIRON (10/270 INTEREST)  
 KEVIN PAUL MEADOWS (9/270 INTEREST) JEANETTE WILDERMUTH (10/270 INTEREST)  
 KENNETH DEAN MEADOWS (9/270 INTEREST) LINDA G. COX, TRUSTEE OF  
 EMOGENE C. POLLARD (25/270 INTEREST) THE LINDA GRACE COX TRUST,  
 AUDREY ARTHUR (30/270 INTEREST) U/D/T DTD JULY 10, 2012  
 GLENN E. MEADOWS (30/270 INTEREST)  
 RALPH MEADOWS (30/270 INTEREST)  
 PAMELA ANN SMITH (30/270 INTEREST)  
 CURTIS MEADOWS (30/270 INTEREST)  
 LARRY MEADOWS (10/270 INTEREST)

**LEGEND**

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 23  
STREAM 23B**

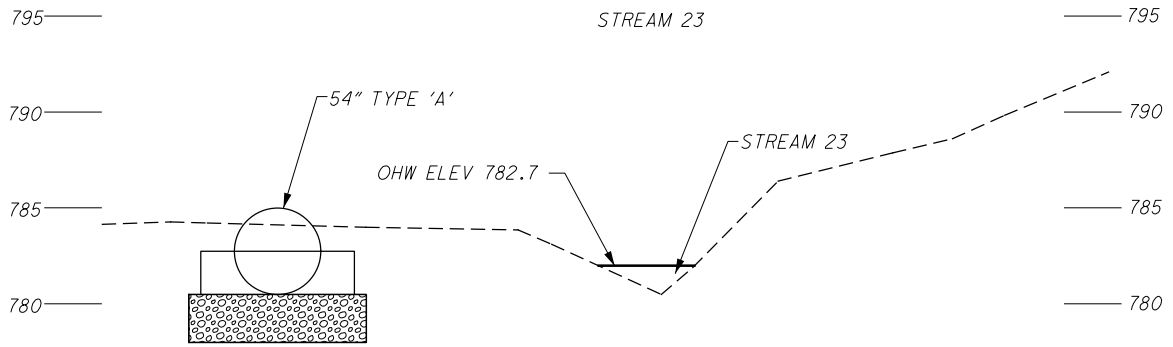
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

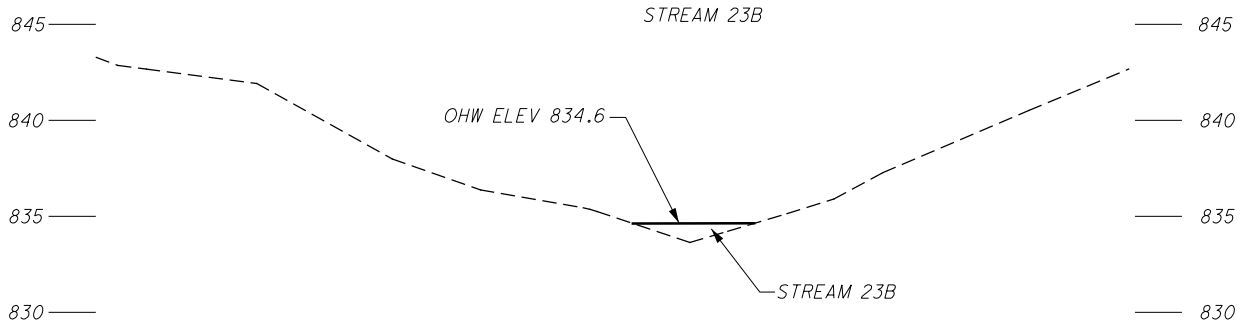
PLAN SCALE: 1" = 200'  
CULVERT PROFILE 1" = 50'

DATE: AUGUST 15, 2013

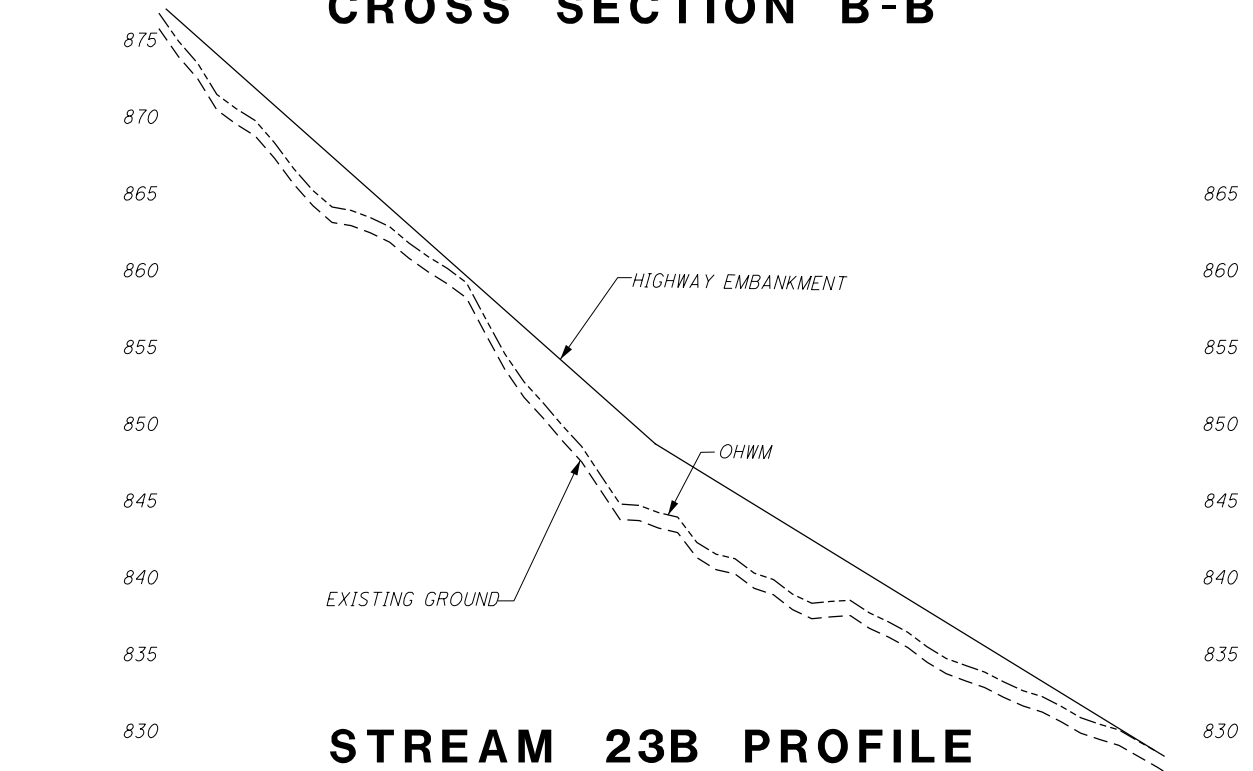
**FIGURE  
3-44**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 23B PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 23  
STREAM 23B**

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

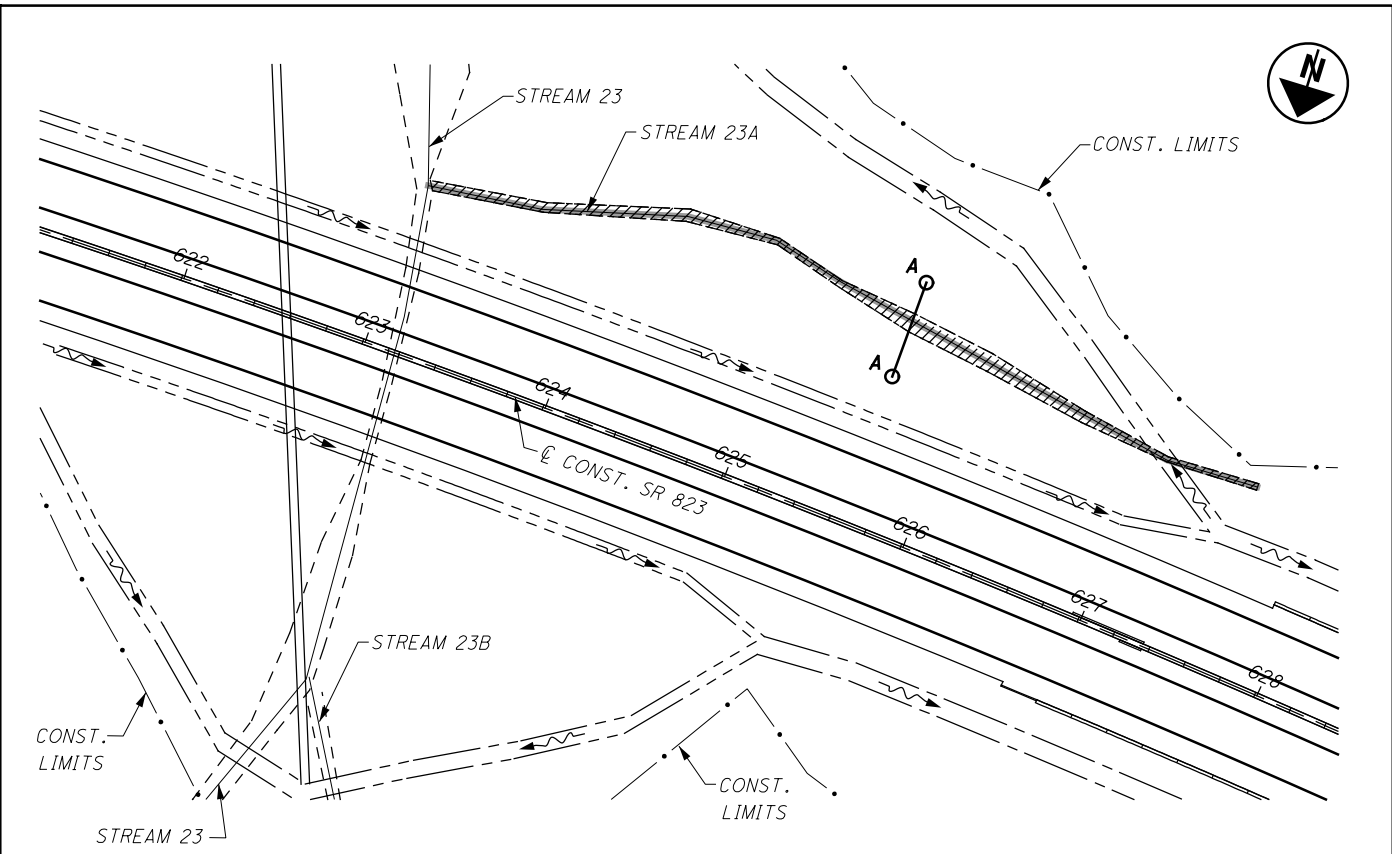
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

CROSS SECTION 1" = 10'  
STREAM PROFILE 1" = 50'

DATE: AUGUST 15, 2013

**FIGURE  
3-44A**





**PLAN**

**PROPERTY OWNERS:**  
 NORMAN A. MEADOWS, JR. (9/270 INTEREST) BARBARA MEADOWS JOHNSTON (10/270 INTEREST)  
 DENNIS LEE MEADOWS (9/270 INTEREST) ELBERT O. MEADOWS (10/270 INTEREST)  
 ANTHONY WAYNE MEADOWS (9/270 INTEREST) TIM COLDIRON (10/270 INTEREST)  
 KEVIN PAUL MEADOWS (9/270 INTEREST) JEANETTE WILDERMUTH (10/270 INTEREST)  
 KENNETH DEAN MEADOWS (9/270 INTEREST) LINDA G. COX, TRUSTEE OF  
 EMOGENE C. POLLARD (25/270 INTEREST) THE LINDA GRACE COX TRUST,  
 AUDREY ARTHUR (30/270 INTEREST) U/D/T DTD JULY 10, 2012  
 GLENN E. MEADOWS (30/270 INTEREST)  
 RALPH MEADOWS (30/270 INTEREST)  
 PAMELA ANN SMITH (30/270 INTEREST)  
 CURTIS MEADOWS (30/270 INTEREST)  
 LARRY MEADOWS (10/270 INTEREST)

LENGTH OF IMPACT:	467 LF
AREA EXCAVATED OR FILLED:	0.043 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	35 CY

**LEGEND**

	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 23A**

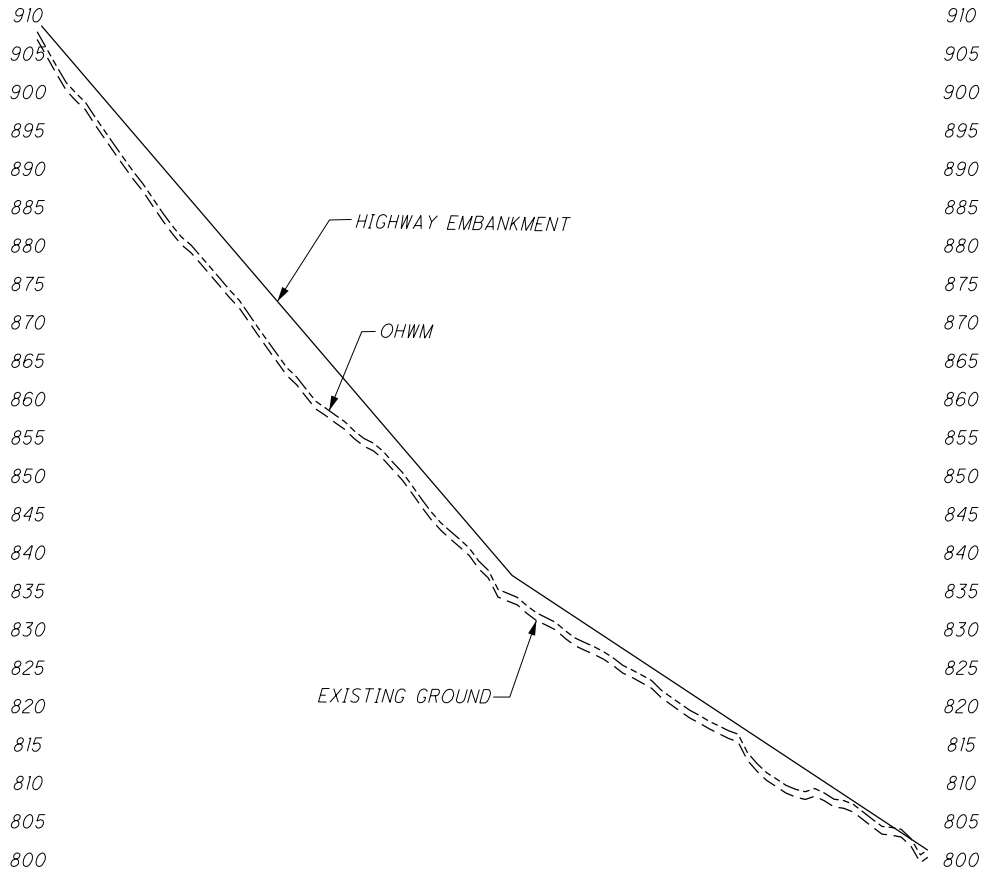
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1" = 10'

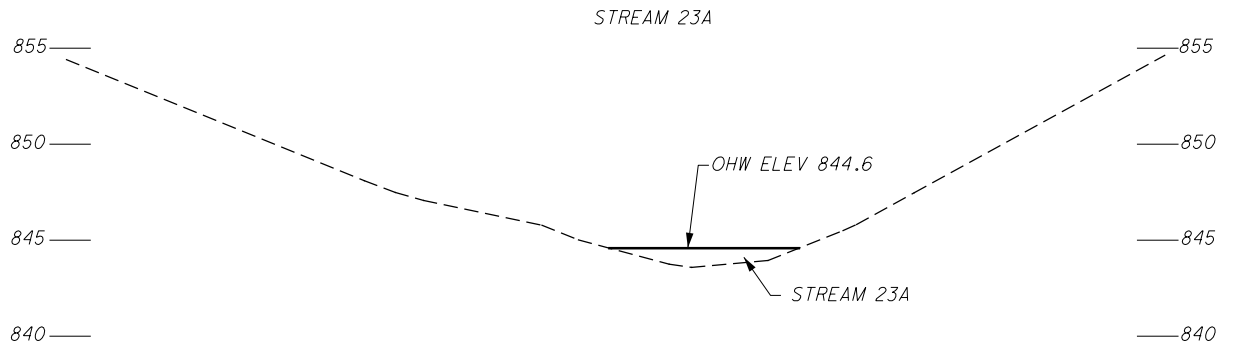
DATE: AUGUST 15, 2013

**FIGURE  
 3-45**

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



## STREAM PROFILE



## CROSS SECTION A-A



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 23A

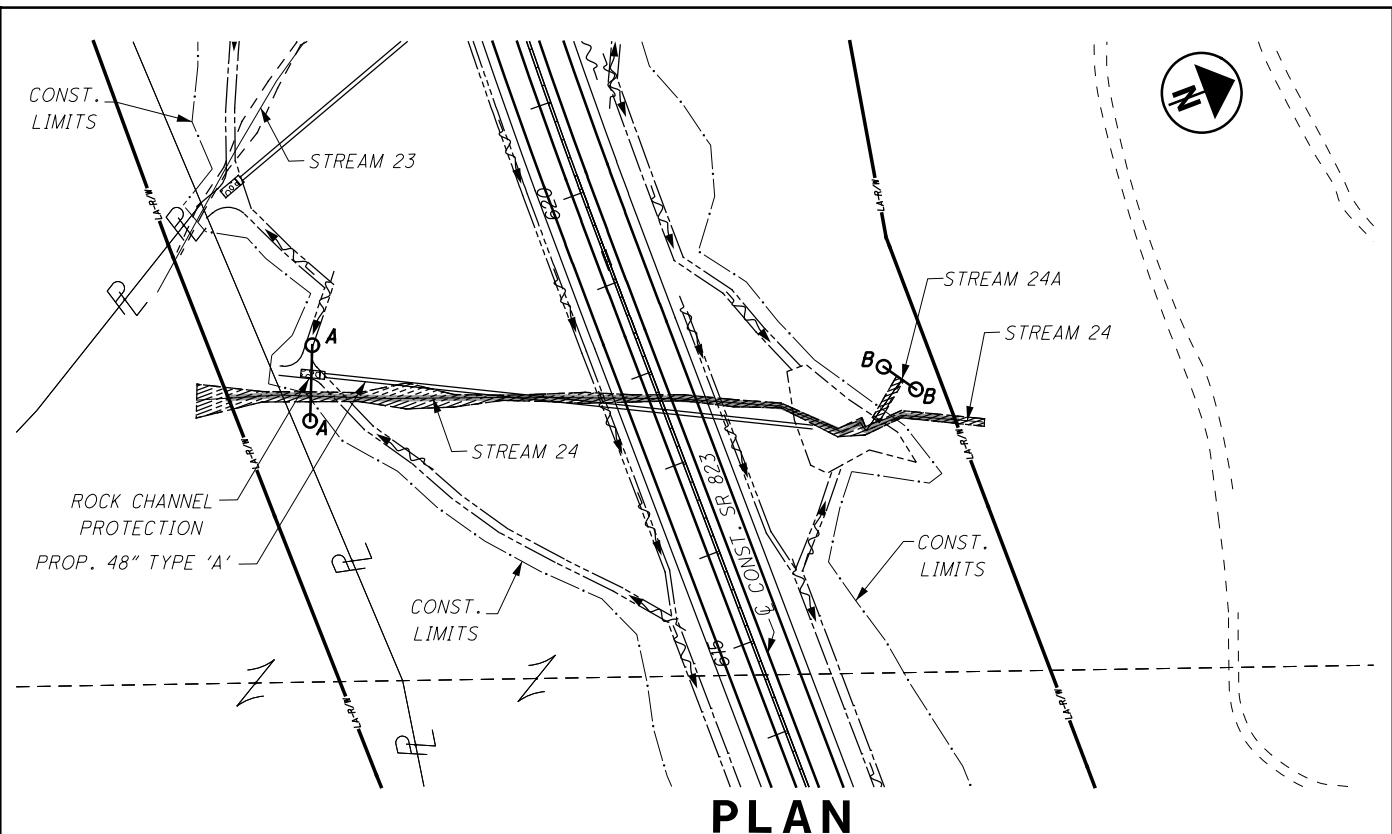
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

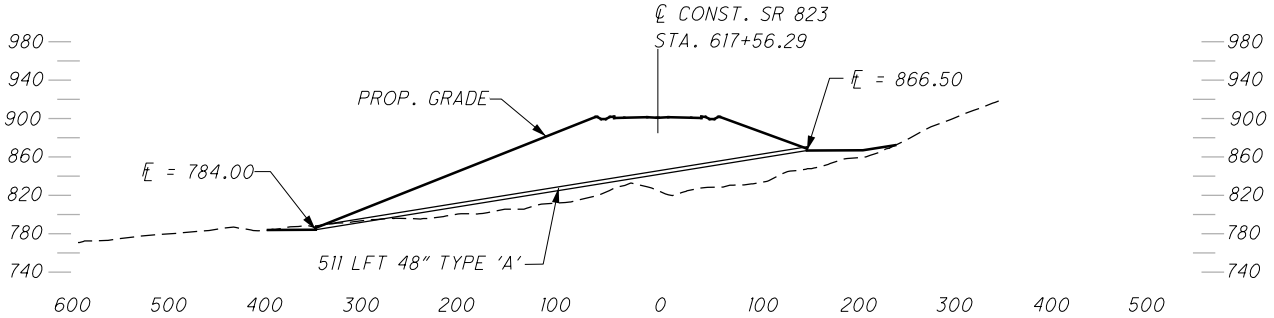
STREAM PROFILE 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-45A



**PLAN**



**CULVERT PROFILE**

**PROPERTY OWNERS:**  
 NORMAN A. MEADOWS, JR. (9/270 INTEREST) BARBARA MEADOWS JOHNSTON (10/270 INTEREST)  
 DENNIS LEE MEADOWS (9/270 INTEREST) ELBERT O. MEADOWS (10/270 INTEREST)  
 ANTHONY WAYNE MEADOWS (9/270 INTEREST) TIM COLDIRON (10/270 INTEREST)  
 KEVIN PAUL MEADOWS (9/270 INTEREST) JEANETTE WILDERMUTH (10/270 INTEREST)  
 KENNETH DEAN MEADOWS (9/270 INTEREST) LINDA G. COX, TRUSTEE OF  
 EMOGENE C. POLLARD (25/270 INTEREST) THE LINDA GRACE COX TRUST,  
 AUDREY ARTHUR (30/270 INTEREST) U/D/T DTD JULY 10, 2012  
 GLENN E. MEADOWS (30/270 INTEREST)  
 RALPH MEADOWS (30/270 INTEREST)  
 PAMELA ANN SMITH (30/270 INTEREST)  
 CURTIS MEADOWS (30/270 INTEREST)  
 LARRY MEADOWS (10/270 INTEREST)

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 ▨ OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 24  
 STREAM 24A**

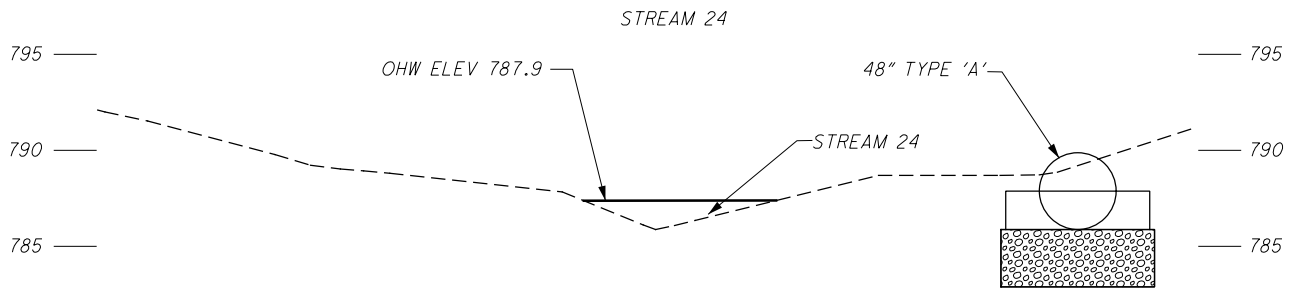
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

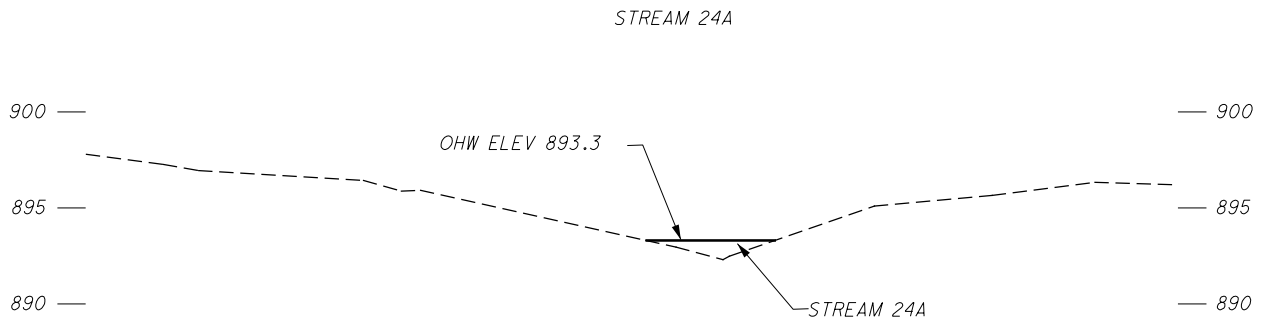
PLAN SCALE: 1" = 200'  
 CULVERT PROFILE 1" = 50"

DATE: AUGUST 15, 2013

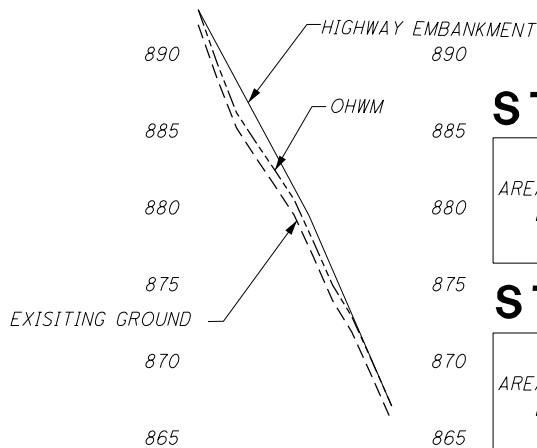
**FIGURE  
 3-46**



### CROSS SECTION A-A



### CROSS SECTION B-B



### STREAM 24

LENGTH OF IMPACT:	775 LF
AREA EXCAVATED OR FILLED:	0.149 ACRE
EXCAVATION BELOW OHW:	24 CY
NET FILL BELOW OHW:	108 CY

### STREAM 24A

LENGTH OF IMPACT:	66 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	2 CY

### STREAM 24A PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 24 STREAM 24A

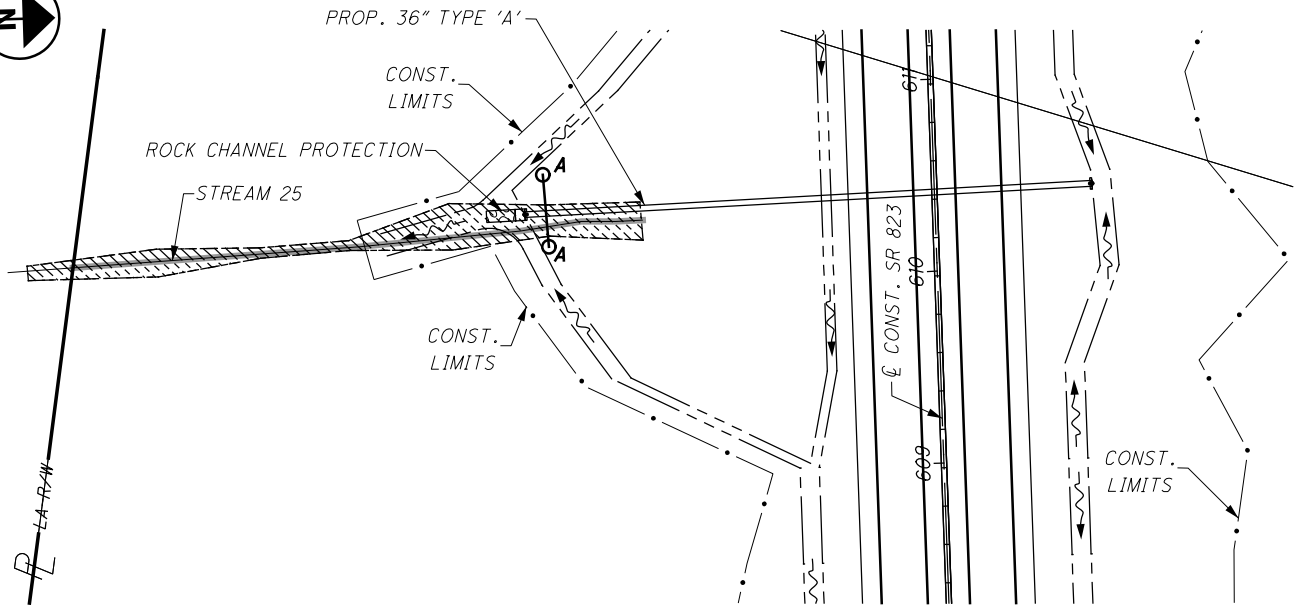
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

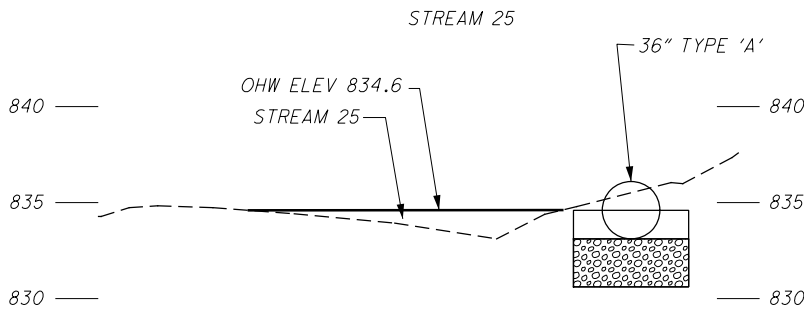
CROSS SECTION: 1" = 10"  
 STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

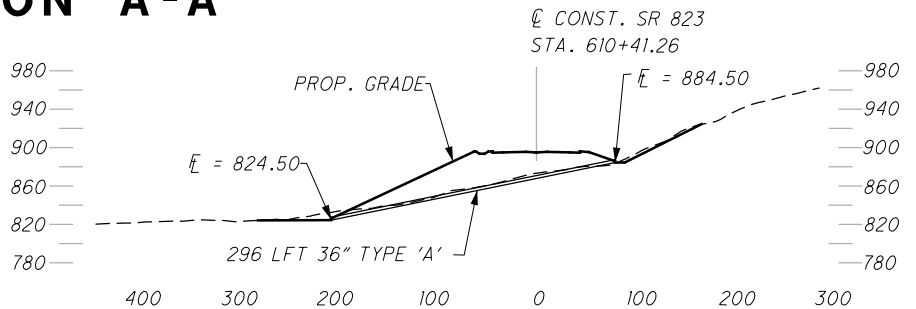
## FIGURE 3-46A



### PLAN



### CROSS SECTION A-A



### CULVERT PROFILE

PROPERTY OWNERS:  
 NORMAN A. MEADOWS, JR. (1/5 INTEREST)  
 DENNIS LEE MEADOWS (1/5 INTEREST)  
 ANTHONY WAYNE MEADOWS (1/5 INTEREST)  
 KEVIN PAUL MEADOWS (1/5 INTEREST)  
 KENNETH DEAN MEADOWS (1/5 INTEREST)  
 LINDA G. COX, TRUSTEE OF  
 THE LINDA GRACE COX TRUST,  
 U/D/T DTD JULY 10, 2012

LENGTH OF IMPACT:	298 LF
AREA EXCAVATED OR FILLED:	0.021 ACRE
EXCAVATION BELOW OHW:	12 CY
NET FILL BELOW OHW:	13 CY

#### LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- OHWM



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 25

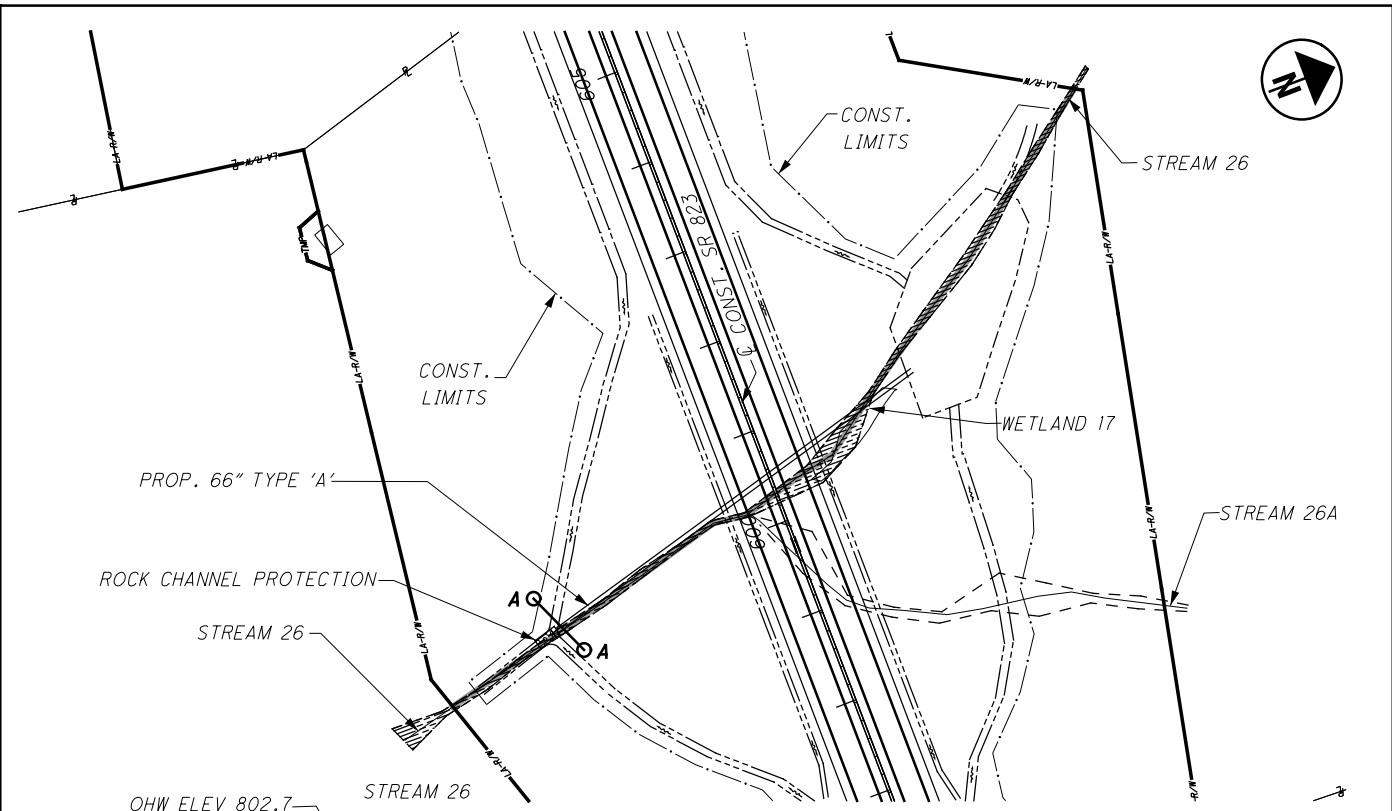
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

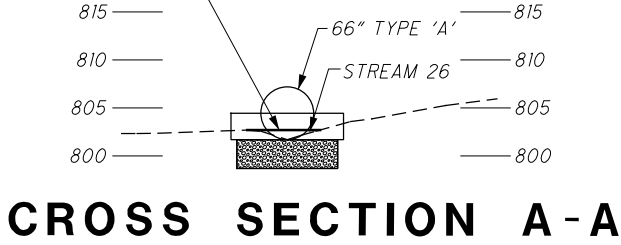
PLAN SCALE: 1" = 100'  
 CULVERT PROFILE 1" = 50'  
 CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

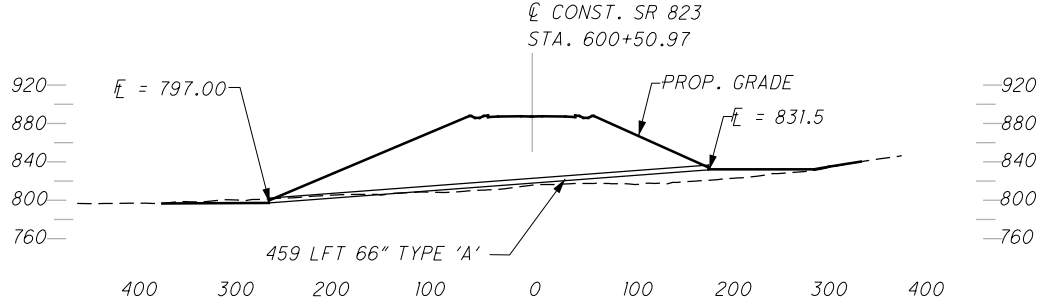
## FIGURE 3-47



**PLAN**



**CROSS SECTION A-A**



**CULVERT PROFILE**

PROPERTY OWNERS:  
 VIRGIL L. LAXTON AND  
 CHERYL A. LAXTON

LENGTH OF IMPACT: 934 LF  
 AREA EXCAVATED OR FILLED: 0.071 ACRE  
 EXCAVATION BELOW OHW: 32 CY  
 NET FILL BELOW OHW: 26 CY

**LEGEND**  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 26**

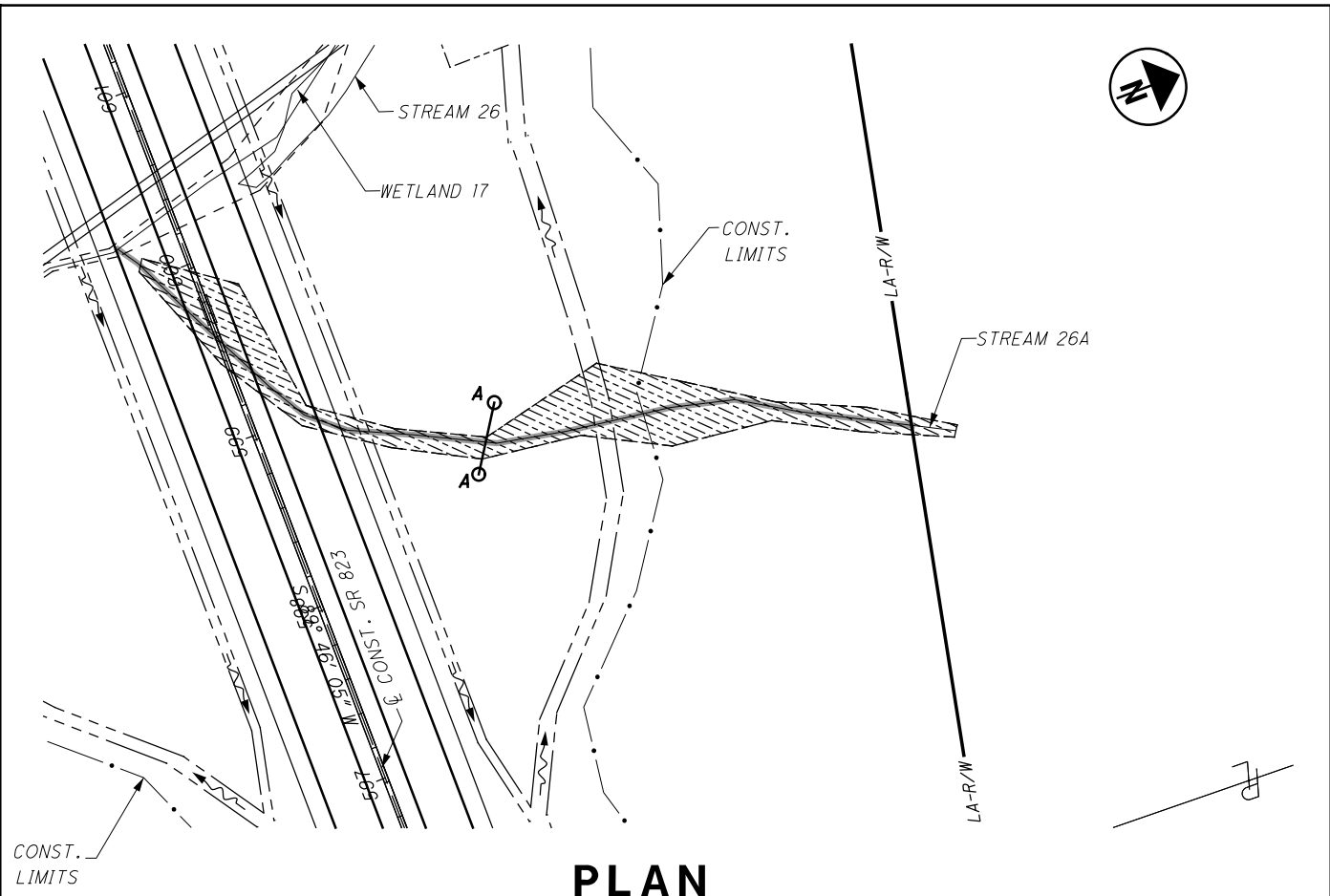
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

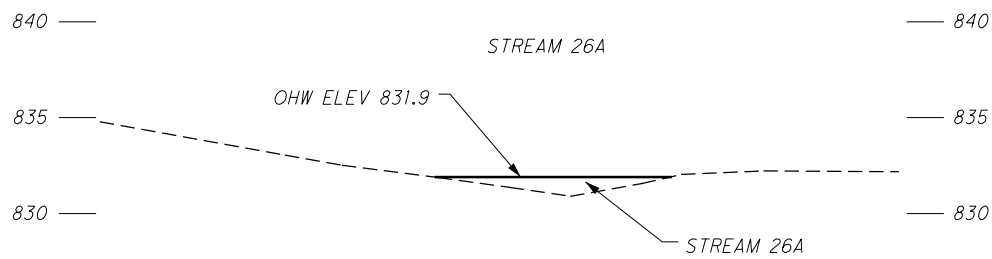
PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1" = 50"  
 CROSS SECTION: 1" = 20"

DATE: AUGUST 15, 2013

**FIGURE  
 3-48**



**PLAN**



**CROSS SECTION A-A**

PROPERTY OWNERS:  
 VIRGIL L. LAXTON AND  
 CHERYL A. LAXTON

LENGTH OF IMPACT: 472 LF  
 AREA EXCAVATED OR FILLED: 0.022 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 17 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 ——— STREAM IMPACT LENGTH  
 [Hatched Box] OHWM



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 26A**

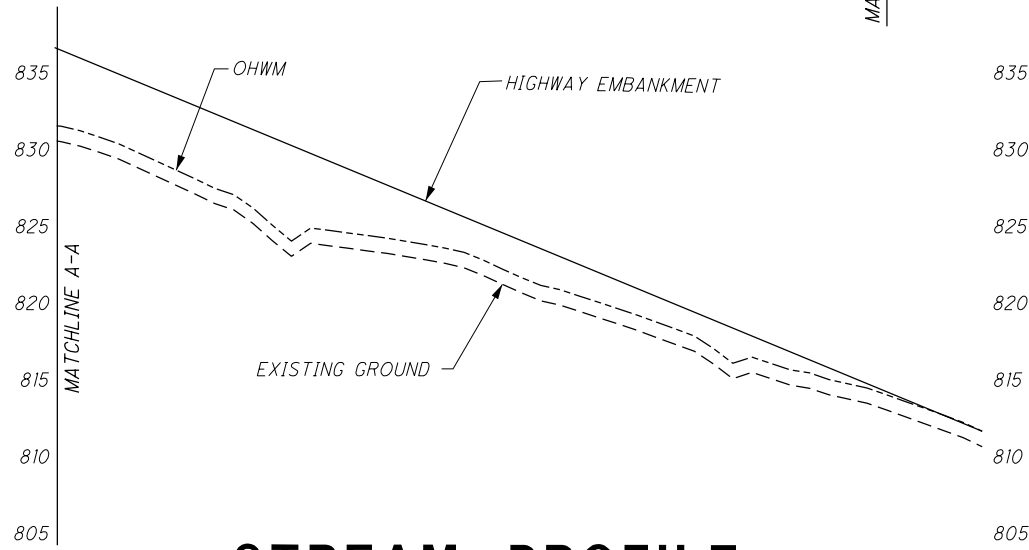
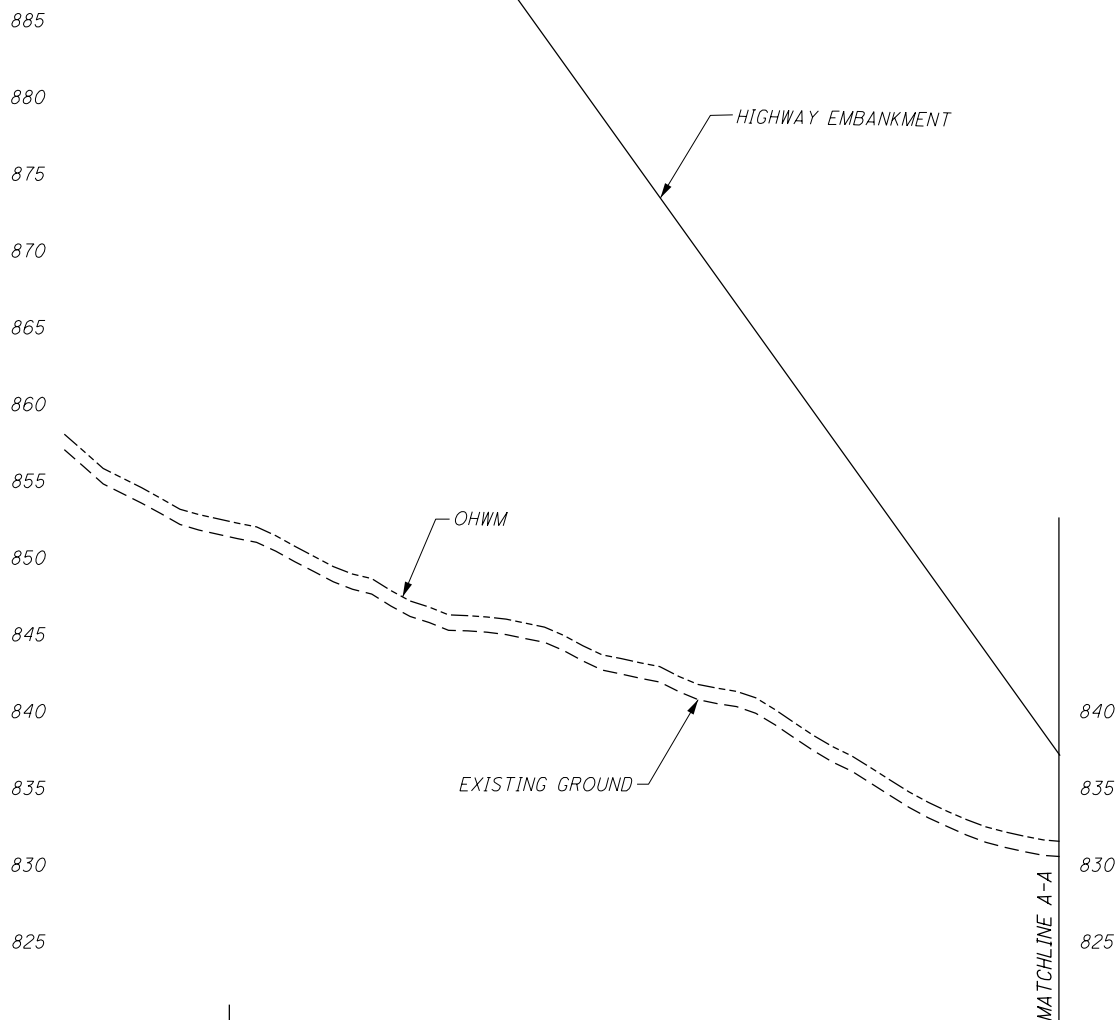
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-49**



### STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 26A

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

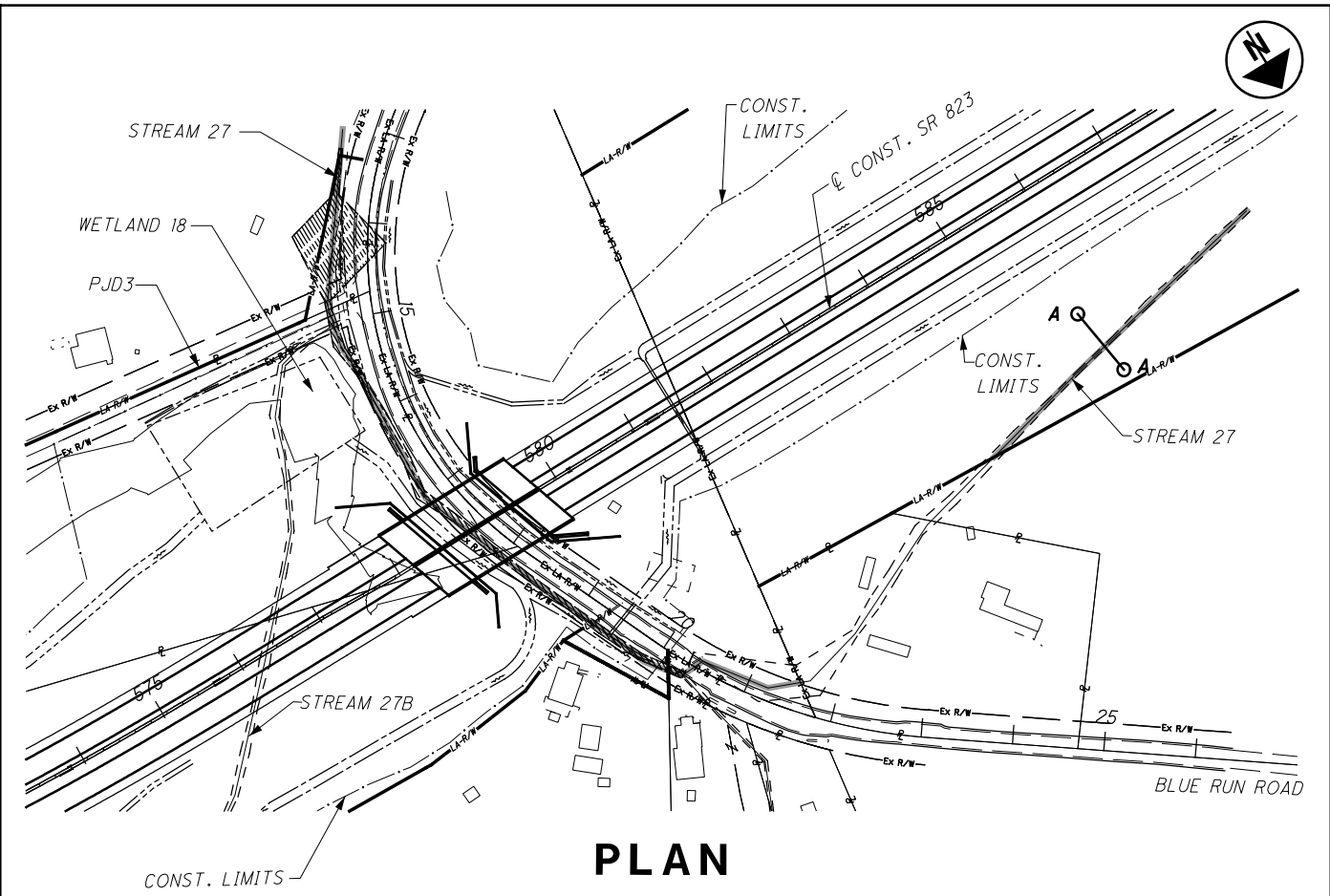
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

STREAM PROFILE: 1" = 50'

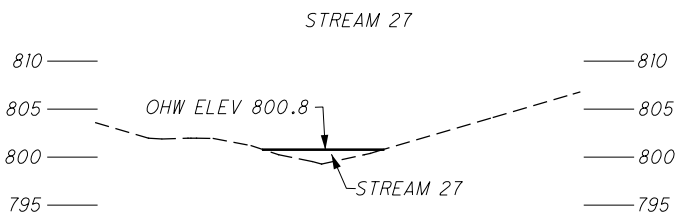
DATE: AUGUST 15, 2013

## FIGURE 3-49A





**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 LORENZO J. BENTLEY AND  
 AMANDA R. BENTLEY  
 CHARLES K. WITT AND CAROL J. WITT,  
 TRUSTEES OF THE WITT REVOCABLE LIVING  
 TRUST DATED SEPTEMBER 3, 2008  
 AUDIE & TAMMY SWARTZ  
 JERRY L. BUCKLER & LISA K. BUCKLER  
 STATE OF OHIO  
 TERESA PARKER

NORMAN A. MEADOWS  
 D LEE MEADOWS  
 WAYNE MEADOWS  
 PAUL MEADOWS  
 DEAN MEADOWS

**STREAM 27**

LENGTH OF IMPACT:	727 LF
AREA EXCAVATED OR FILLED:	0.134 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	162 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 27**

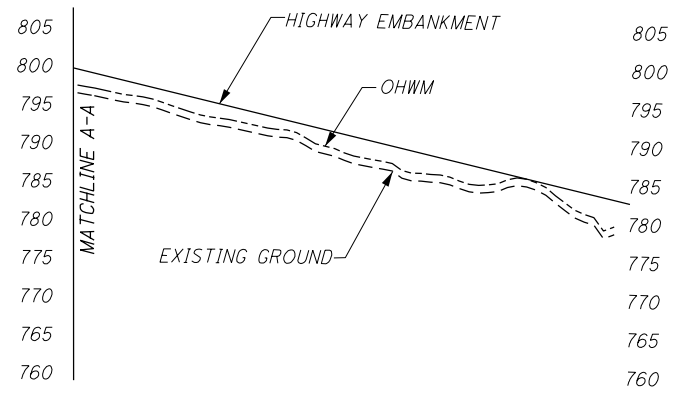
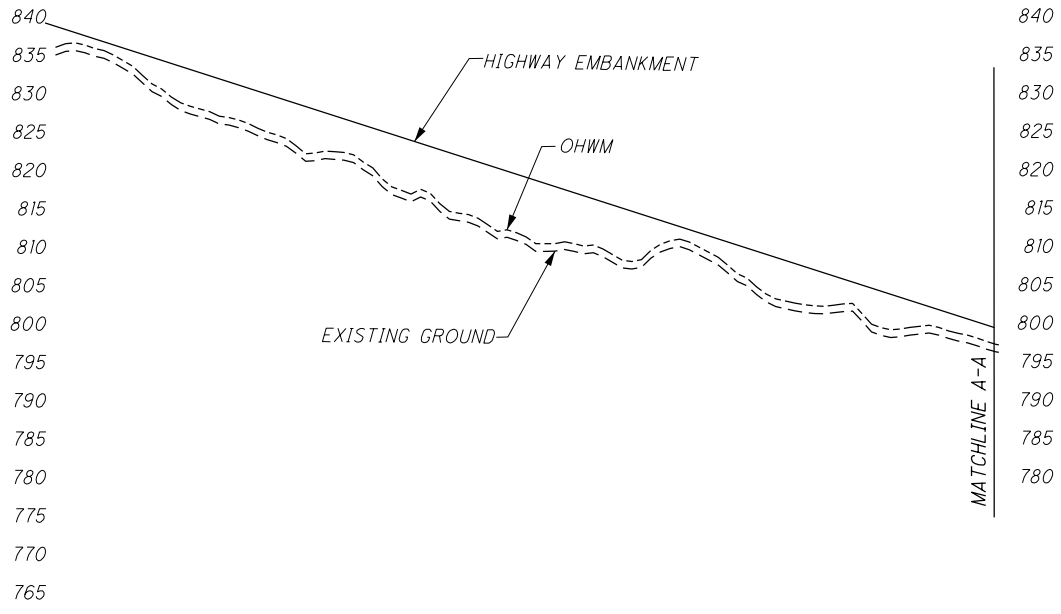
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-50**



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 27

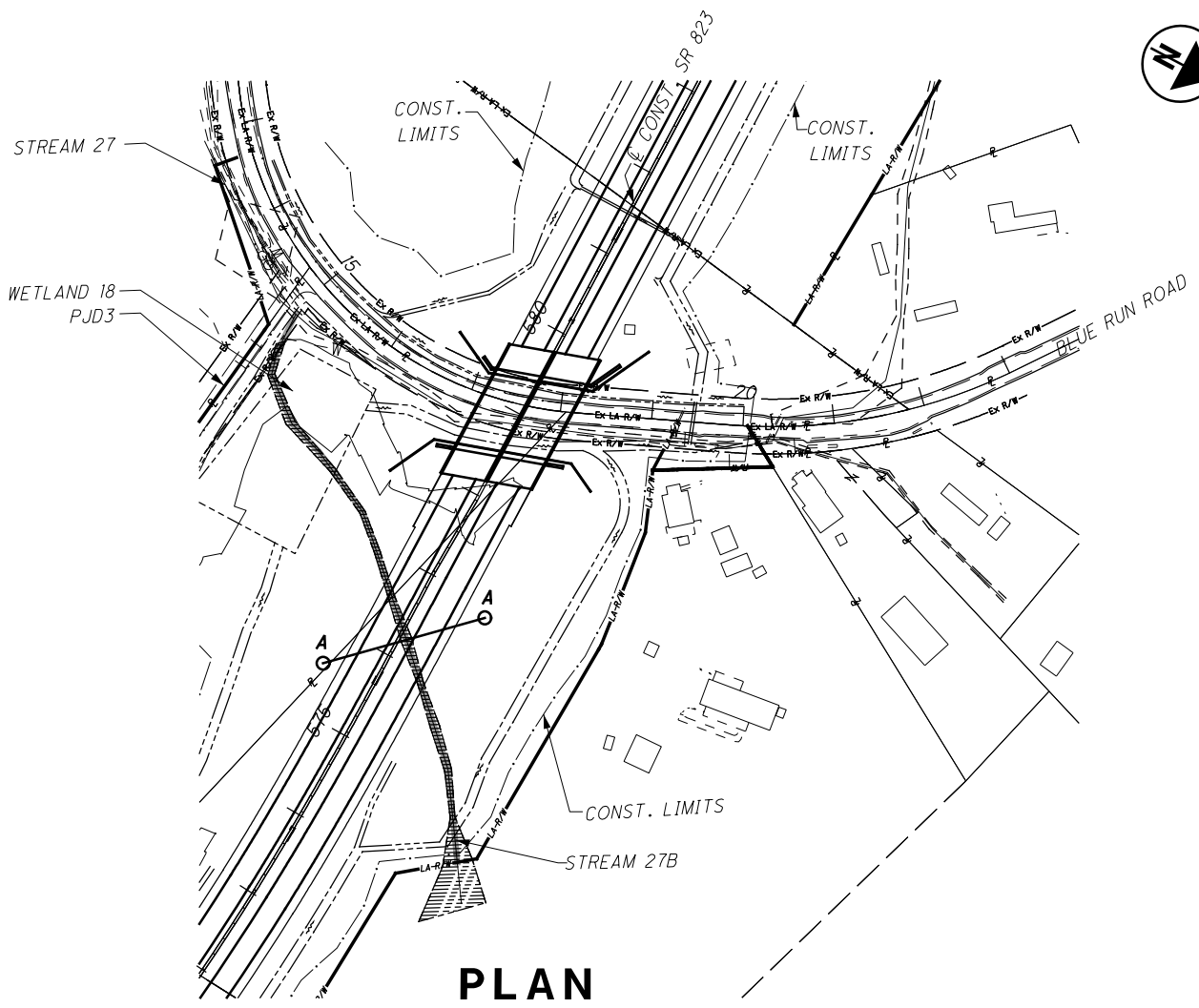
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

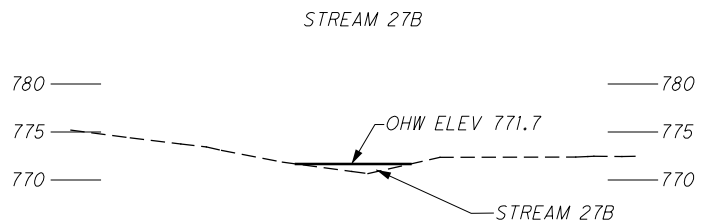
STREAM PROFILE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-50A



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - OHWM

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

LENGTH OF IMPACT:	652 LF
AREA EXCAVATED OR FILLED:	0.045 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	36 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 27B**

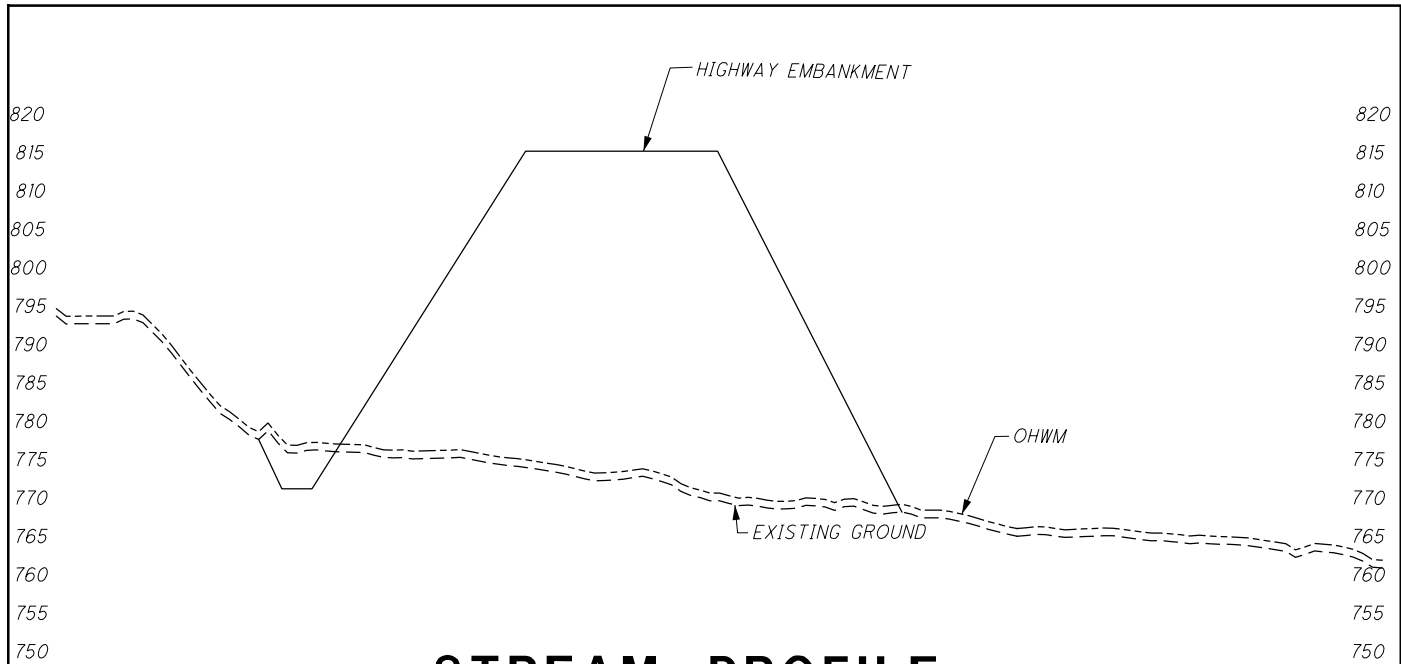
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-51**



# STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 27B

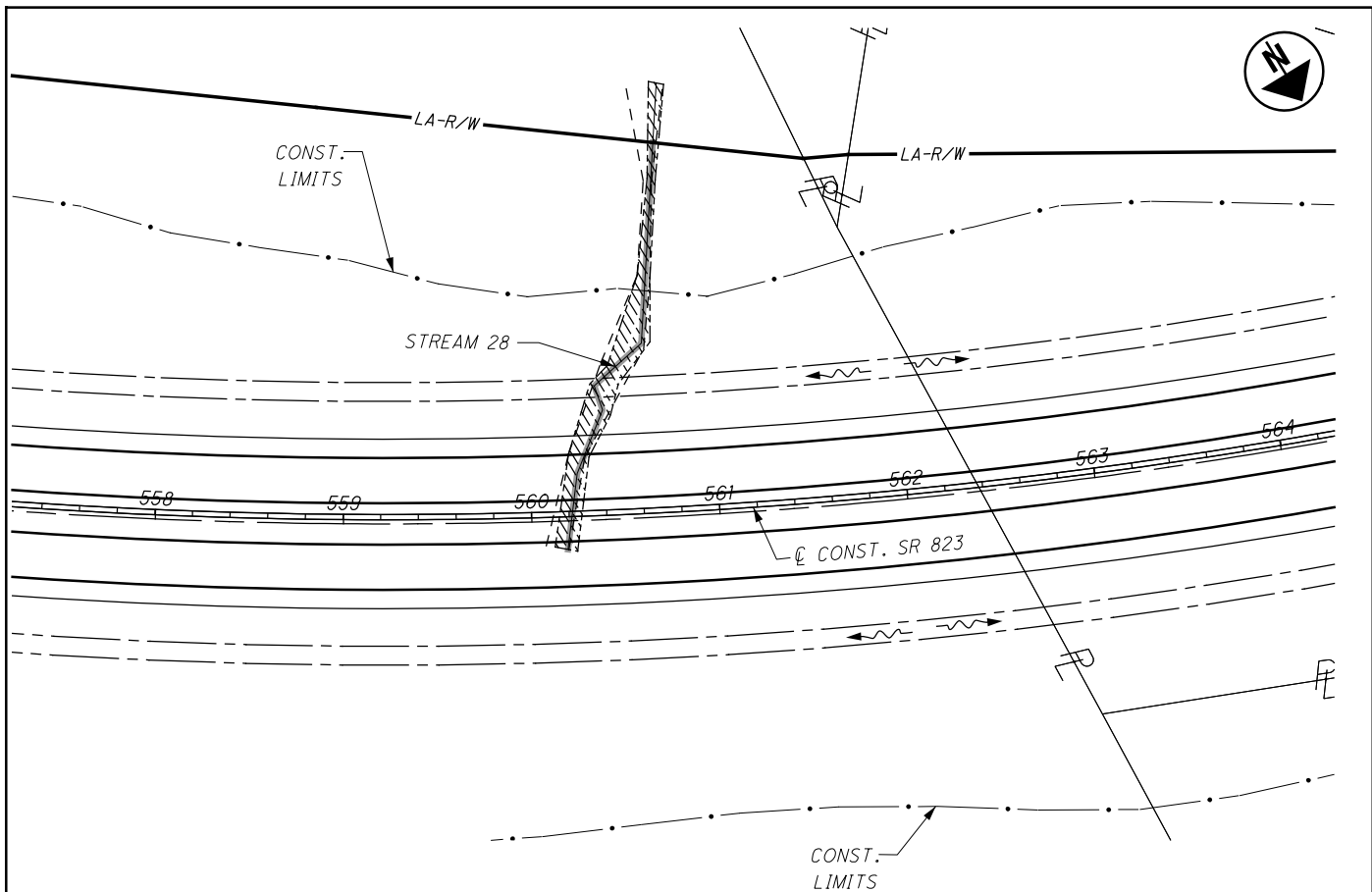
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

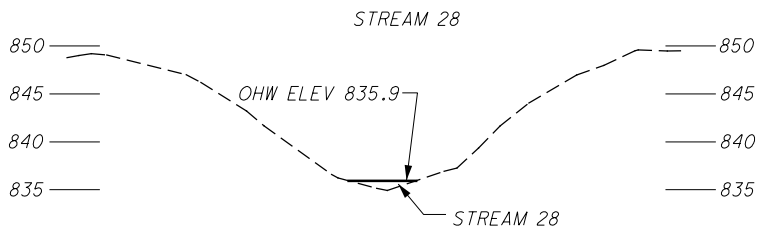
STREAM PROFILE: 1" = 100'

DATE: AUGUST 15, 2013

### FIGURE 3-51A



### PLAN



### CROSS SECTION A-A

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - OHWM

PROPERTY OWNERS:  
 BRIAN L. BURCHETT AND  
 BRENDA S. BURCHETT  
 150 FLOWERS ISON RD

LENGTH OF IMPACT:	231 LF
AREA EXCAVATED OR FILLED:	0.021 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	17 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 28

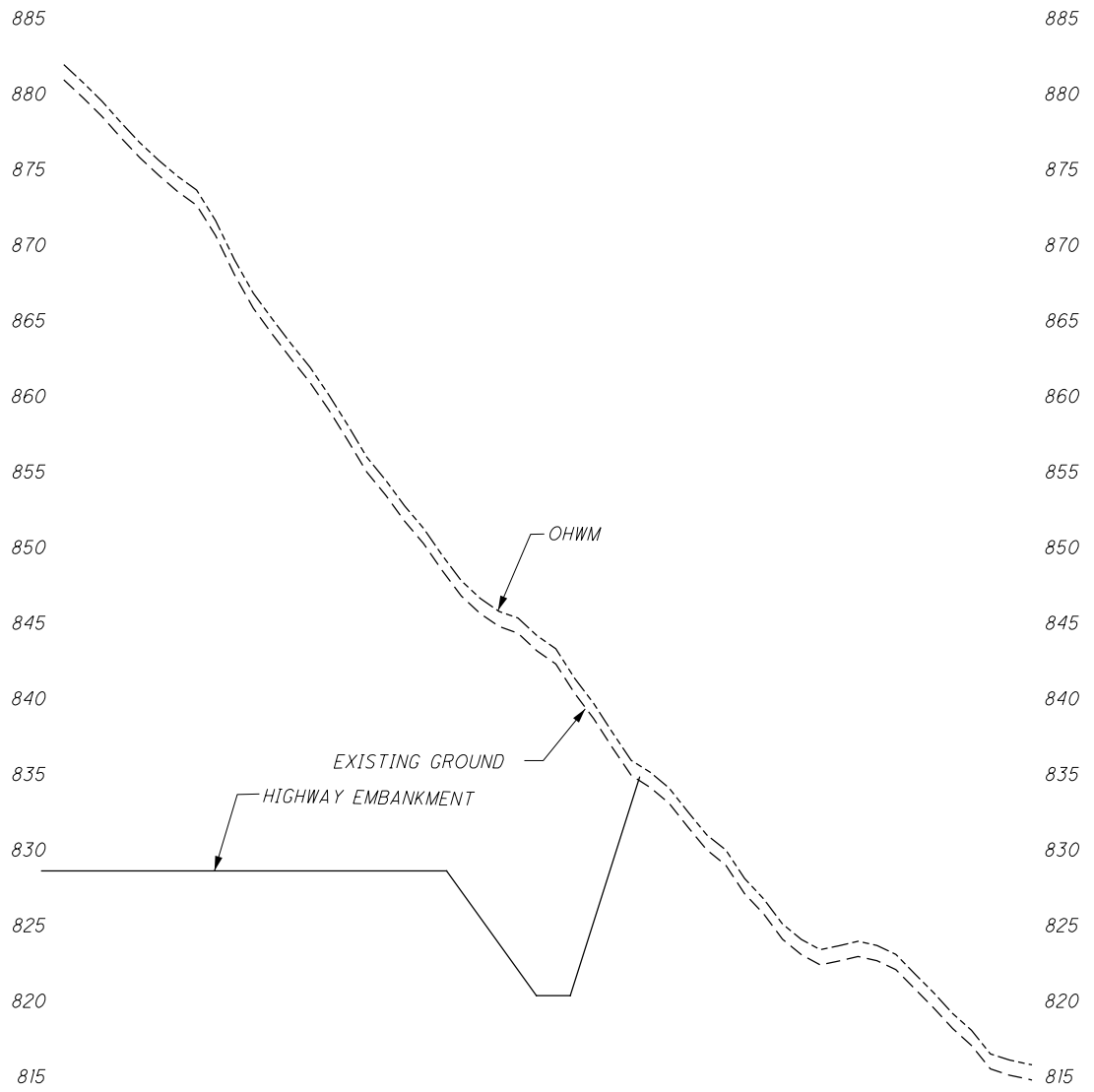
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-52



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 28

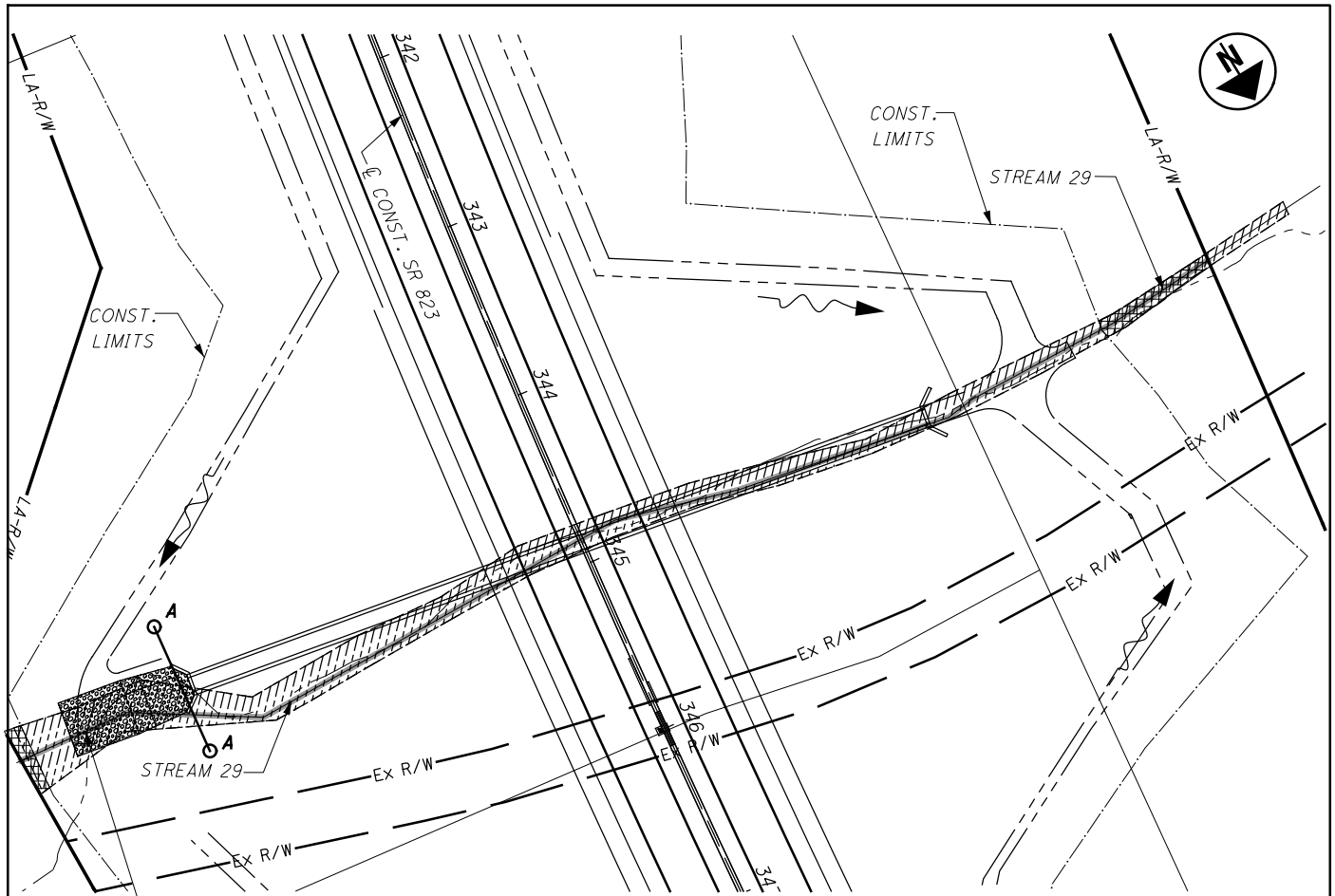
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PROFILE STREAM: 1" = 50

DATE: AUGUST 15, 2013

## FIGURE 3-52A



**PLAN**

PROPERTY OWNERS:  
 TINA LOUISE ELDRIDGE  
 VICTOR D. KNORE AND ELSIE A. KNORE (AKA VICTOR KNORE AND ELSIE KNORE)  
 CSX TRANSPORTATION FKA THE CHESAPEAKE & OHIO NORTHERN RAILWAY COMPANY

LEGEND

- PROPOSED DITCH
- ===== STREAM IMPACT LENGTH
- ▨ OHWM
- ▩ NO BUILD ZONE

LENGTH OF IMPACT:	564 LF
AREA EXCAVATED OR FILLED:	0.351 ACRE
EXCAVATION BELOW OHW:	415 CY
NET FILL BELOW OHW:	168 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 29**

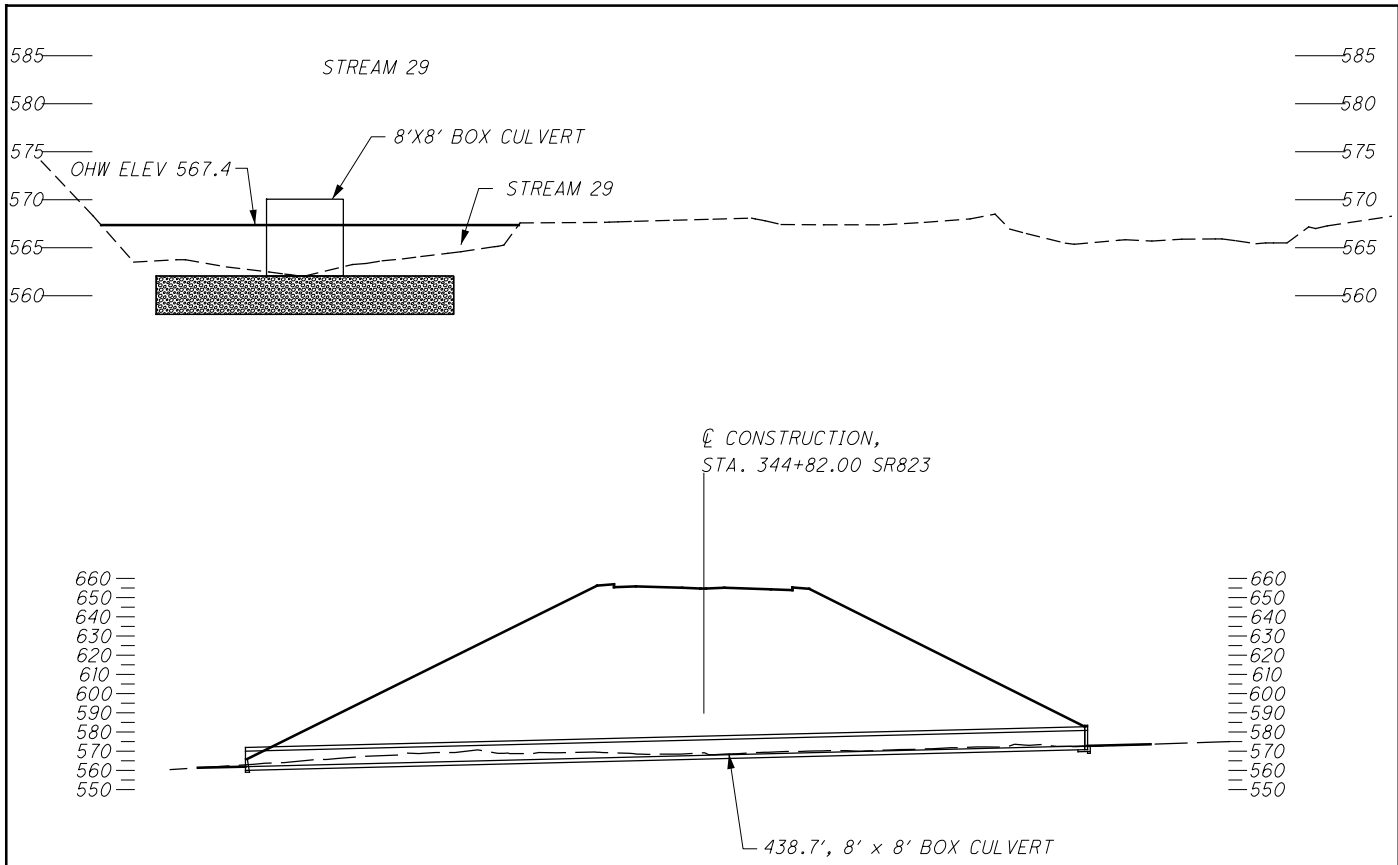
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-53**



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 29

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

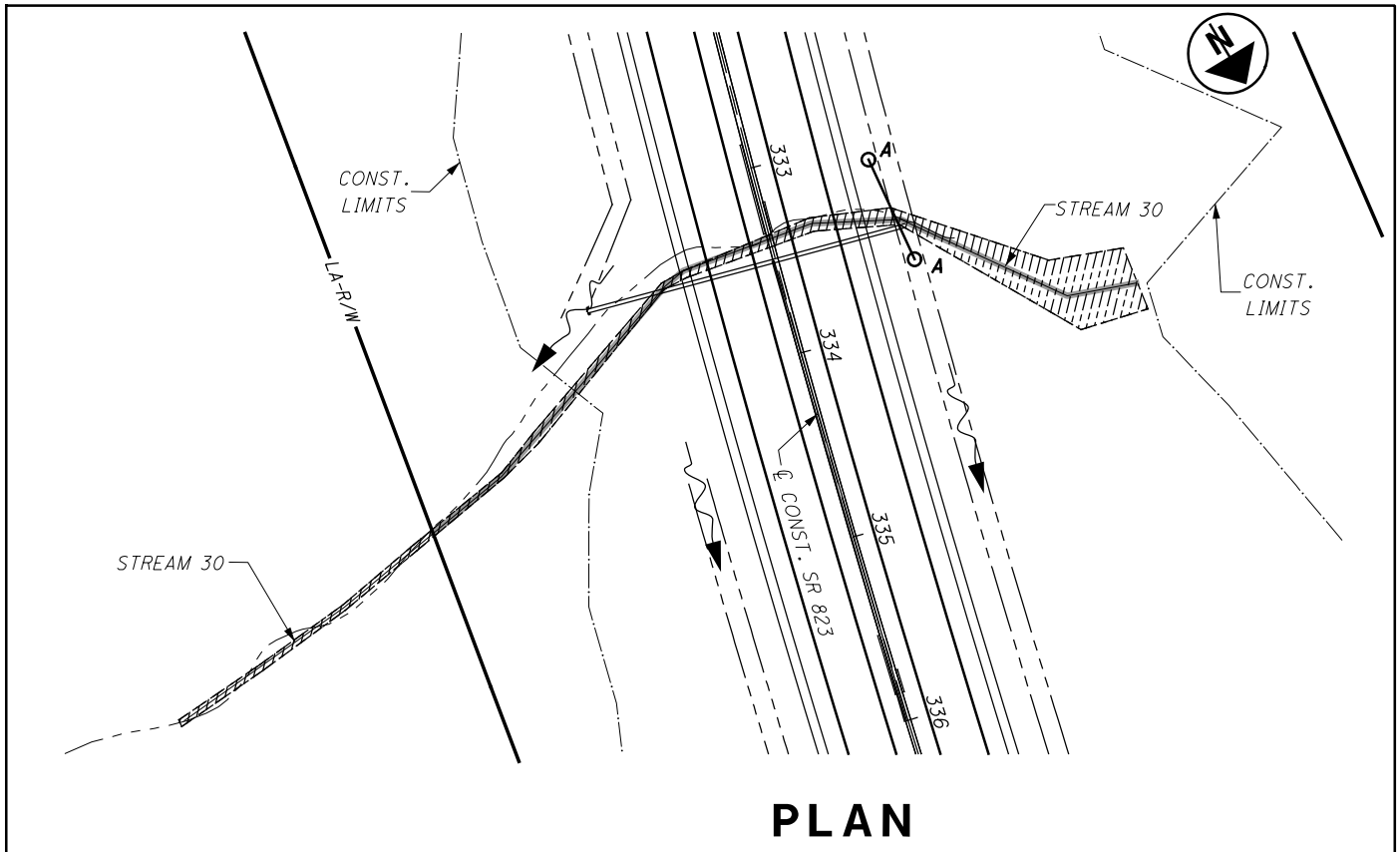
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

CULVERT PROFILE 1"=100'  
CROSS SECTION 1"=20'

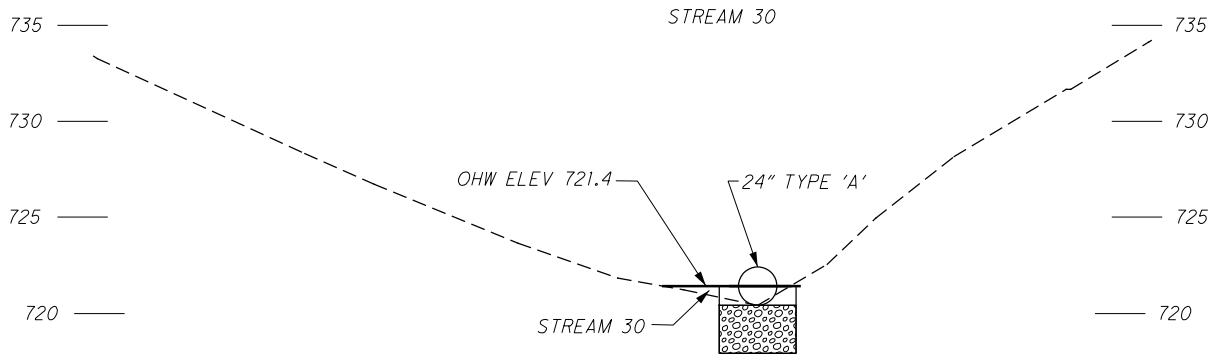
DATE: AUGUST 15, 2013

## FIGURE 3-53A





**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 CRAIG S. VEACH AND GAYLE M. VEACH

LENGTH OF IMPACT:	440 LF
AREA EXCAVATED OR FILLED:	0.082 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	63 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 30**

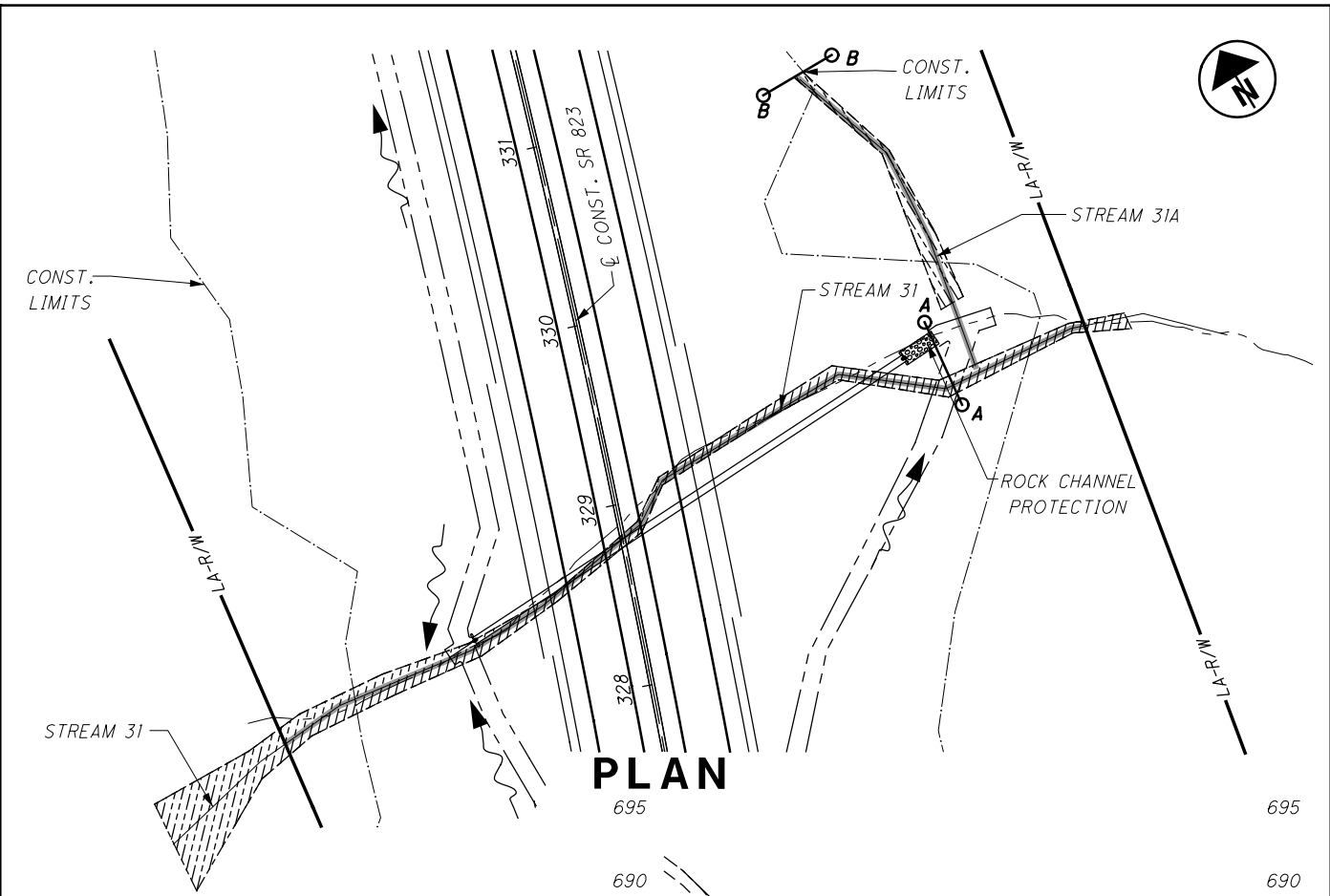
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-54**



### STREAM 31

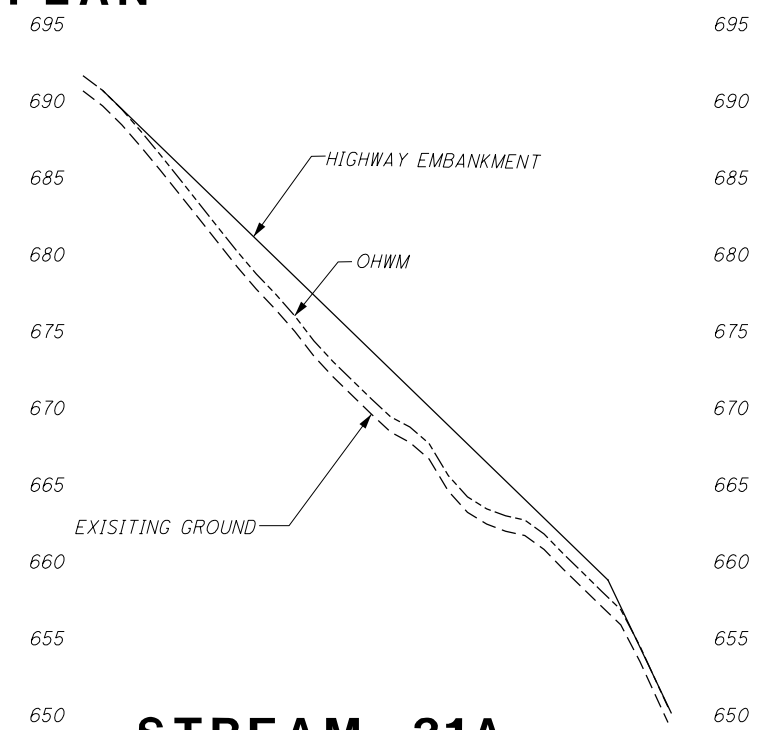
LENGTH OF IMPACT:	511 LF
AREA EXCAVATED OR FILLED:	0.119 ACRE
EXCAVATION BELOW OHW:	16 CY
NET FILL BELOW OHW:	65 CY

### STREAM 31A

LENGTH OF IMPACT:	189 LF
AREA EXCAVATED OR FILLED:	0.035 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	28 CY

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
CRAIG S. VEACH AND GAYLE M. VEACH



### STREAM PROFILE 31A



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 31 STREAM 31A

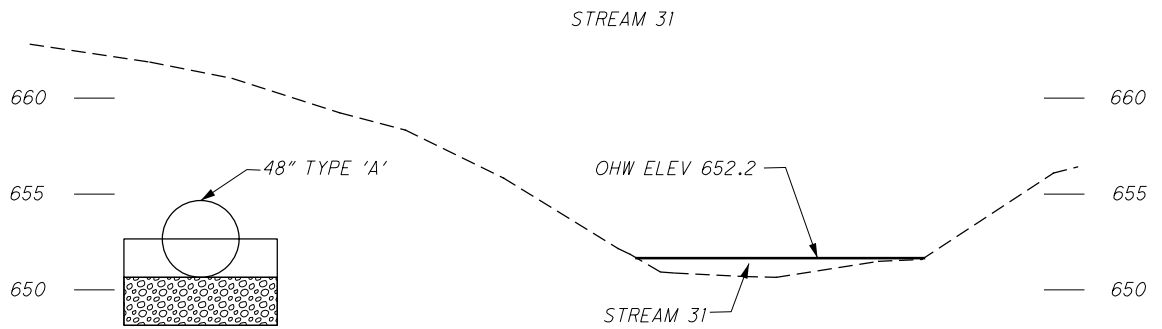
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

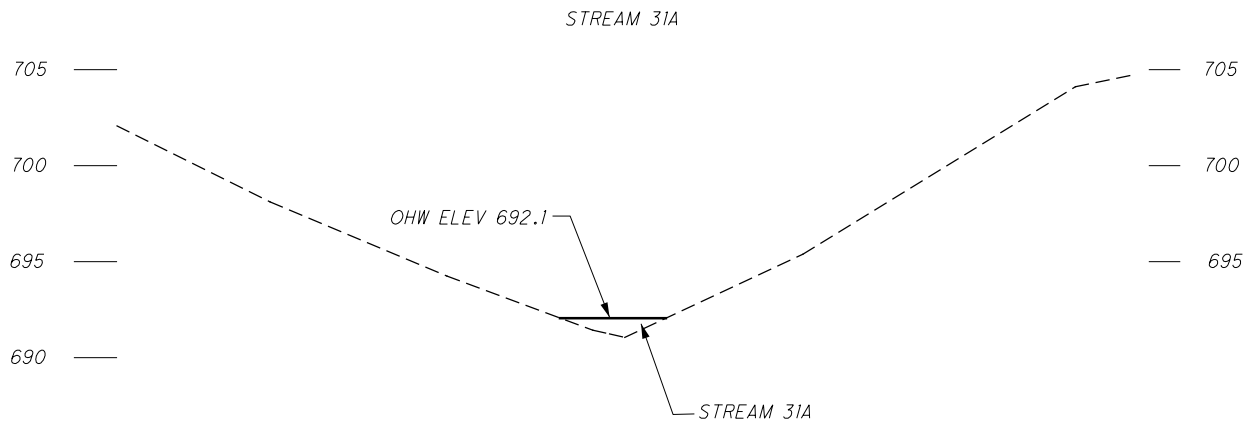
PLAN SCALE: 1" = 100'  
STREAM PROFILE 1"=50'

DATE: AUGUST 15, 2013

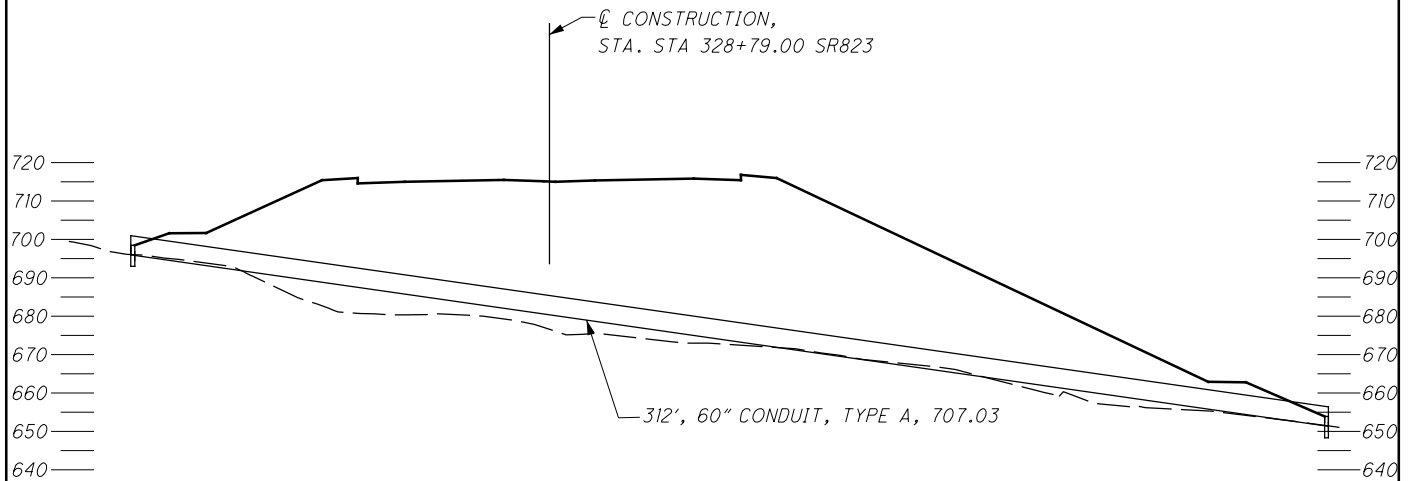
## FIGURE 3-55



### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 31 STREAM 31A

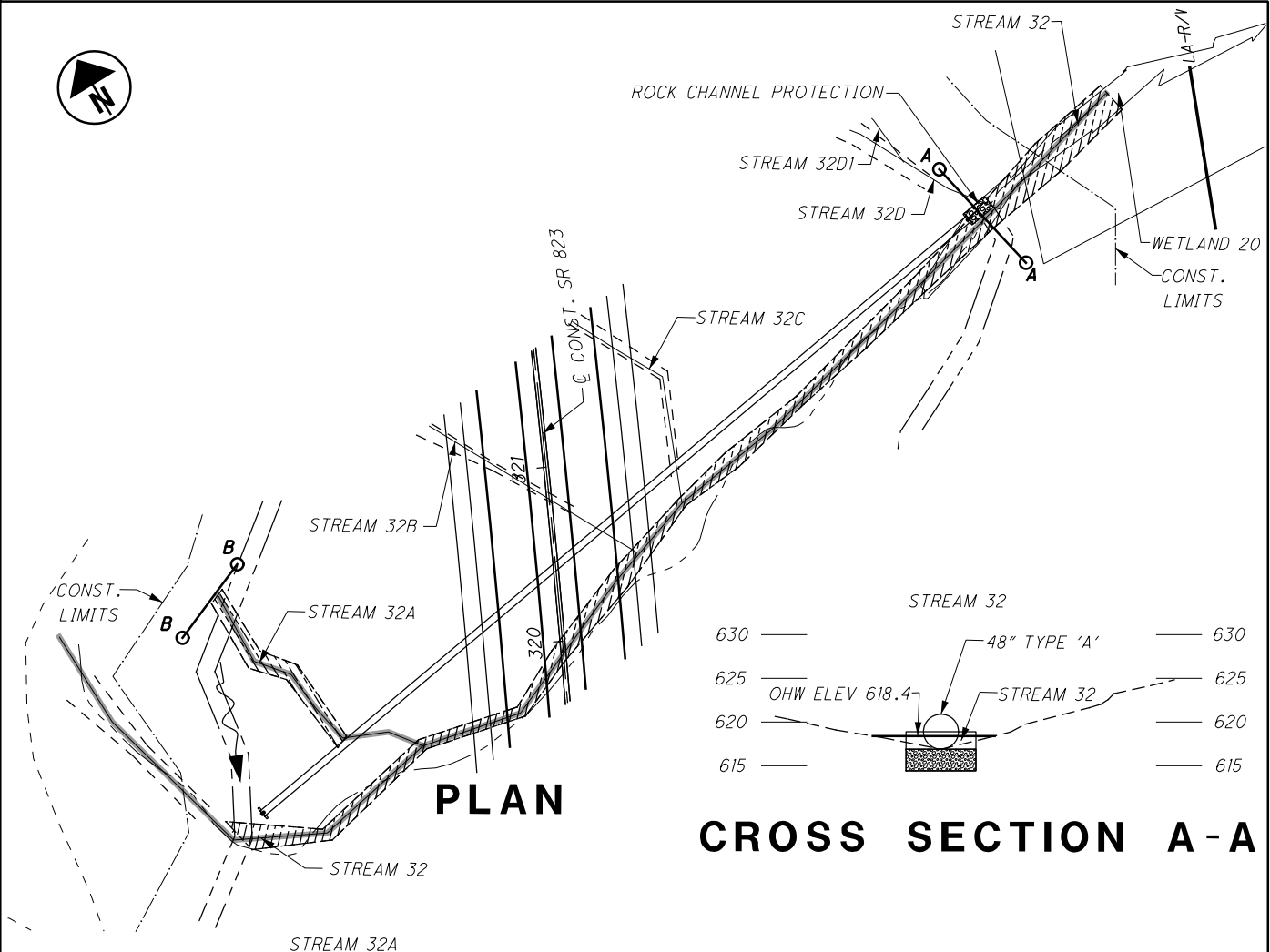
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

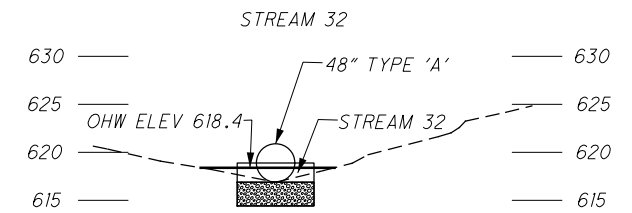
CROSS SECTION: 1"=10'  
CULVERT PROFILE 1"=50'

DATE: AUGUST 15, 2013

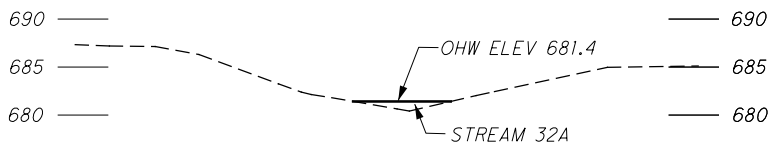
## FIGURE 3-55A



**PLAN**



**CROSS SECTION A-A**



**CROSS SECTION B-B**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨▨ OHWM

**PROPERTY OWNERS:**  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)  
 CRAIG S. VEACH AND GAYLE M. VEACH

**STREAM 32**

LENGTH OF IMPACT:	830 LF
AREA EXCAVATED OR FILLED:	0.081 ACRE
EXCAVATION BELOW OHW:	12 CY
NET FILL BELOW OHW:	90 CY

**STREAM 32A**

LENGTH OF IMPACT:	160 LF
AREA EXCAVATED OR FILLED:	0.018 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	15 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 32  
 STREAM 32A**

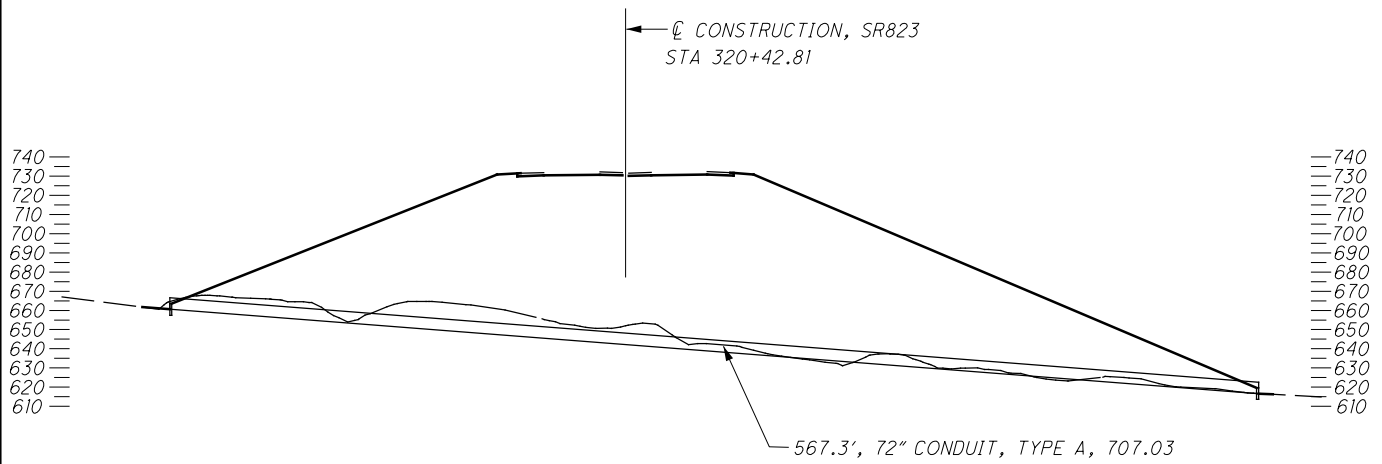
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

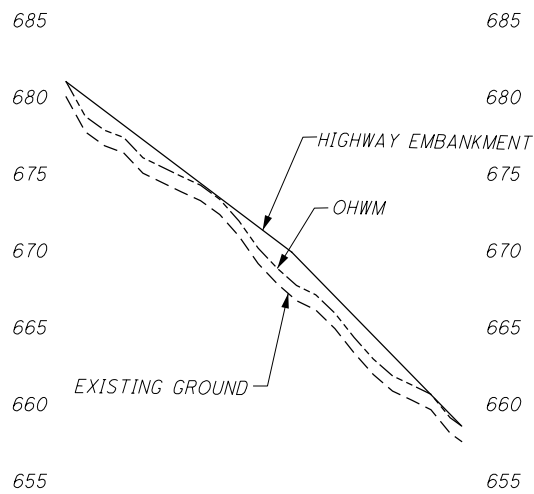
PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-56**



## CULVERT PROFILE



## STREAM 32A PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 32 STREAM 32A

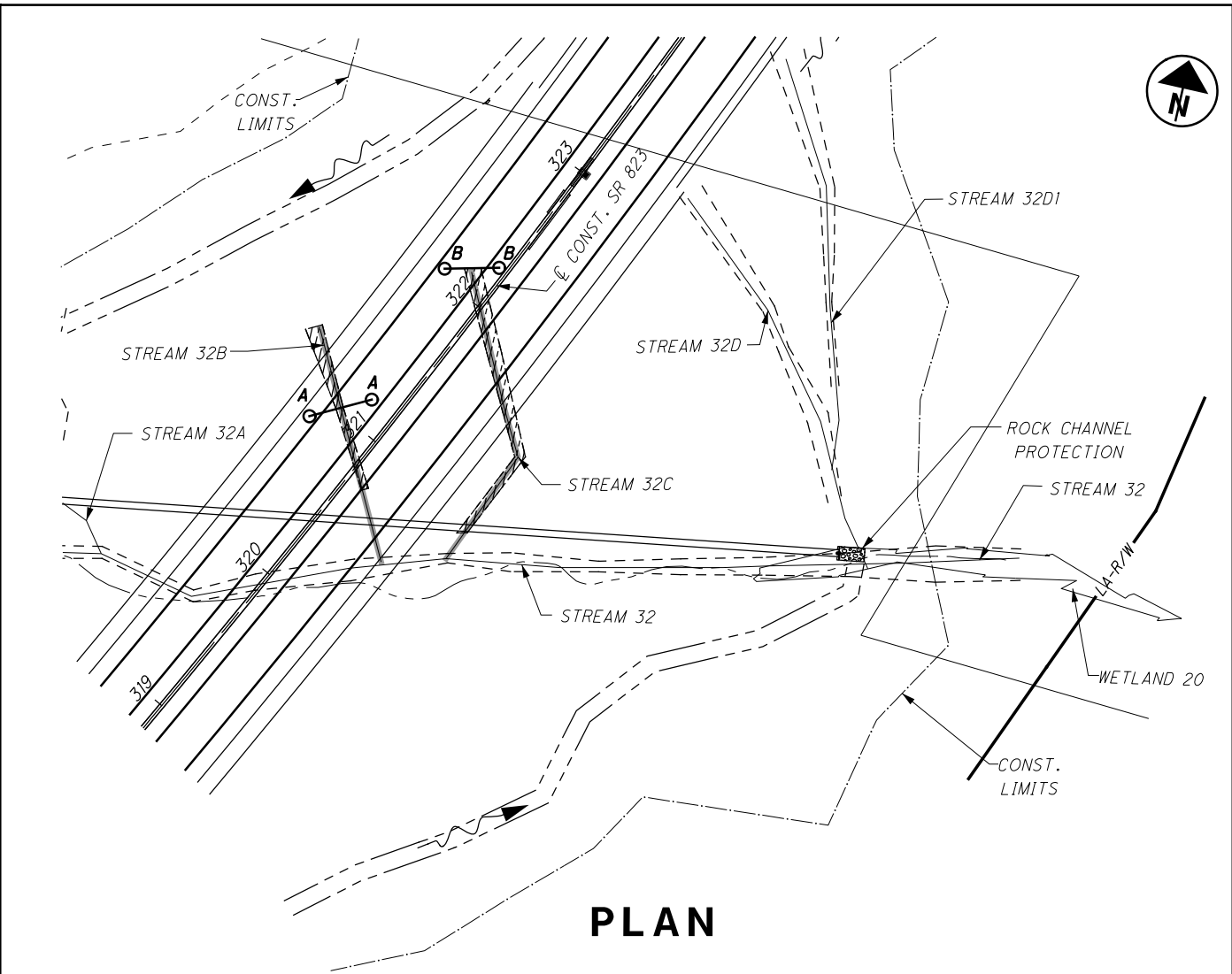
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1"=100'

DATE: AUGUST 15, 2013

## FIGURE 3-56A



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)

**STREAM 32B**

LENGTH OF IMPACT:	142 LF
AREA EXCAVATED OR FILLED:	0.007 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	5 CY

**STREAM 32C**

LENGTH OF IMPACT:	186 LF
AREA EXCAVATED OR FILLED:	0.013 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	10 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 32B  
 STREAM 32C**

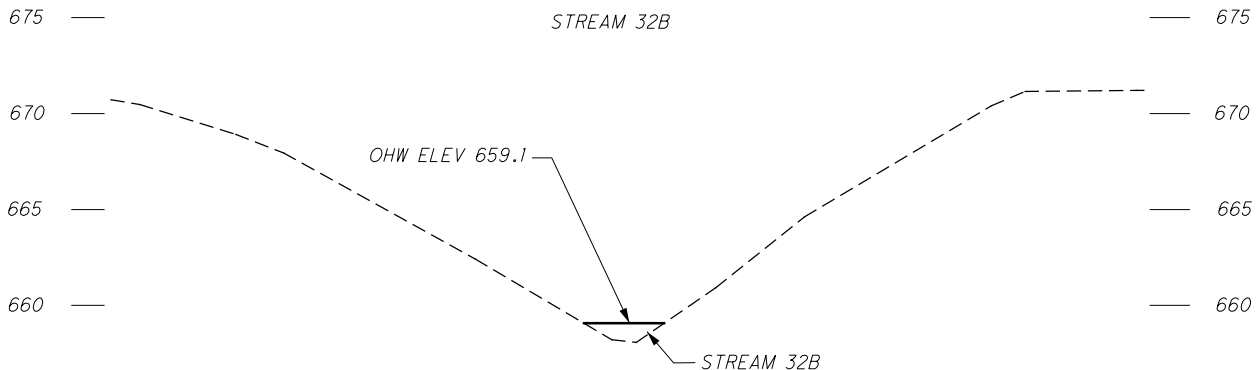
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

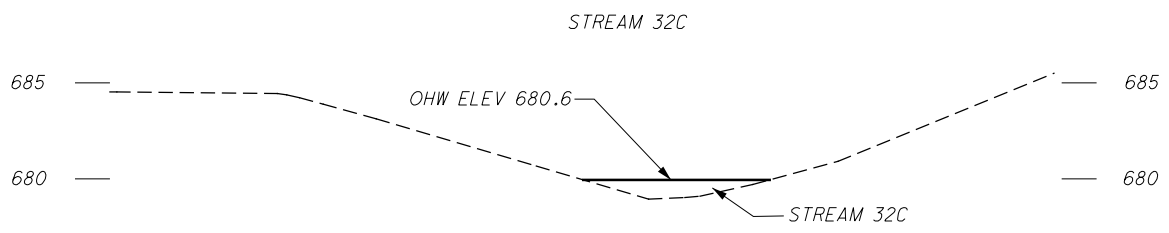
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

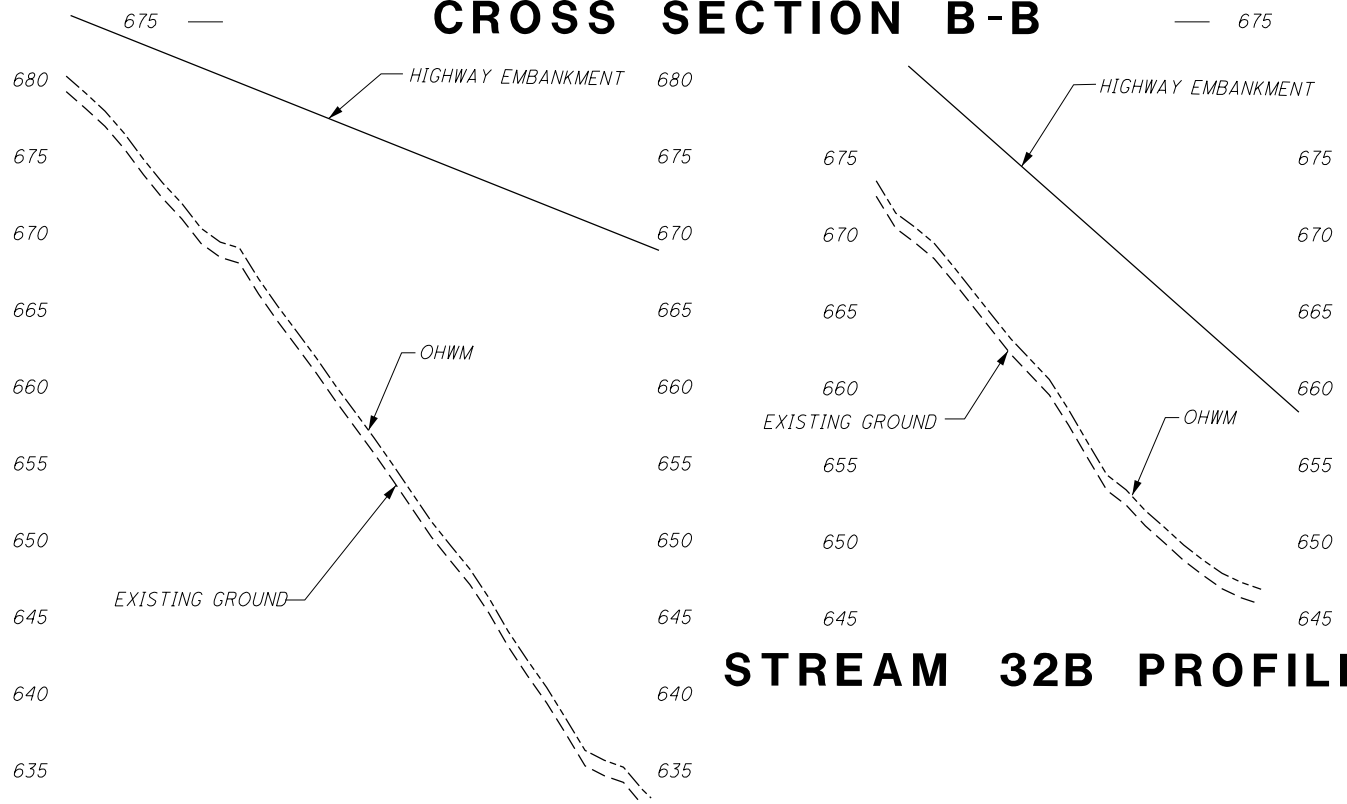
**FIGURE  
 3-57**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 32B PROFILE**

**STREAM 32C PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 32B  
STREAM 32C**

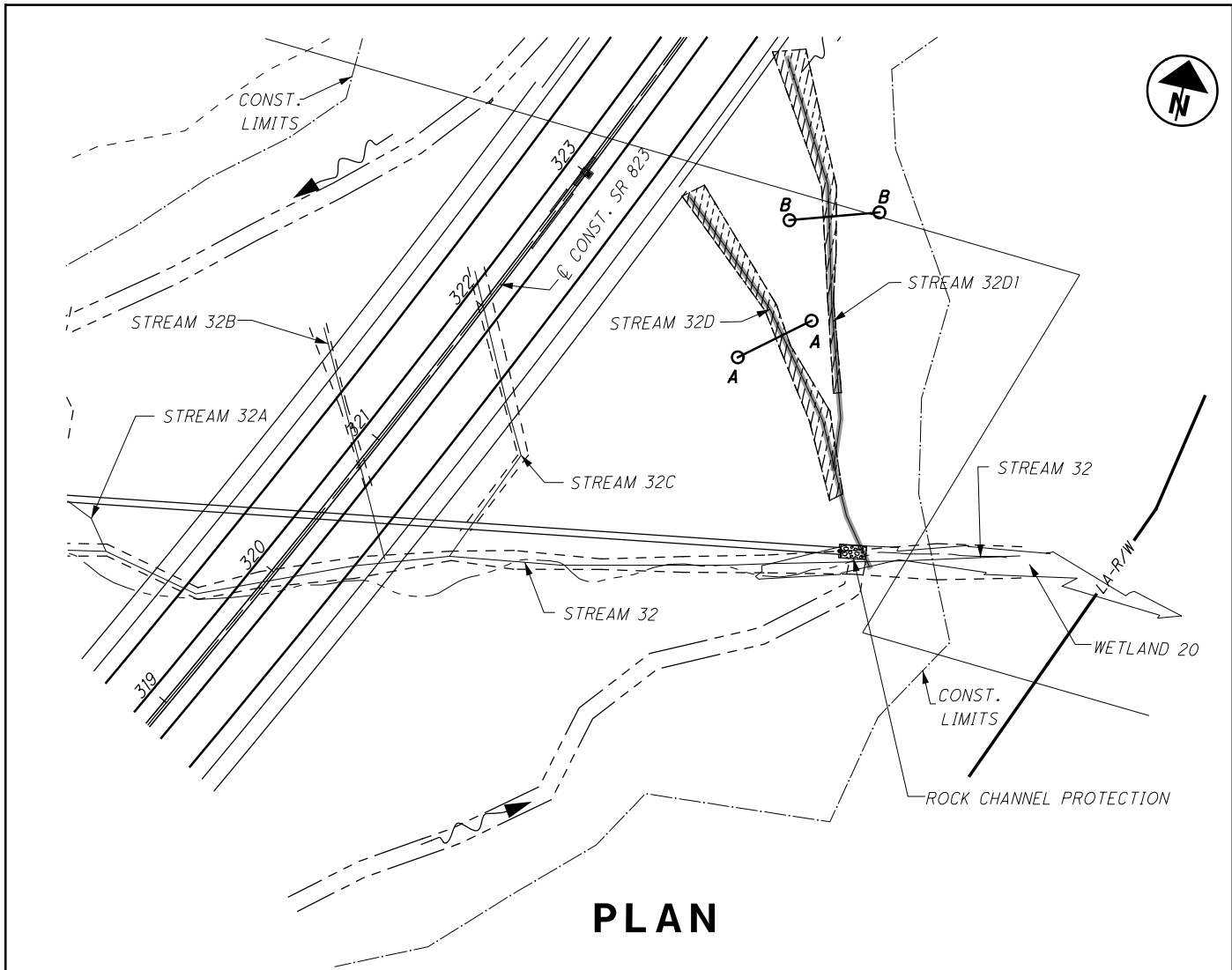
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'  
STREAM PROFILE 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-57A**



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - OHWM

**PROPERTY OWNERS:**  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)  
 CRAIG S. VEACH AND GAYLE M. VEACH

**STREAM 32D**

LENGTH OF IMPACT:	245 LF
AREA EXCAVATED OR FILLED:	0.011 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	9 CY

**STREAM 32D1**

LENGTH OF IMPACT:	245 LF
AREA EXCAVATED OR FILLED:	0.011 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	9 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 32D  
 STREAM 32D1**

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

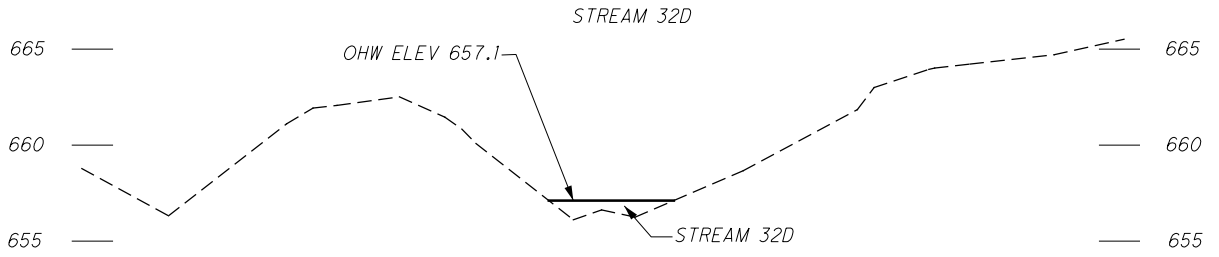
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

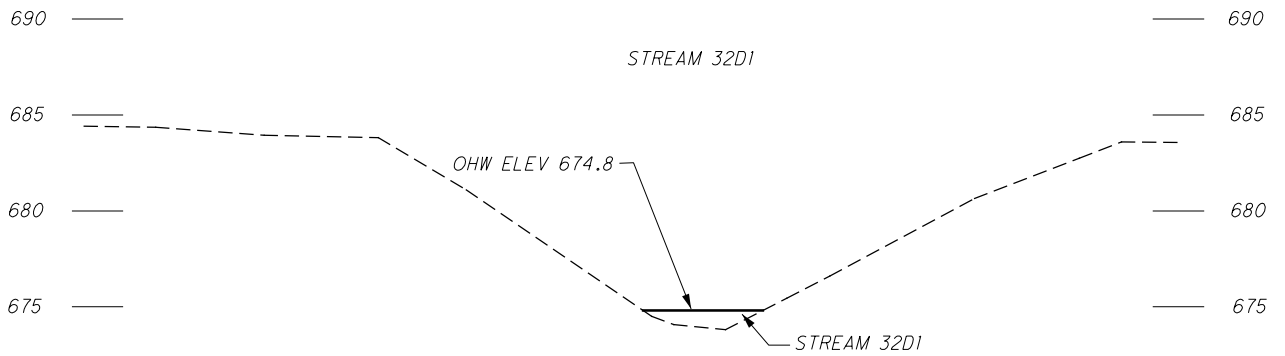
DATE: AUGUST 15, 2013

**FIGURE  
 3-58**





**CROSS SECTION A-A**



**CROSS SECTION B-B**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 32D  
STREAM 32D1**

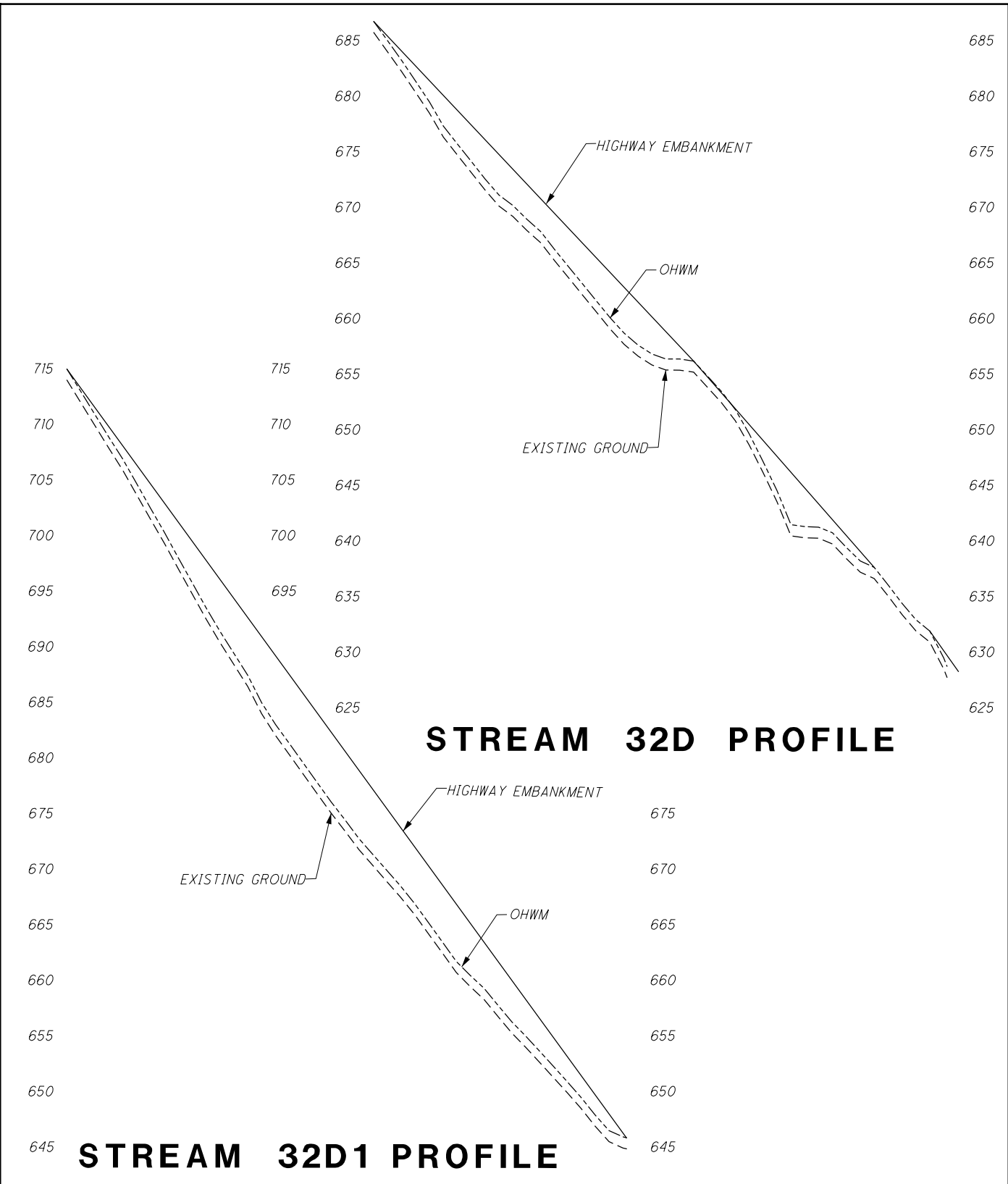
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
3-58A**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 32D  
STREAM 32D1**

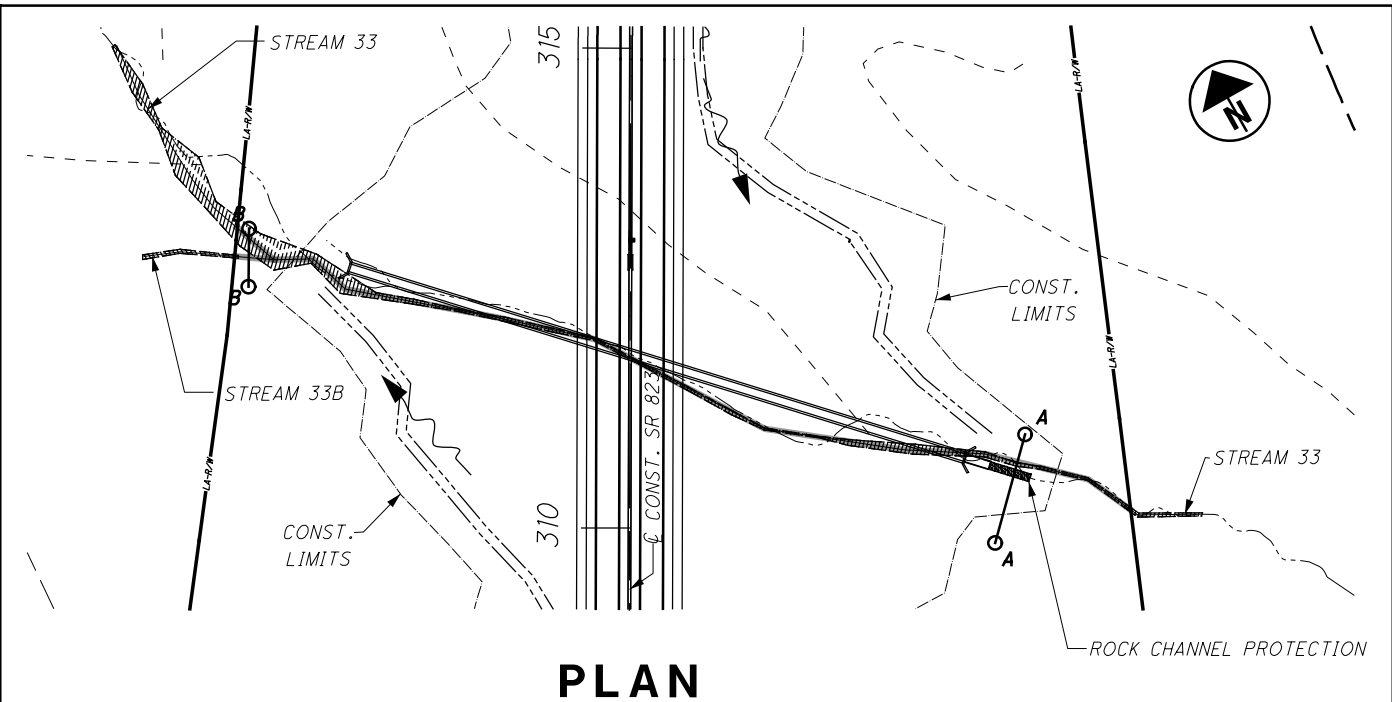
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

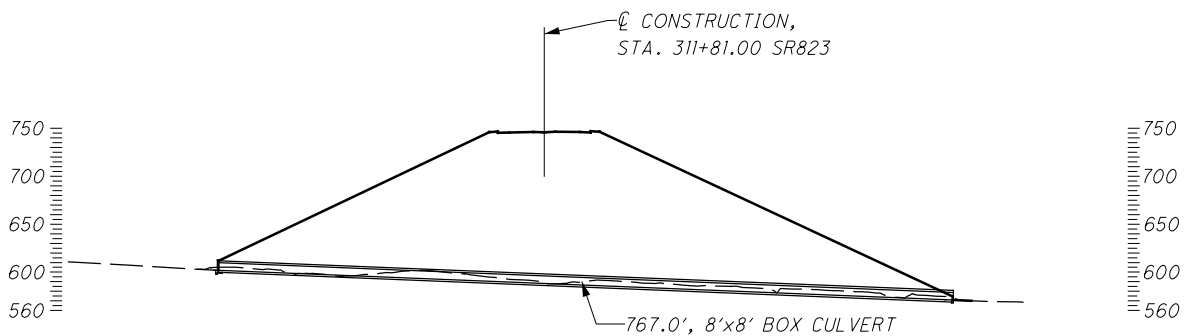
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-58B**



## PLAN



## CULVERT PROFILE

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
HEER AND COMPANY  
(MERGER - BLUEMONT CORPORATION)

### STREAM 33

LENGTH OF IMPACT:	999 LF
AREA EXCAVATED OR FILLED:	0.307 ACRE
EXCAVATION BELOW OHW:	104 CY
NET FILL BELOW OHW:	163 CY

### STREAM 33B

LENGTH OF IMPACT:	41 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	2 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 33 STREAM 33B

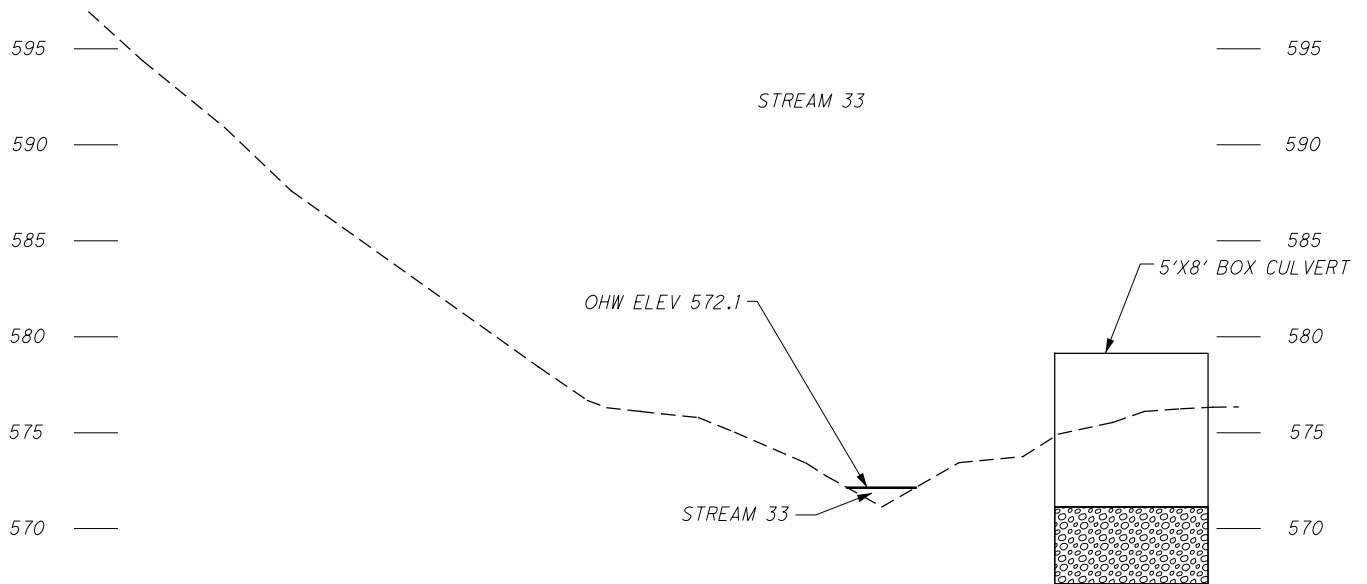
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

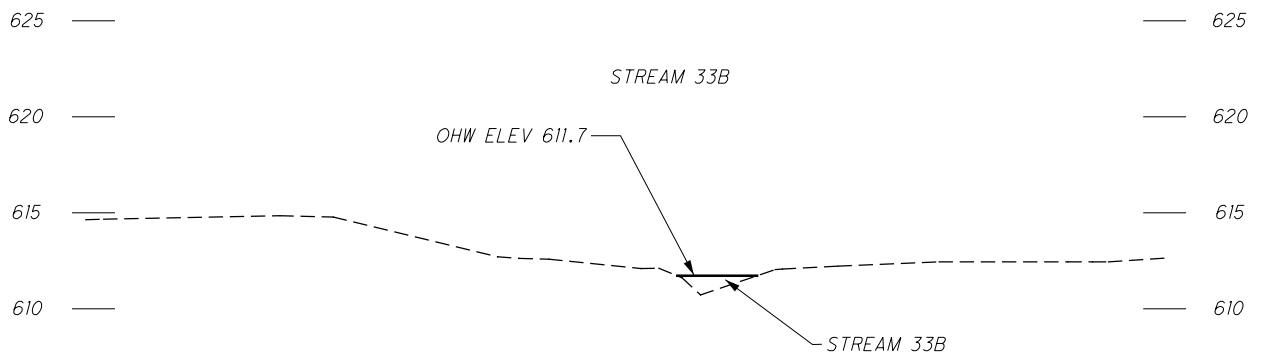
PLAN SCALE: 1" = 200'  
CULVERT PROFILE: 1"=200'

DATE: AUGUST 15, 2013

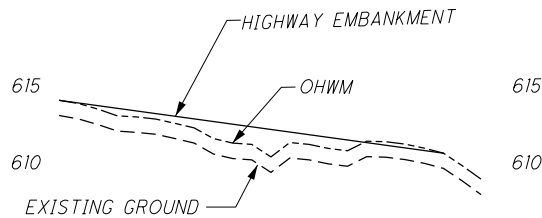
## FIGURE 3-59



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**STREAM 33B PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 33  
STREAM 33B**

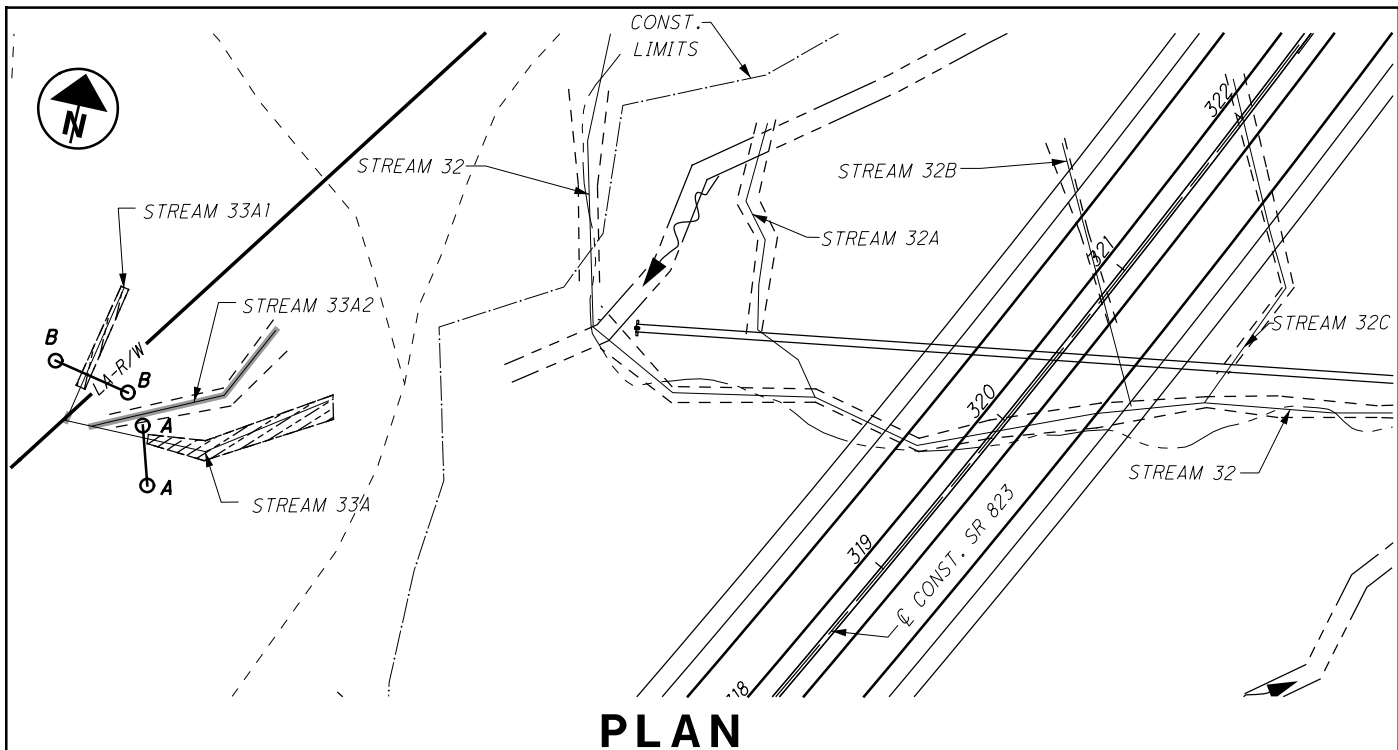
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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


CROSS SECTION: 1"=10'  
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-59A**



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  -  OHWM

**PROPERTY OWNERS:**  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)

**STREAM 33A**

LENGTH OF IMPACT:	145 LF
AREA EXCAVATED OR FILLED:	0.017 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	13 CY

**STREAM 33A1**

LENGTH OF IMPACT:	3 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	0 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 33A  
 STREAM 33A1**

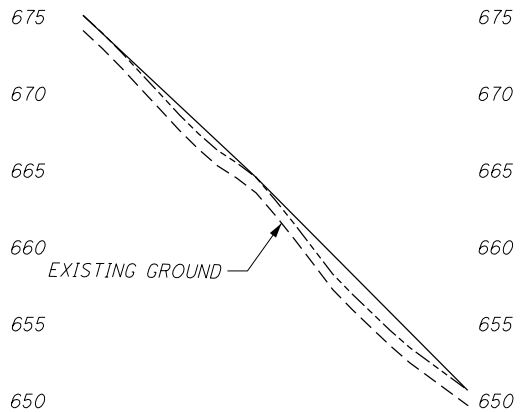
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

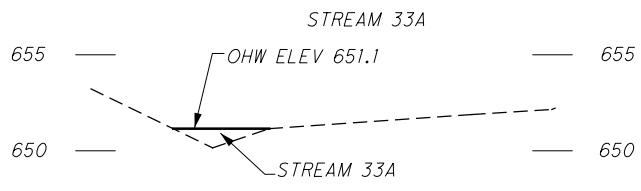
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

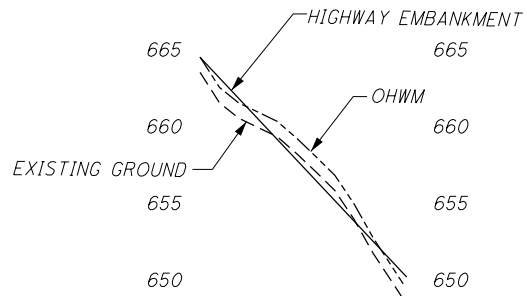
**FIGURE  
 3-60**



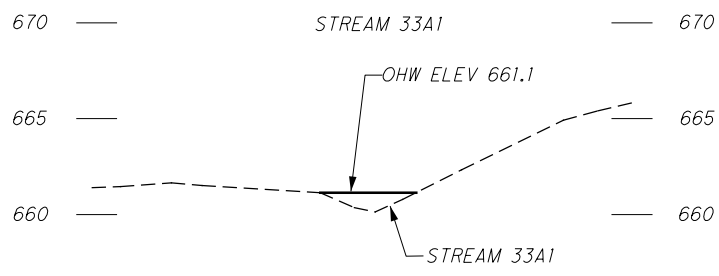
**STREAM 33A PROFILE**



**CROSS SECTION A-A**



**STREAM 33A1 PROFILE**



**CROSS SECTION B-B**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 33A  
STREAM 33A1**

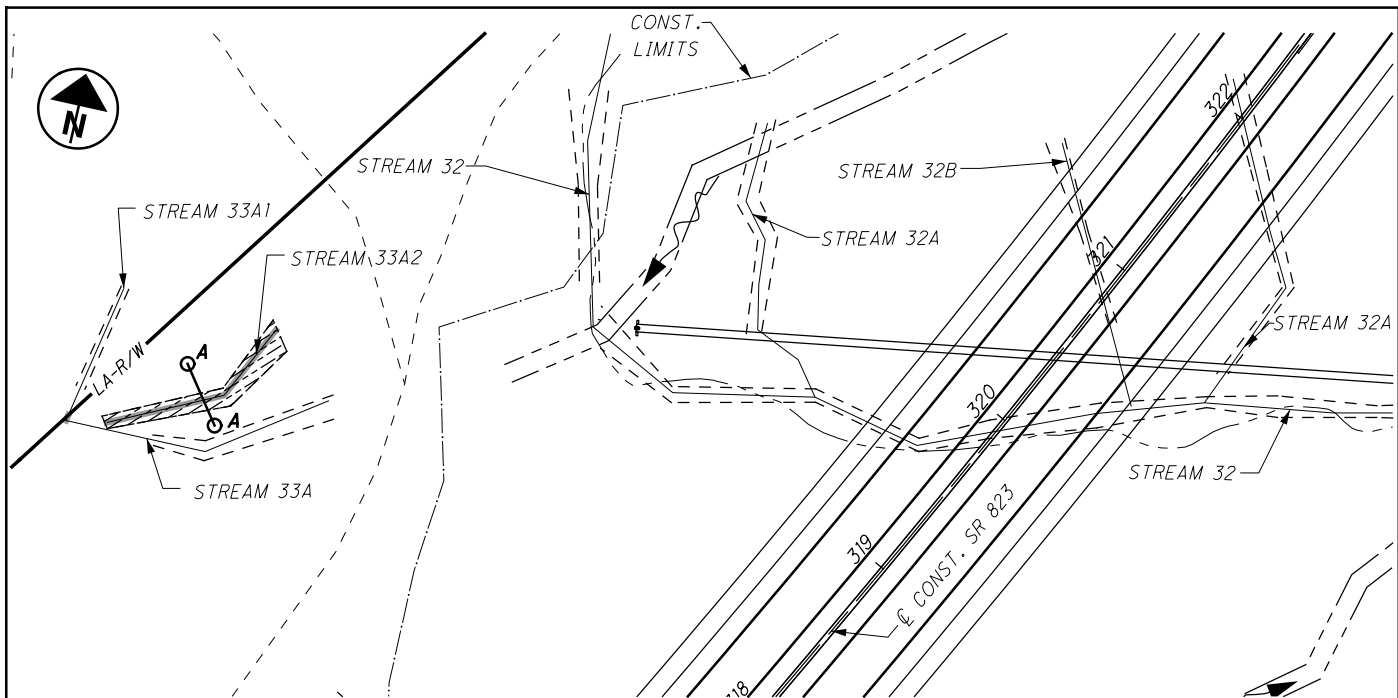
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

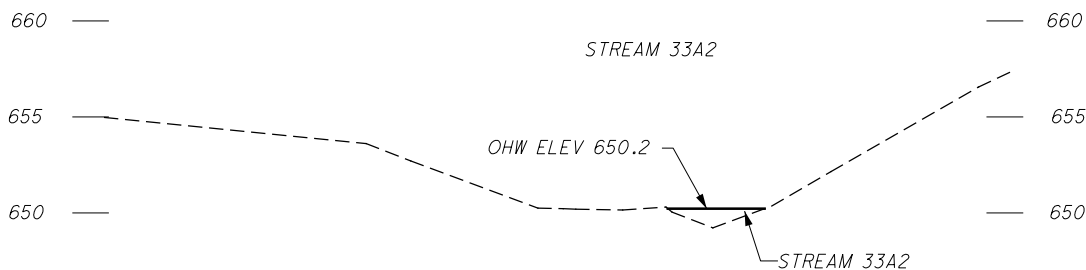
STREAM PROFILE: 1" = 50'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
3-60A**



**PLAN**

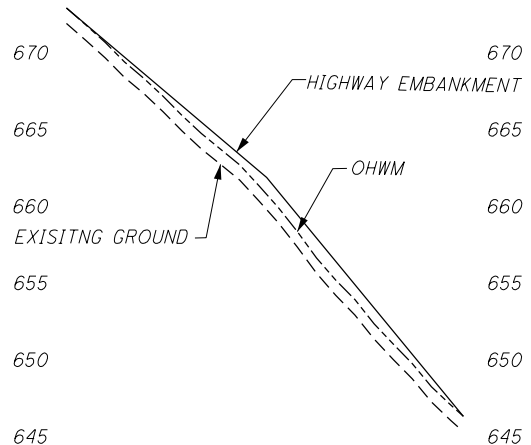


**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
HEER AND COMPANY  
(MERGER - BLUEMONT CORPORATION)

LENGTH OF IMPACT:	106 LF
AREA EXCAVATED OR FILLED:	0.007 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	6 CY



**STREAM PROFILE**



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 33A2**

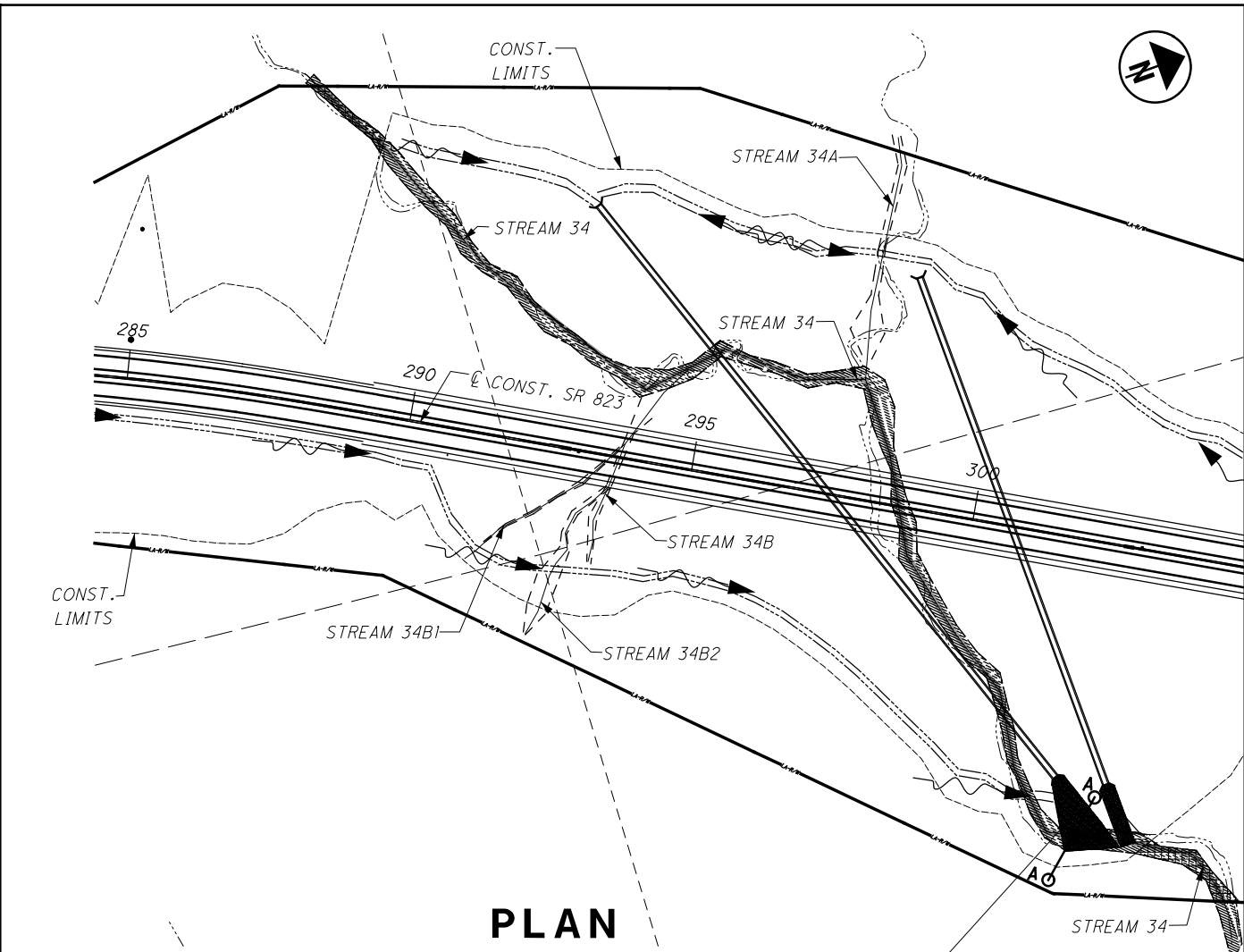
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-61**



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM
  - ▩ NO BUILD ZONE

PROPERTY OWNERS:  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)

LENGTH OF IMPACT:	2084 LF
AREA EXCAVATED OR FILLED:	1.753 ACRE
EXCAVATION BELOW OHW:	469 CY
NET FILL BELOW OHW:	2249 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 34**

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

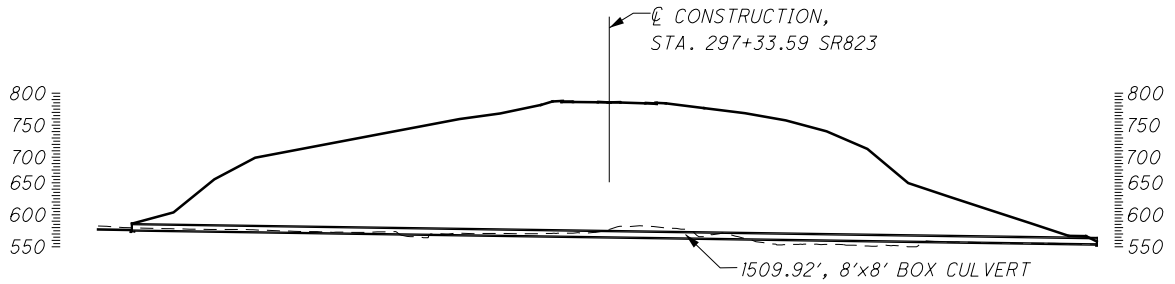
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 300'

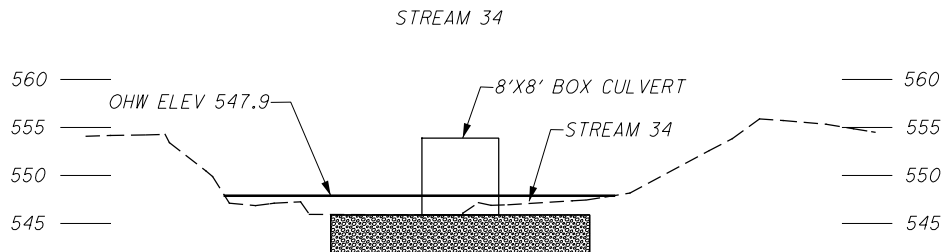
DATE: AUGUST 15, 2013

**FIGURE  
 3-62**





## CULVERT PROFILE



## CROSS SECTION A-A



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 34

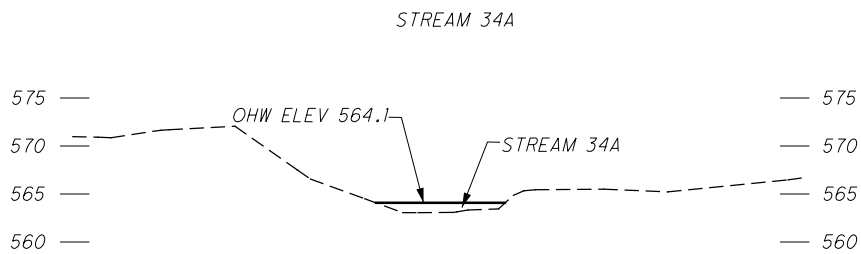
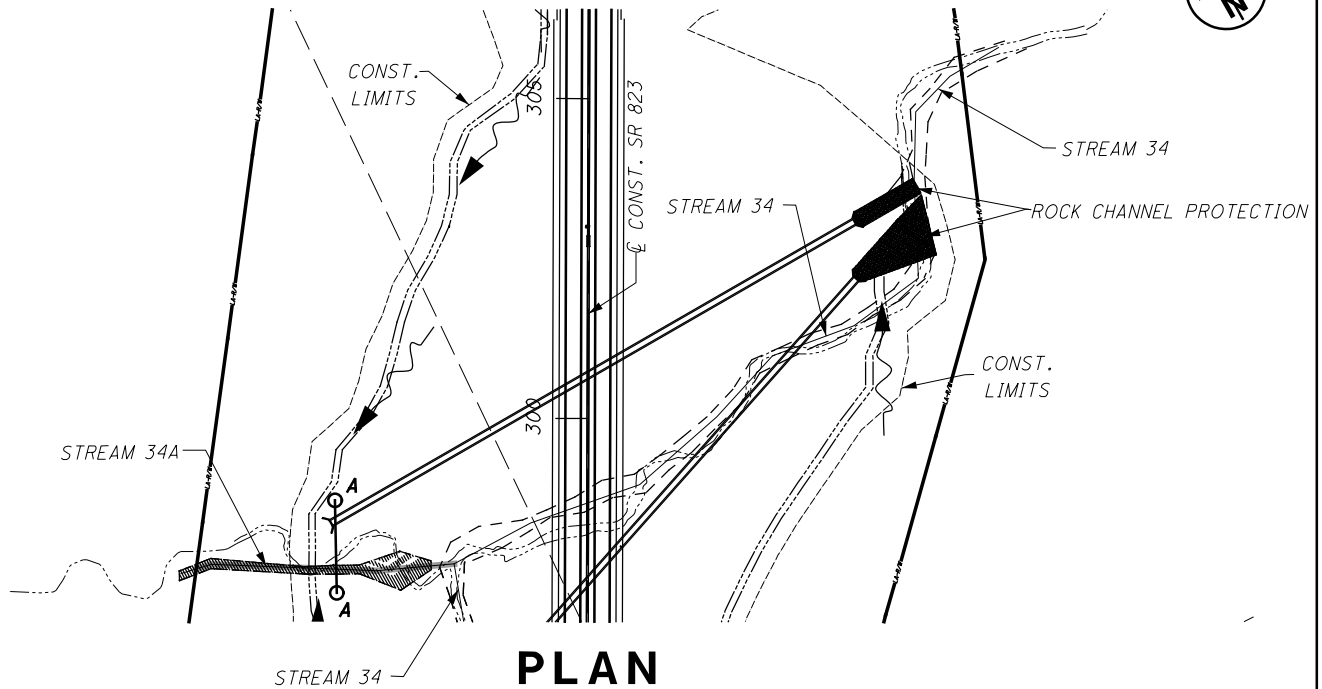
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE 1" = 300'  
CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

## FIGURE 3-62A



**CROSS SECTION A-A**

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - OHWM

PROPERTY OWNERS:  
HEER AND COMPANY  
(MERGER - BLUEMONT CORPORATION)

LENGTH OF IMPACT: 405 LF  
 AREA EXCAVATED OR FILLED: 0.296 ACRE  
 EXCAVATION BELOW OHW: 1230 CY  
 NET FILL BELOW OHW: 78 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 34A**

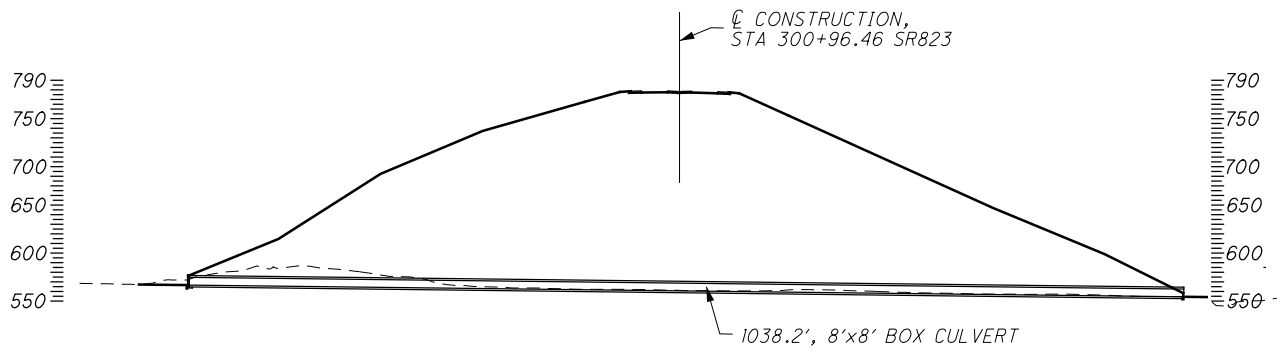
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 300'  
CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
3-63**



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 34A

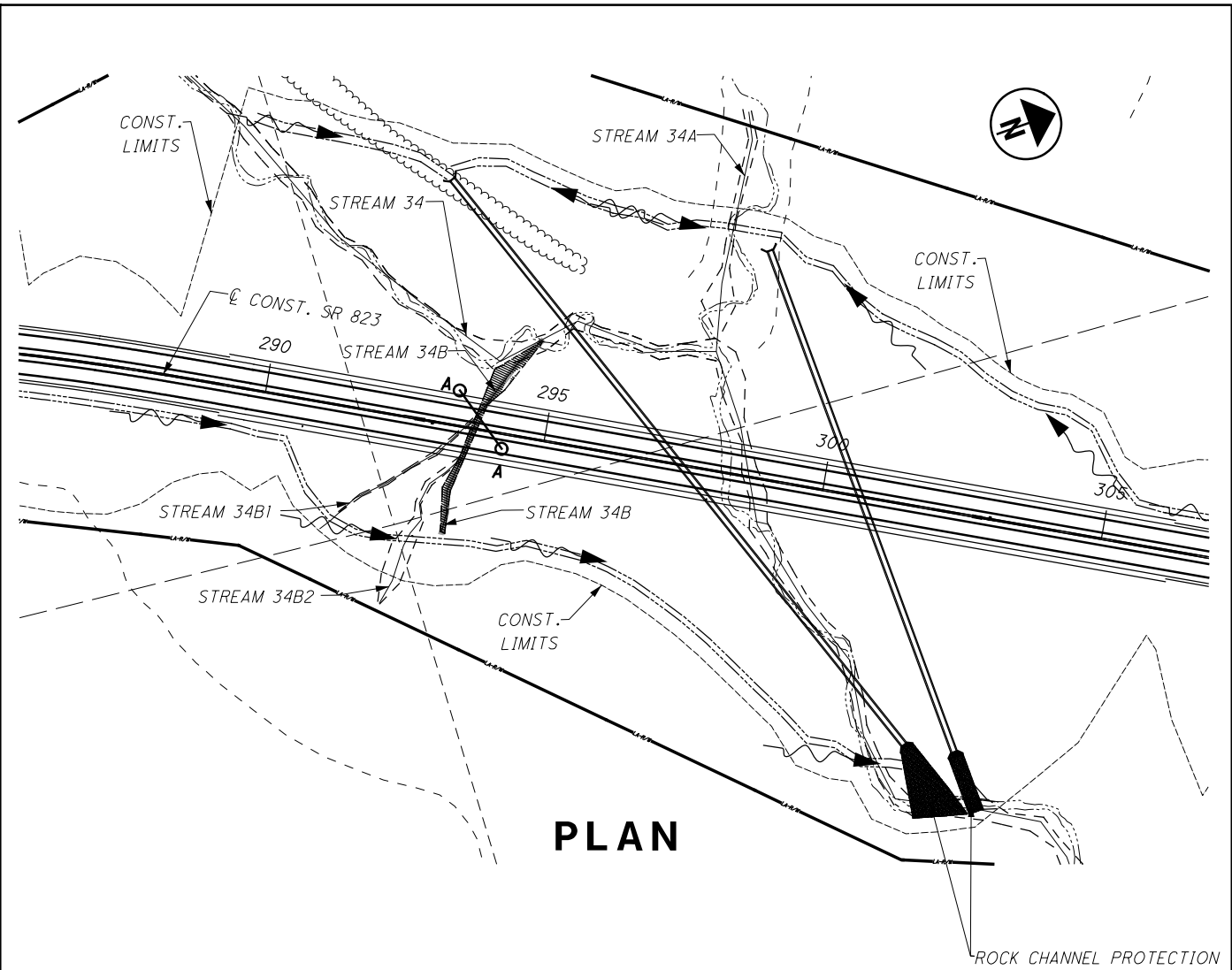
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

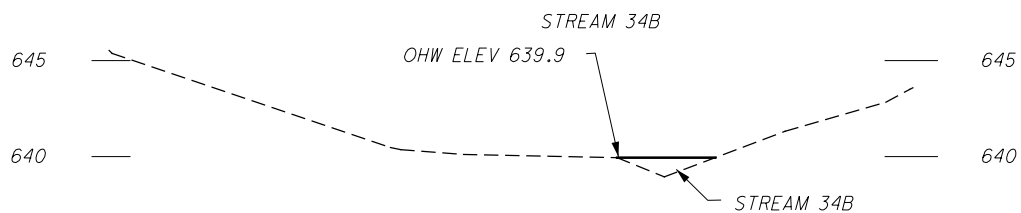
CULVERT PROFILE 1"=200'

DATE: AUGUST 15, 2013

**FIGURE  
3-63A**



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)

LENGTH OF IMPACT:	391 LF
AREA EXCAVATED OR FILLED:	0.027 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	22 CY



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 34B**

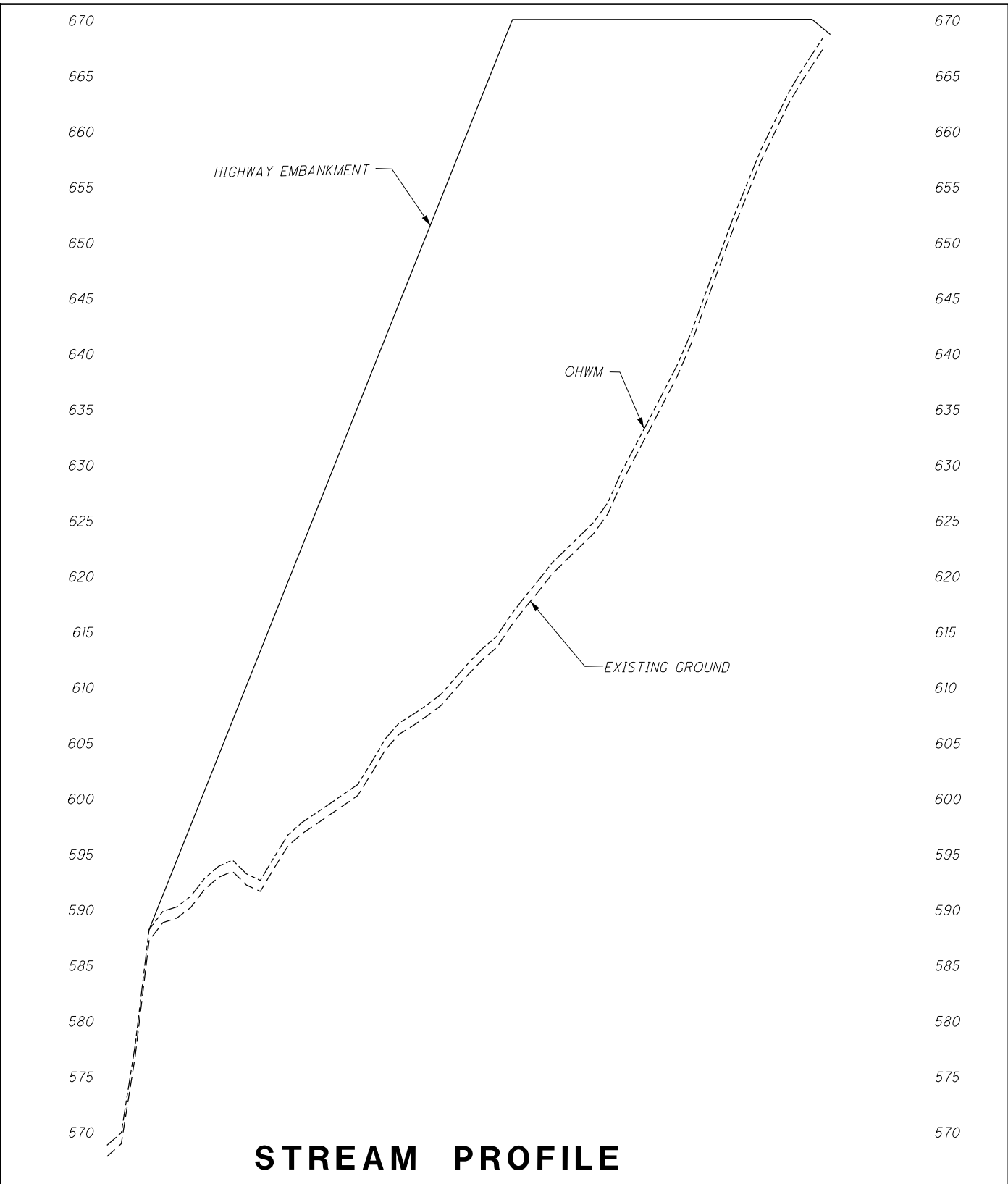
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 300'  
 CROSS SECTION: 1" = 10'

DATE: AUGUST 15, 2013

**FIGURE 3-64**



**STREAM PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 34B**

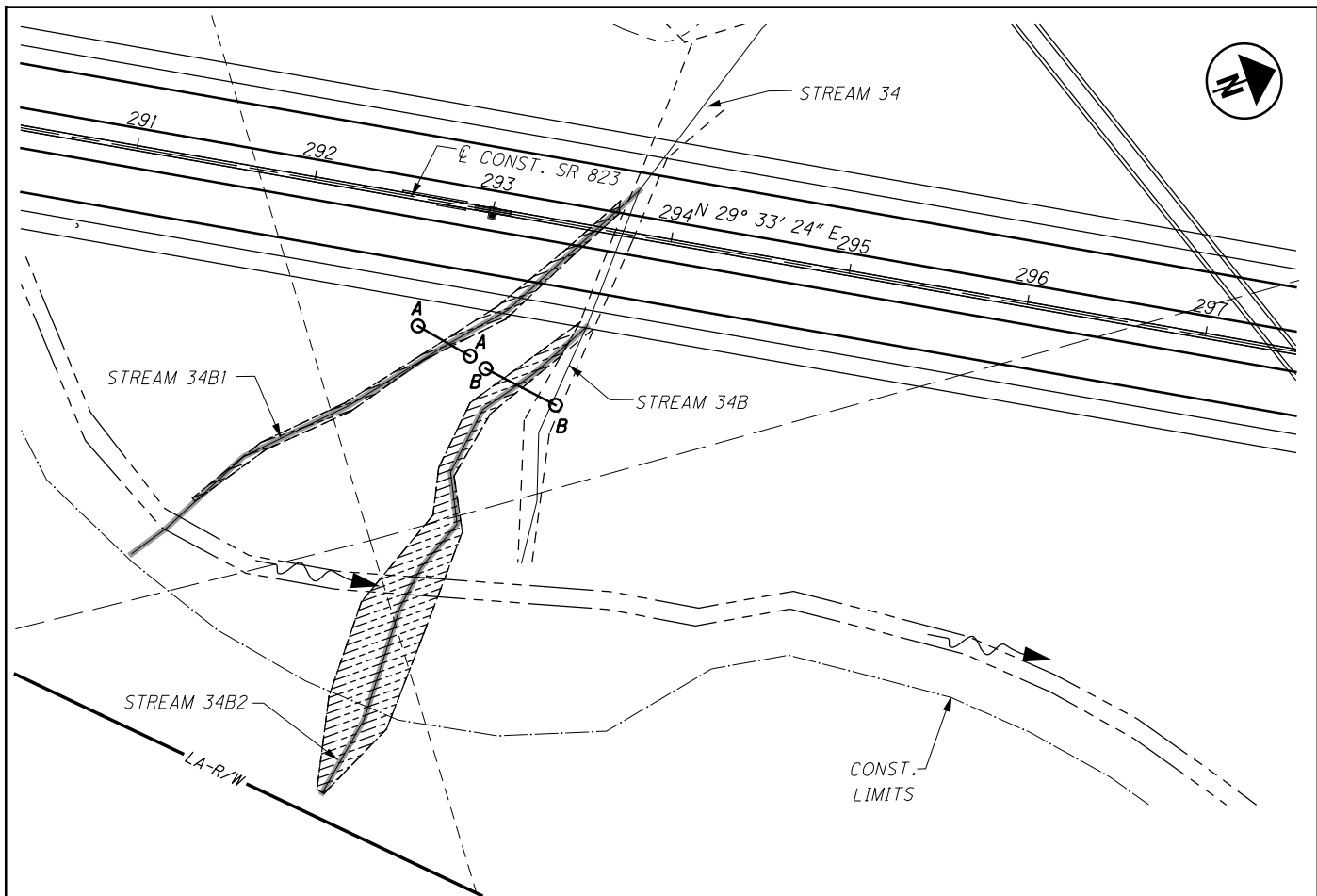
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE : 1" = 50'

DATE: AUGUST 15, 2013

**FIGURE  
3-64A**



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)

<b>STREAM 34B1</b>	
LENGTH OF IMPACT:	348 LF
AREA EXCAVATED OR FILLED:	0.008 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	6 CY

<b>STREAM 34B2</b>	
LENGTH OF IMPACT:	309 LF
AREA EXCAVATED OR FILLED:	0.014 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	11 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 34B1  
 STREAM 34B2**

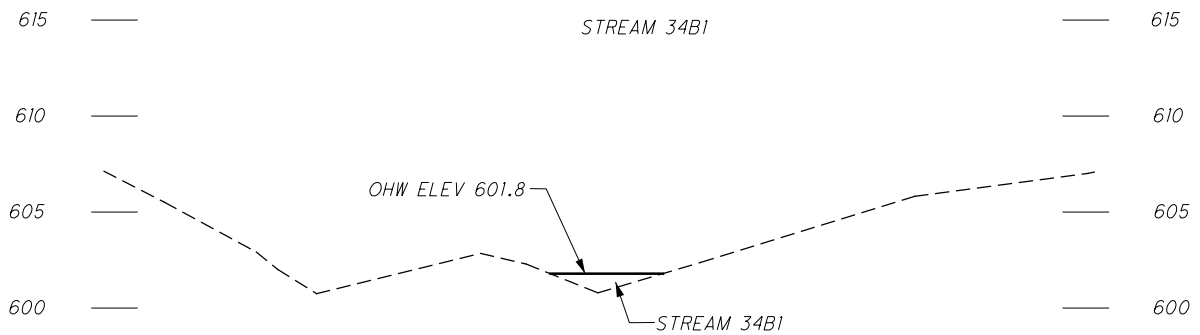
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

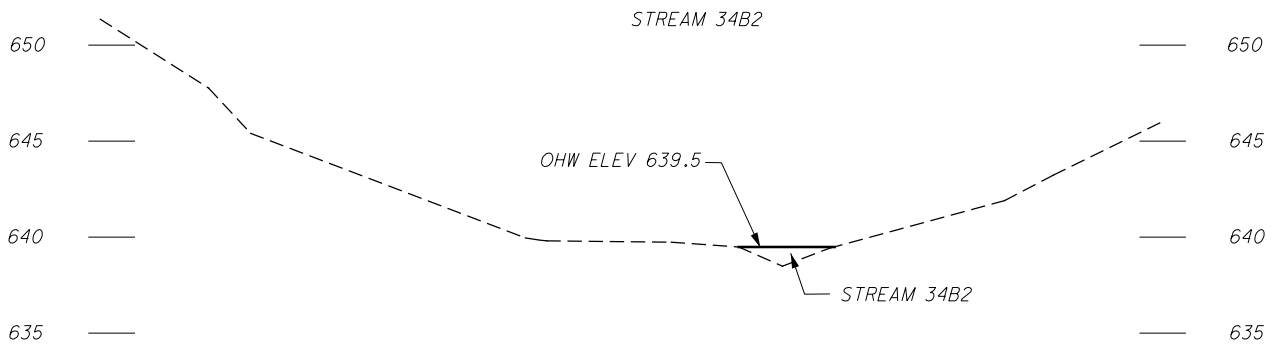
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-65**



### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 34B1 STREAM 34B2

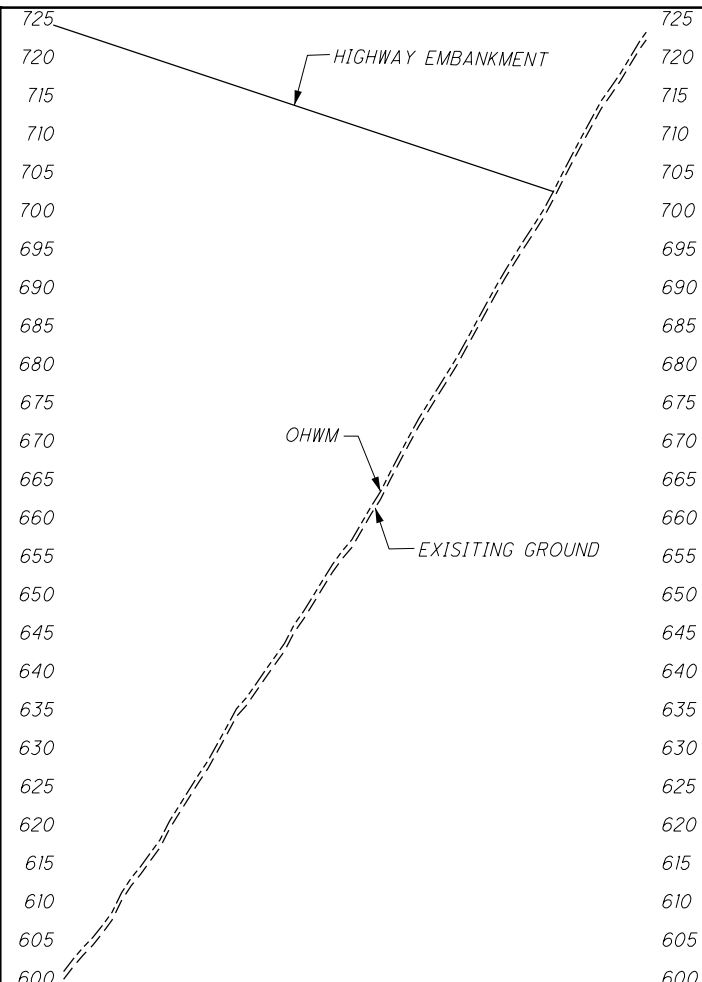
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

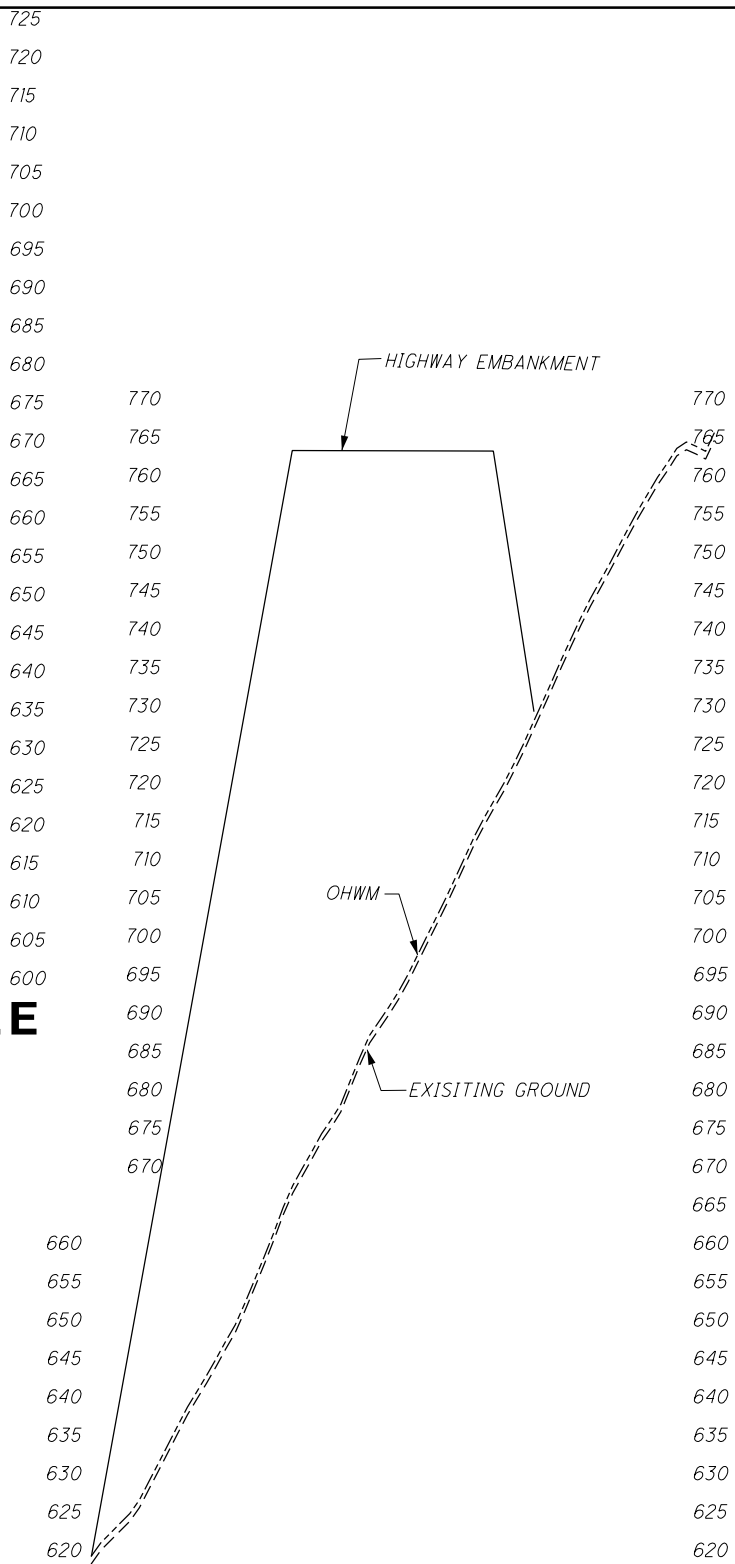
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-65A



**STREAM 34B1 PROFILE**



**STREAM 34B2 PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 34B1  
STREAM 34B2**

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

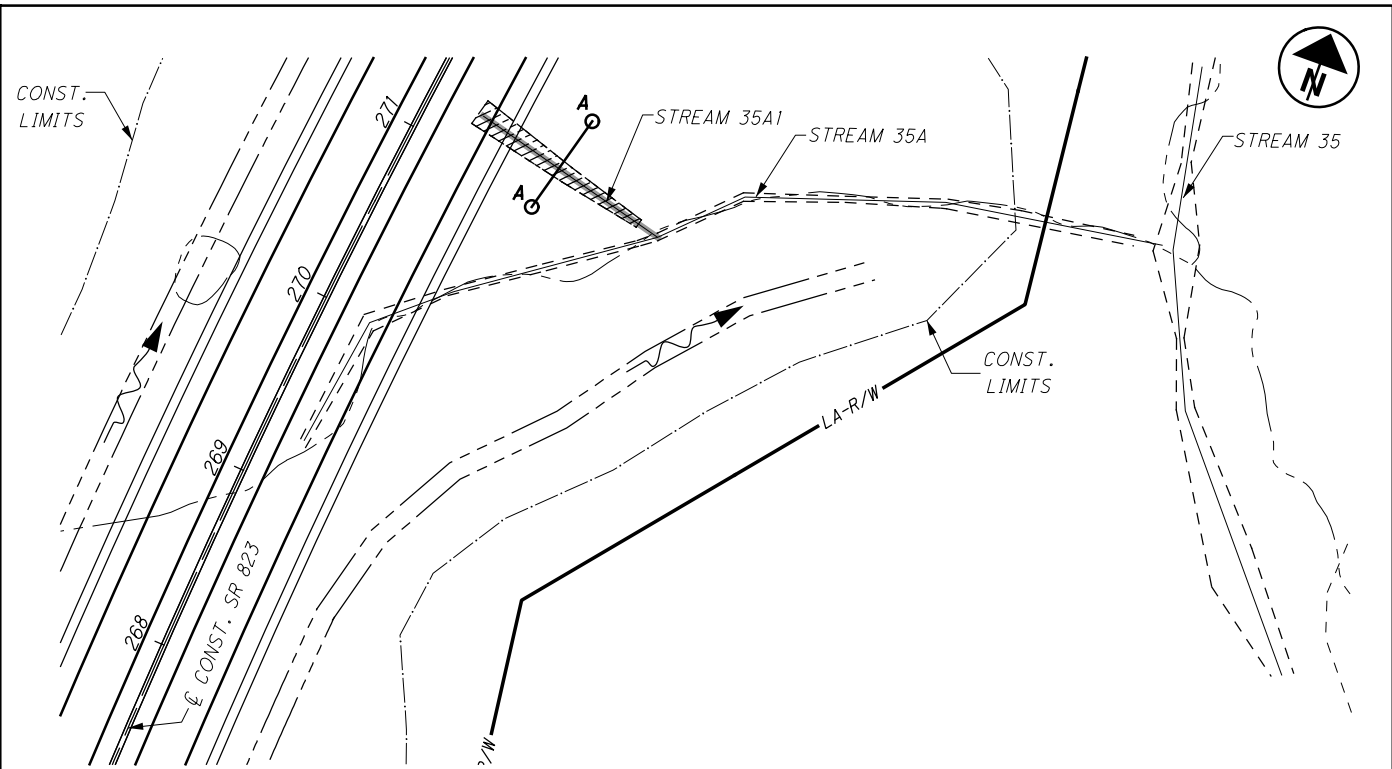
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PROFILE STREAM: 1" = 100'

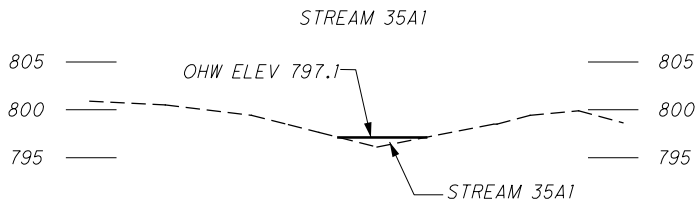
DATE: AUGUST 15, 2013

**FIGURE  
3-65B**





**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨▨ OHWM

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

**STREAM 35A1**

LENGTH OF IMPACT:	111 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	2 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 35A1**

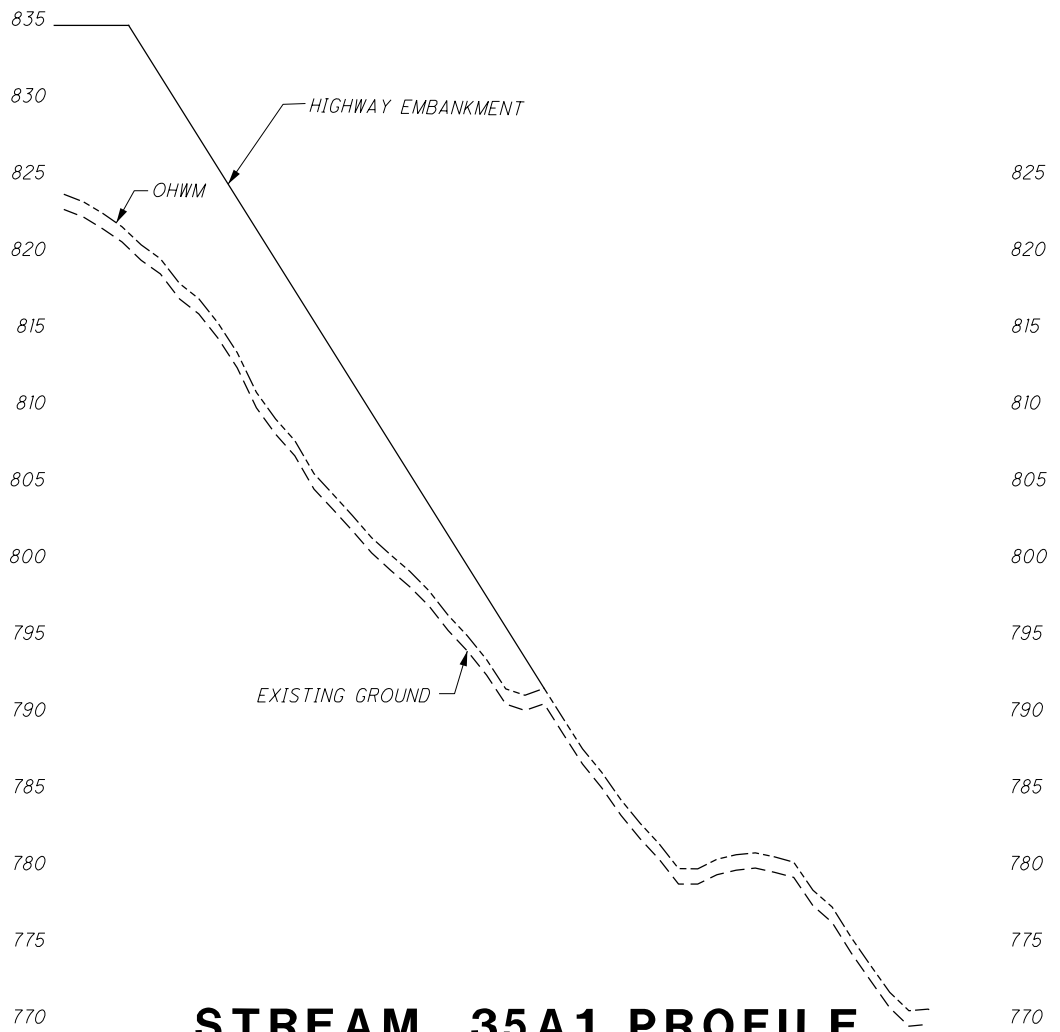
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-66**



## STREAM 35A1 PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 35A1

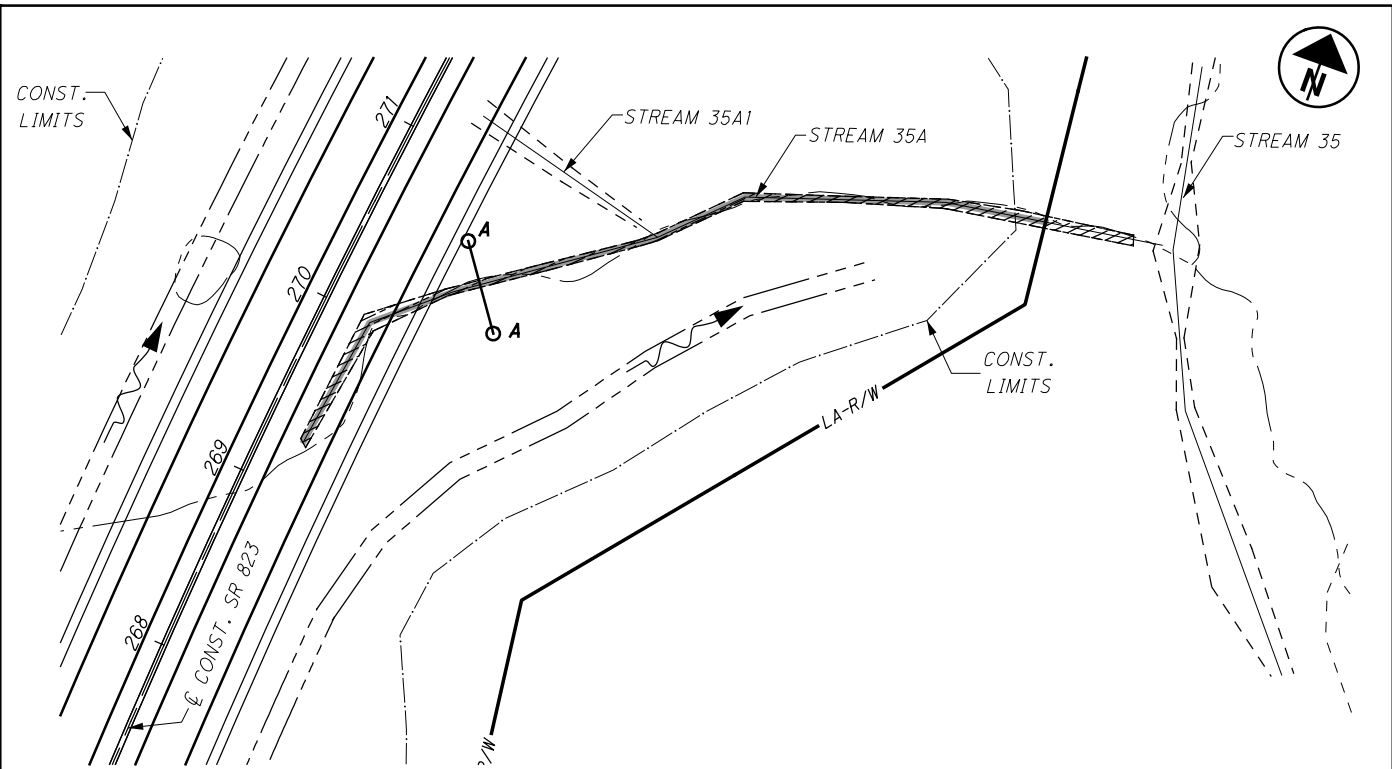
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

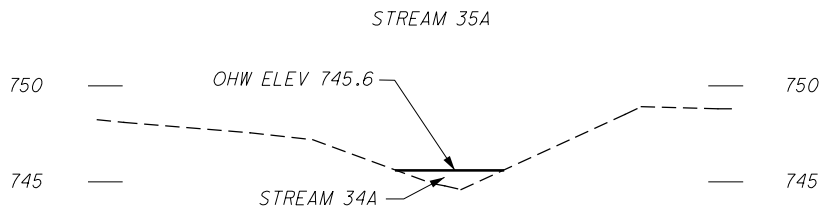
STREAM PROFILE: 1" = 50'

DATE: AUGUST 15, 2013

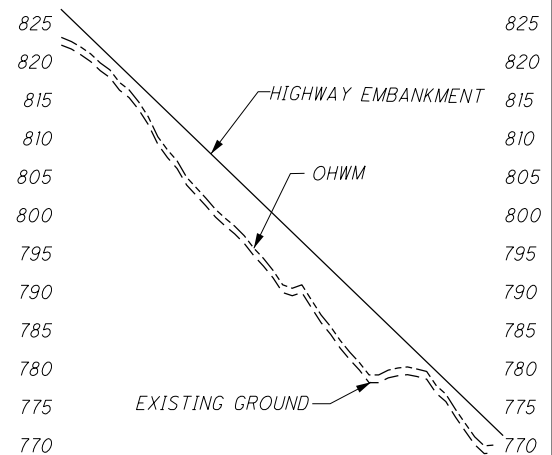
**FIGURE  
3-66A**



**PLAN**



**CROSS SECTION A-A**



**STREAM PROFILE**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨▨ OHWM

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

LENGTH OF IMPACT:	435 LF
AREA EXCAVATED OR FILLED:	0.050 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	40 CY



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 35A**

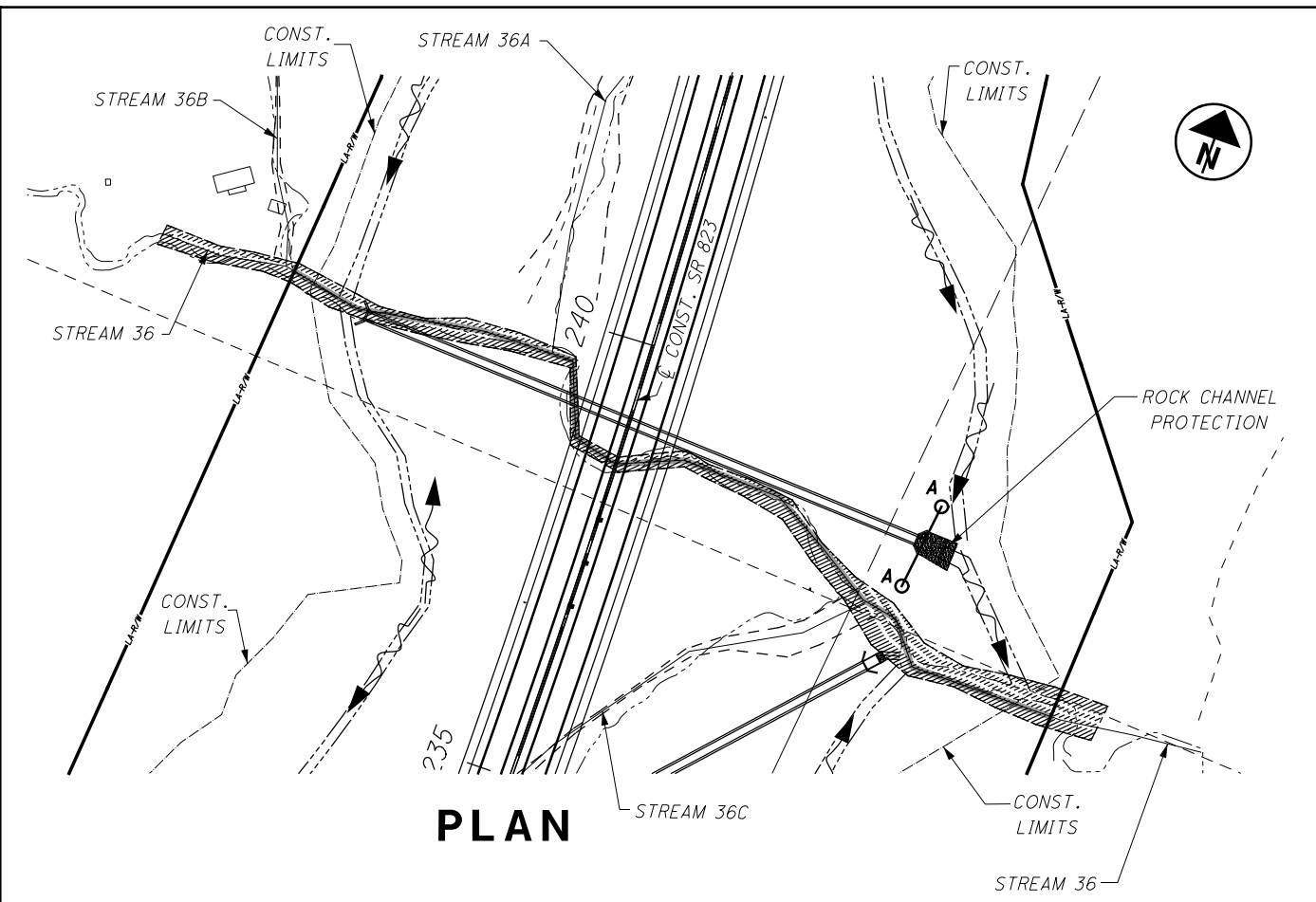
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

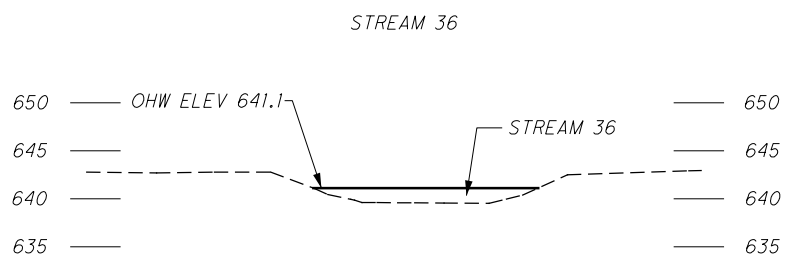
PLAN SCALE: 1" = 100'  
 PROFILE STREAM: 1"=100'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-67**



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

**PROPERTY OWNERS:**

DOUG McLAUGHLIN AND ERIN McLAUGHLIN  
 ROGER CLIFFORD CORIELL, JR., RAYMOND FRANCIS CORIELL,  
 RANDALL JOSEPH CORIELL, AND ROBERT BENNETT CORIELL  
 AND KENNETH R. CORIELL, TRUSTEE, KENNETH R. CORIELL  
 REVOCABLE TRUST U/A JUNE 11, 2004

LENGTH OF IMPACT: 1054 LF  
 AREA EXCAVATED OR FILLED: 0.354 ACRE  
 EXCAVATION BELOW OHW: 208 CY  
 NET FILL BELOW OHW: 373 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 36**

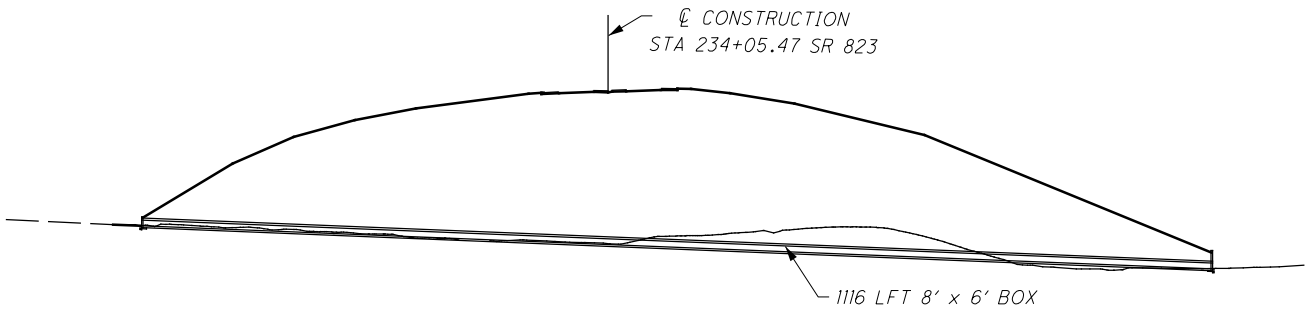
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-68**



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 36

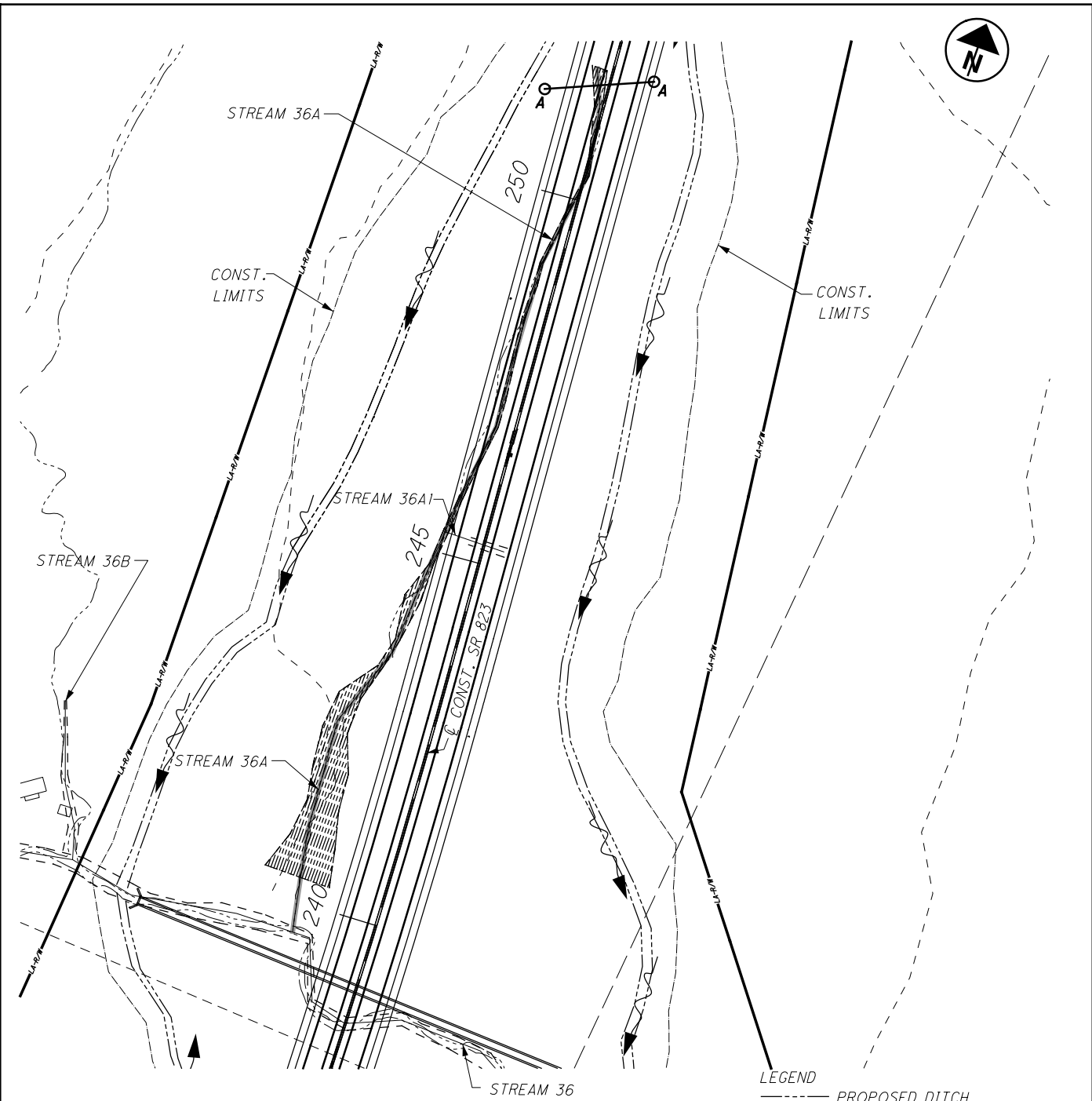
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CULVERT PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

## FIGURE 3-68A



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

**PROPERTY OWNERS:**  
 LINDA JEAN CORIELL AND LYNN R. WESSEL  
 ROGER CLIFFORD CORIELL, JR., RAYMOND FRANCIS CORIELL, RANDALL JOSEPH CORIELL, AND ROBERT BENNETT CORIELL AND KENNETH R. CORIELL, TRUSTEE,  
 KENNETH R. CORIELL REVOCABLE TRUST U/A JUNE 11, 2004

LENGTH OF IMPACT:	1233 LF
AREA EXCAVATED OR FILLED:	0.113 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	91 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 36A**

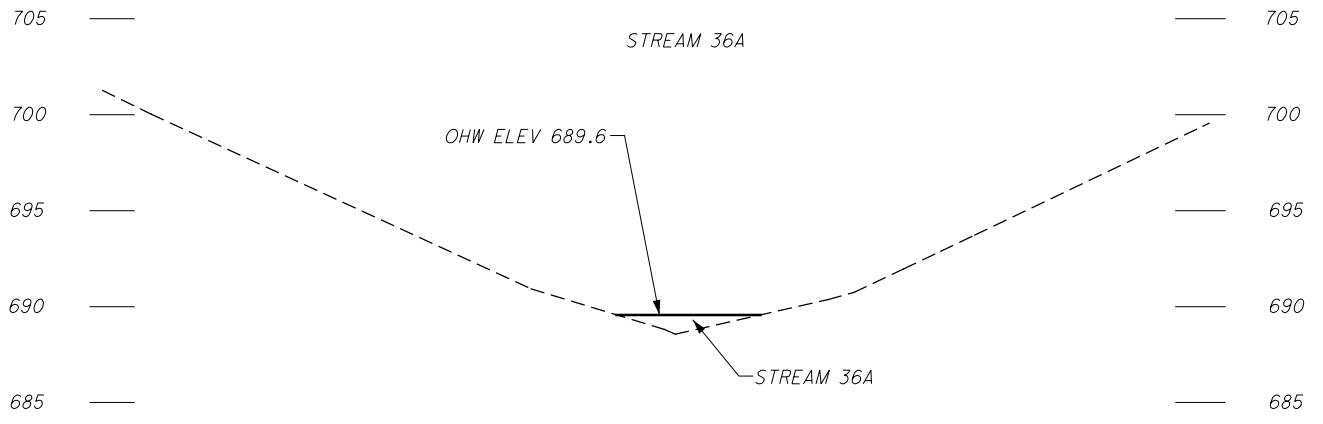
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

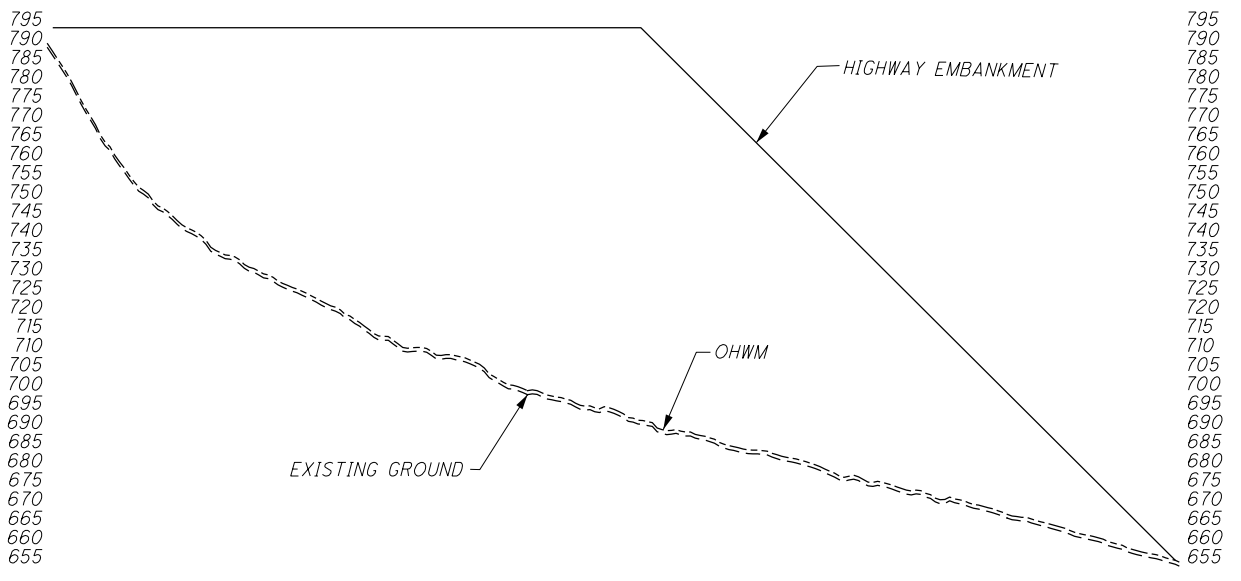
PLAN SCALE: 1" = 200'

DATE: AUGUST 15, 2013

**FIGURE  
 3-69**



**CROSS SECTION A-A**



**STREAM PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 36A**

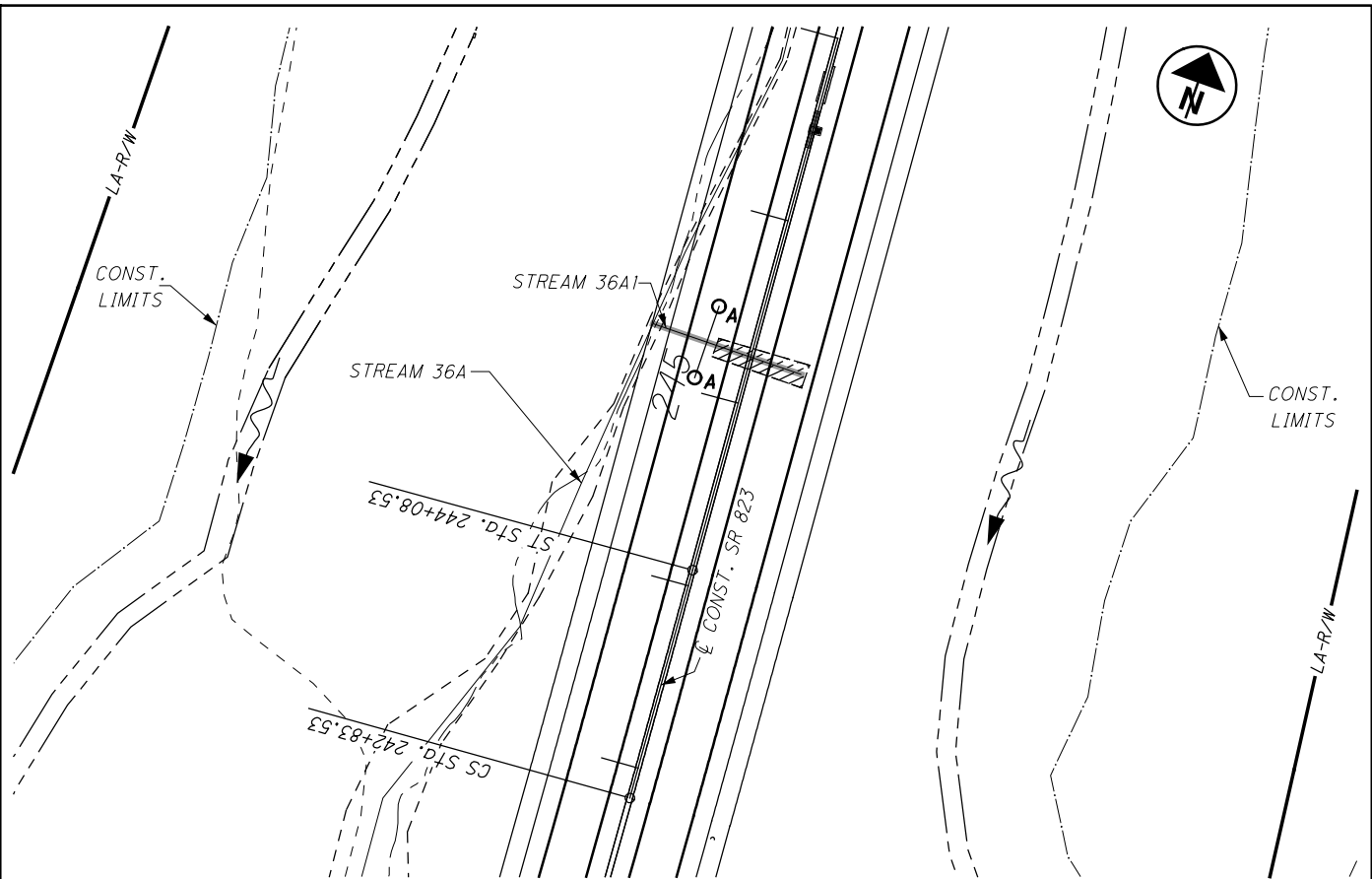
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

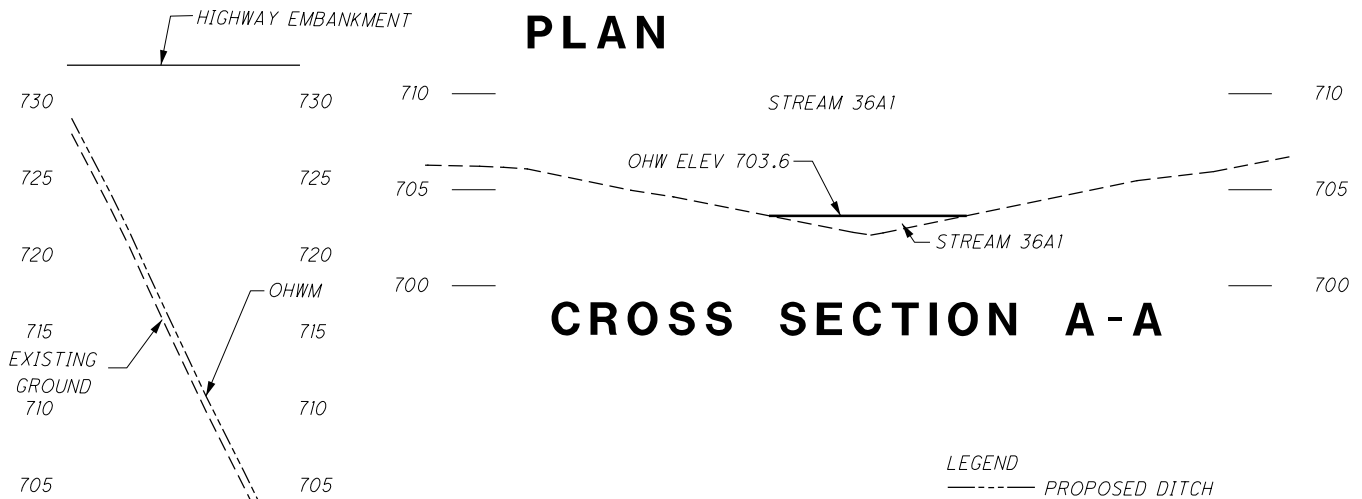
CROSS SECTION: 1"=10'  
STREAM PROFILE 1"=200'

DATE: AUGUST 15, 2013

**FIGURE  
3-69A**



**PLAN**



**CROSS SECTION A-A**

**STREAM PROFILE**

PROPERTY OWNERS:  
 ROGER CLIFFORD CORIELL, JR., RAYMOND FRANCIS CORIELL, RANDALL JOSEPH CORIELL, AND ROBERT BENNETT CORIELL AND KENNETH R. CORIELL, TRUSTEE, KENNETH R. CORIELL REVOCABLE TRUST U/A JUNE 11, 2004

LEGEND	
	PROPOSED DITCH
	STREAM IMPACT LENGTH
	OHWM
LENGTH OF IMPACT: 86 LF	
AREA EXCAVATED OR FILLED: 0.002 ACRE	
EXCAVATION BELOW OHW: 0 CY	
NET FILL BELOW OHW: 2 CY	



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 36A1**

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

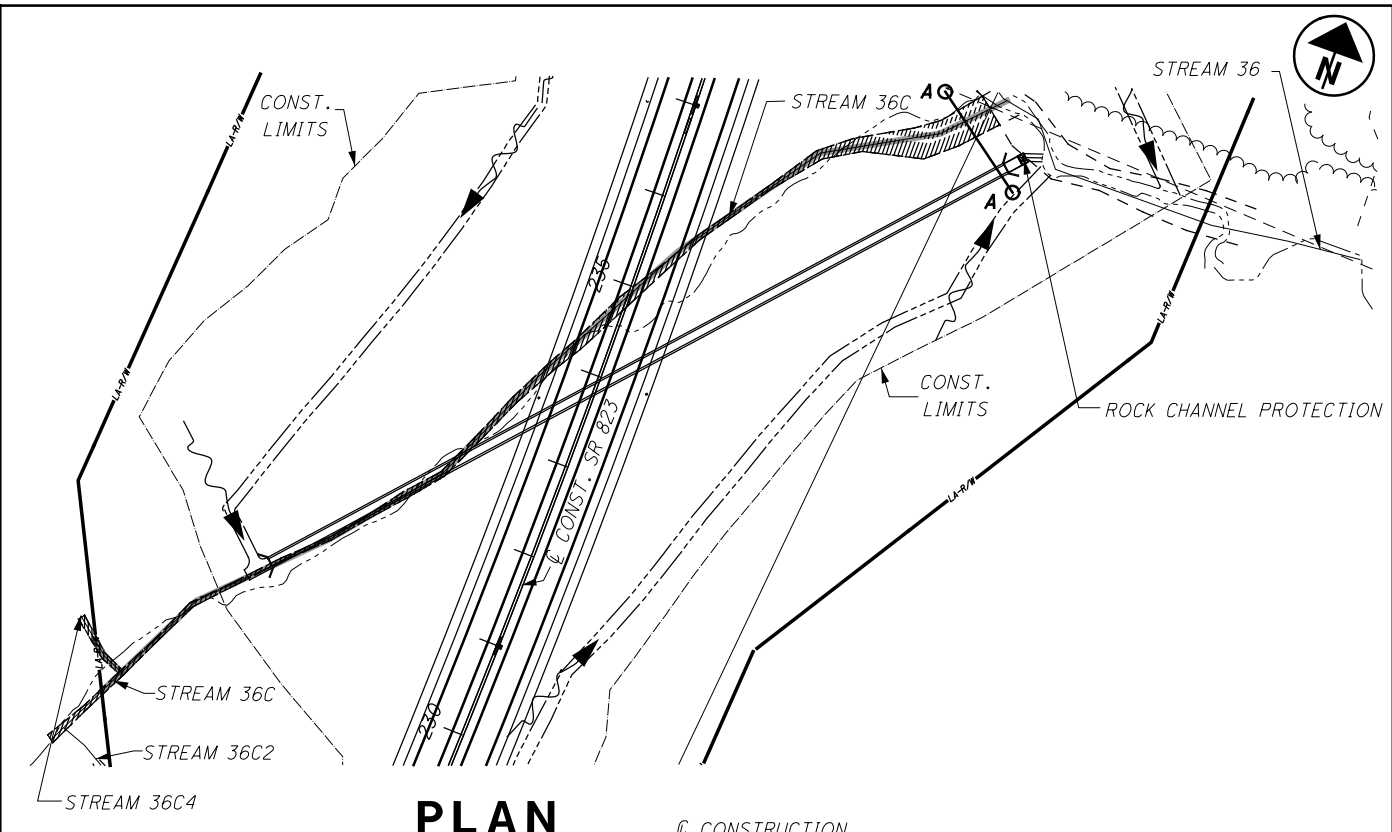
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 STREAM PROFILE: 1" = 50'  
 CROSS SECTION: 1" = 10'

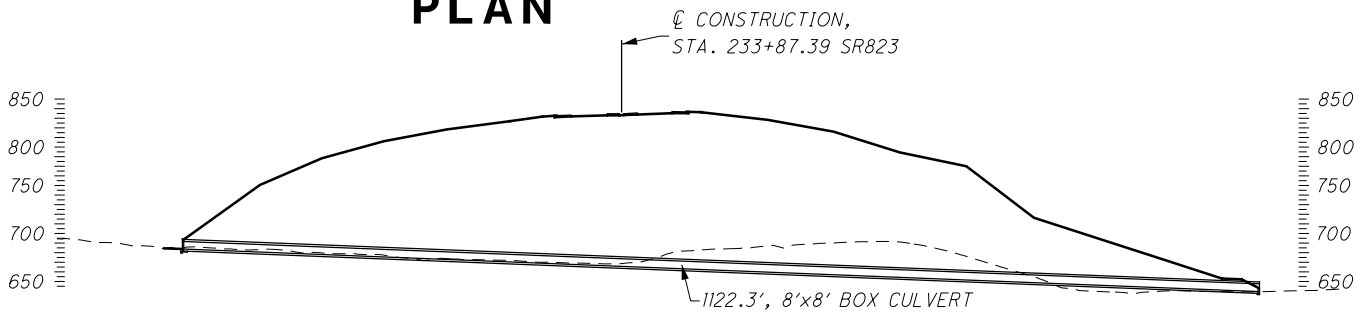
DATE: AUGUST 15, 2013

**FIGURE 3-70**





**PLAN**



**CULVERT PROFILE**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

**PROPERTY OWNERS:**  
 DOUGH McLAUGHLIN AND ERIC McLAUGHLIN  
 LINDA JEAN CORIELL WESSEL AND LYNN R. WESSEL

**STREAM 36C**

LENGTH OF IMPACT:	1146 LF
AREA EXCAVATED OR FILLED:	0.211 ACRE
EXCAVATION BELOW OHW:	68 CY
NET FILL BELOW OHW:	103 CY



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 36C**

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

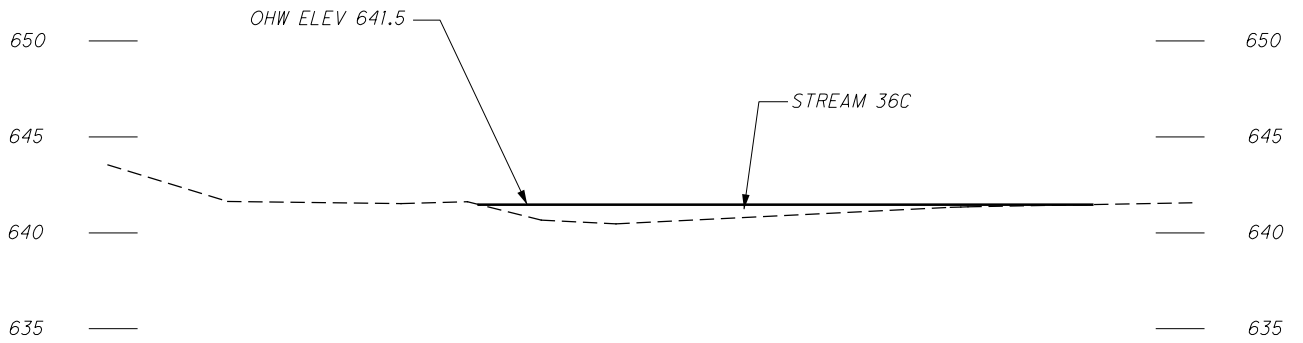
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

**FIGURE 3-71**

STREAM 36C



## CROSS SECTION A-A



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 36C

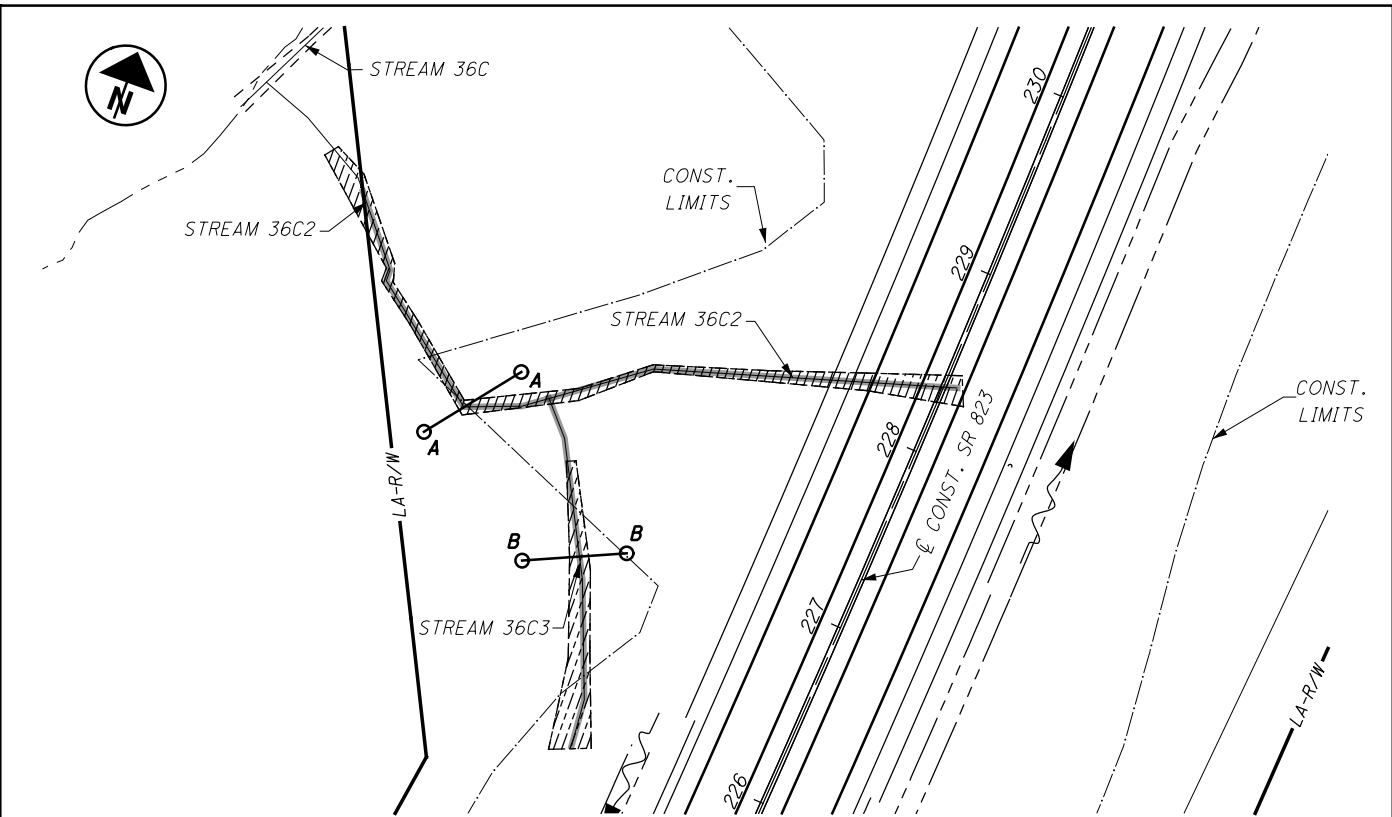
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-71A



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 LINDA JEAN CORIELL WESSEL AND LYNN R. WESSEL

**STREAM 36C2**

LENGTH OF IMPACT:	386 LF
AREA EXCAVATED OR FILLED:	0.044 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	36 CY

**STREAM 36C3**

LENGTH OF IMPACT:	184 LF
AREA EXCAVATED OR FILLED:	0.021 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	17 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 36C2  
 STREAM 36C3**

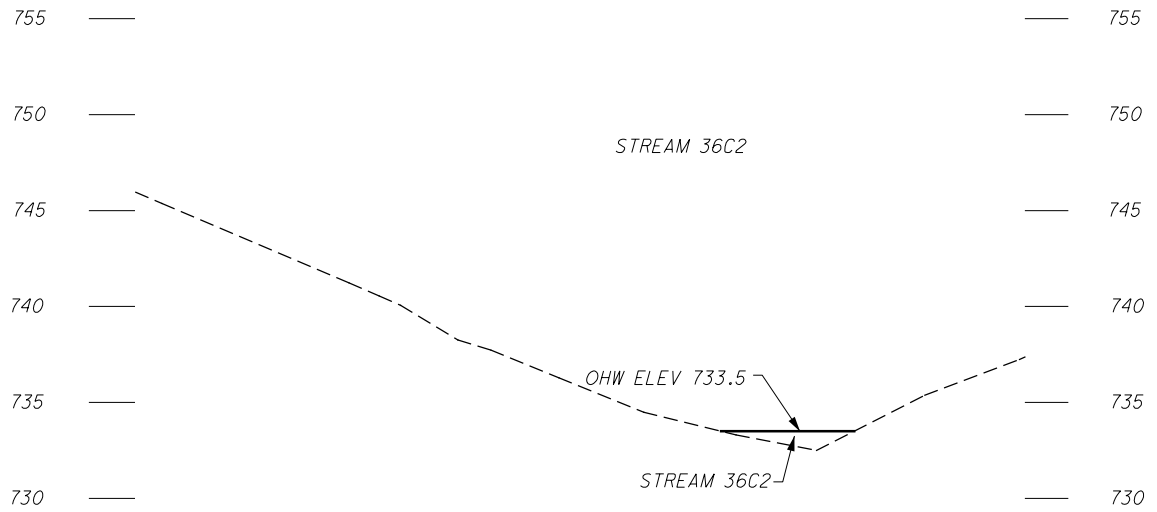
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

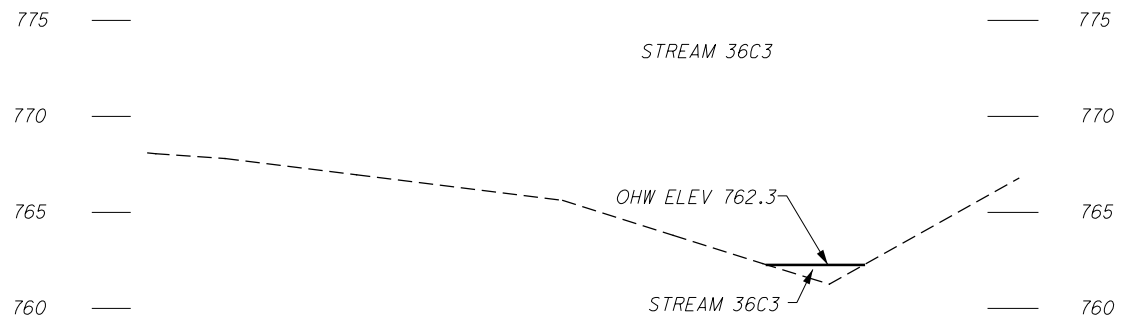
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-72**



### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 36C2 STREAM 36C3

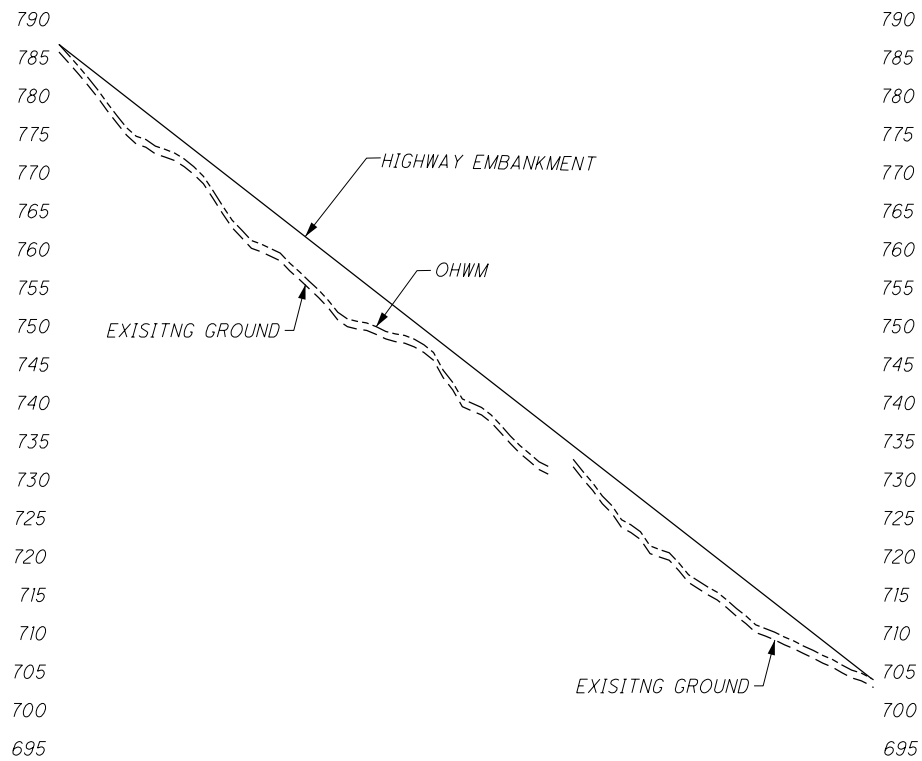
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

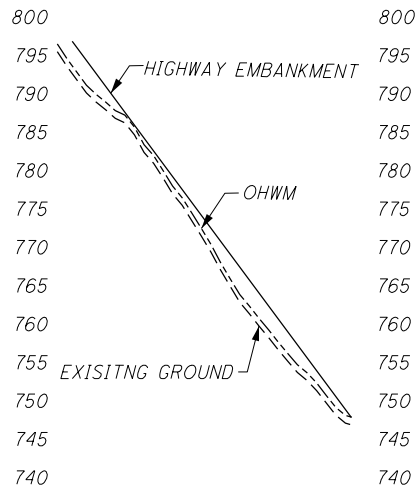
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-72A



### STREAM 36C2 PROFILE



### STREAM 36C3 PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 36C2 STREAM 36C3

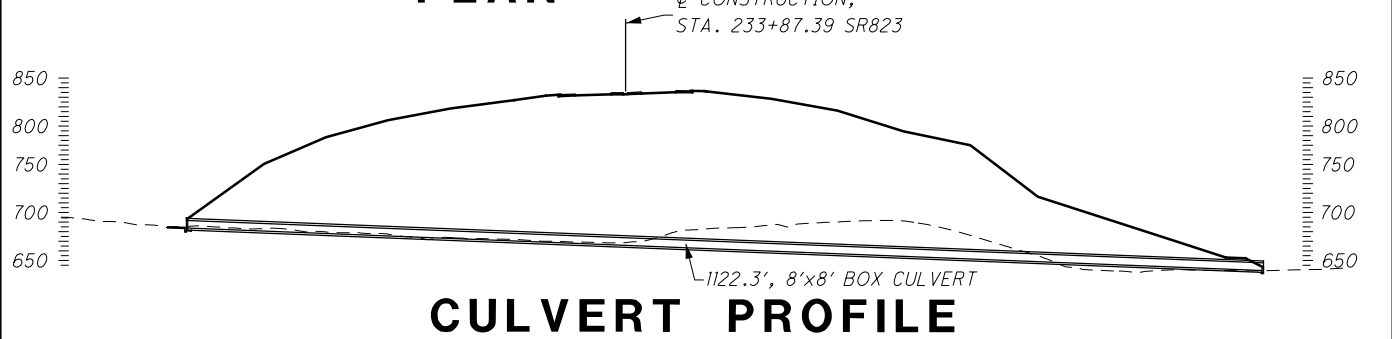
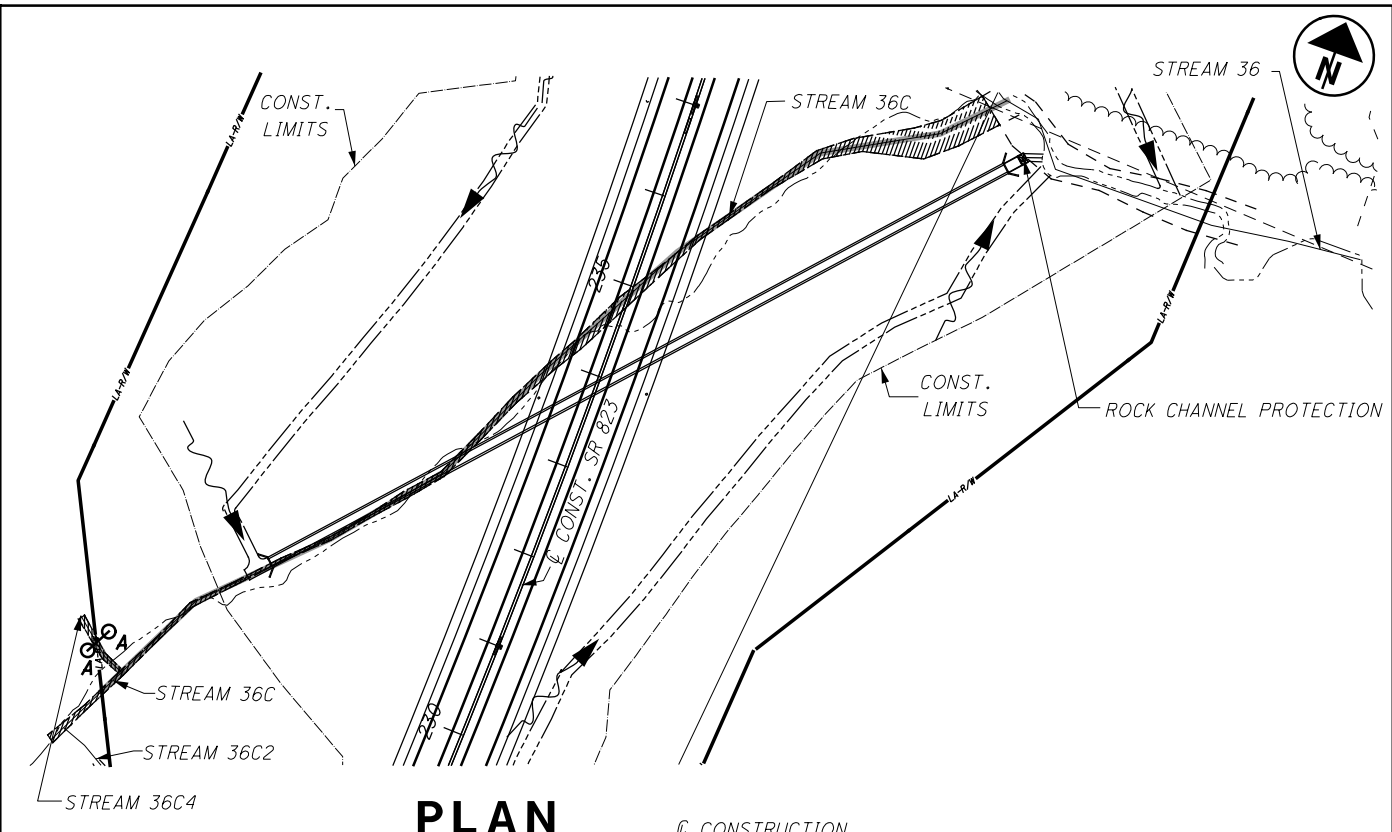
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1"=100'

DATE: AUGUST 15, 2013

# FIGURE 3-72B



- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 DOUGH McLAUGHLIN AND ERIC McLAUGHLIN  
 LINDA JEAN CORIELL WESSEL AND LYNN R. WESSEL

STREAM 36C4	
LENGTH OF IMPACT:	41 LF
AREA EXCAVATED OR FILLED:	0.002 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	2 CY



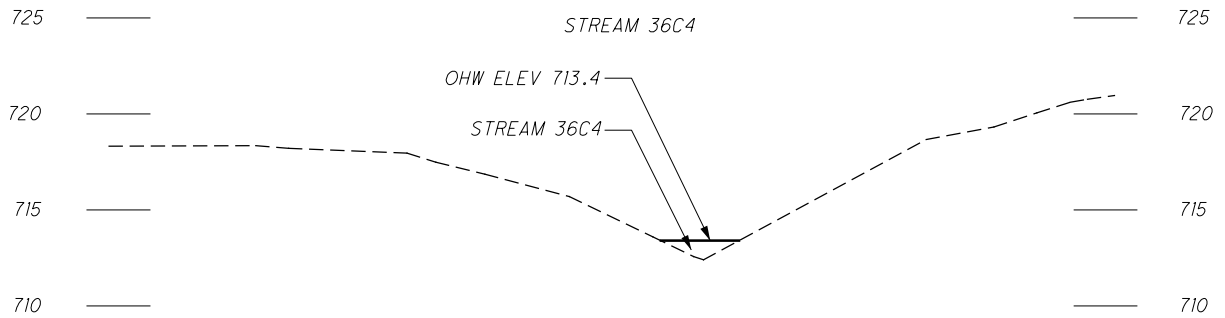
**PREFERRED ALTERNATIVE IMPACTS AT STREAM 36C4**

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

PLAN SCALE: 1" = 200'  
 CULVERT PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

**FIGURE 3-73**



**CROSS SECTION A-A**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 36C4**

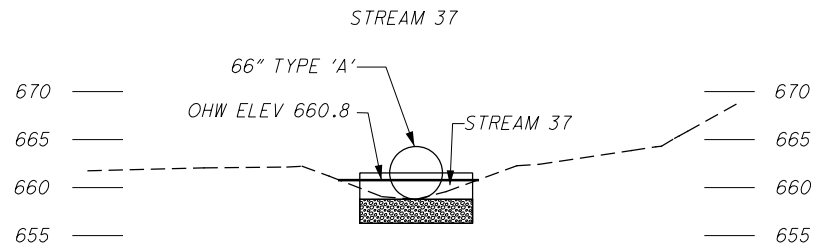
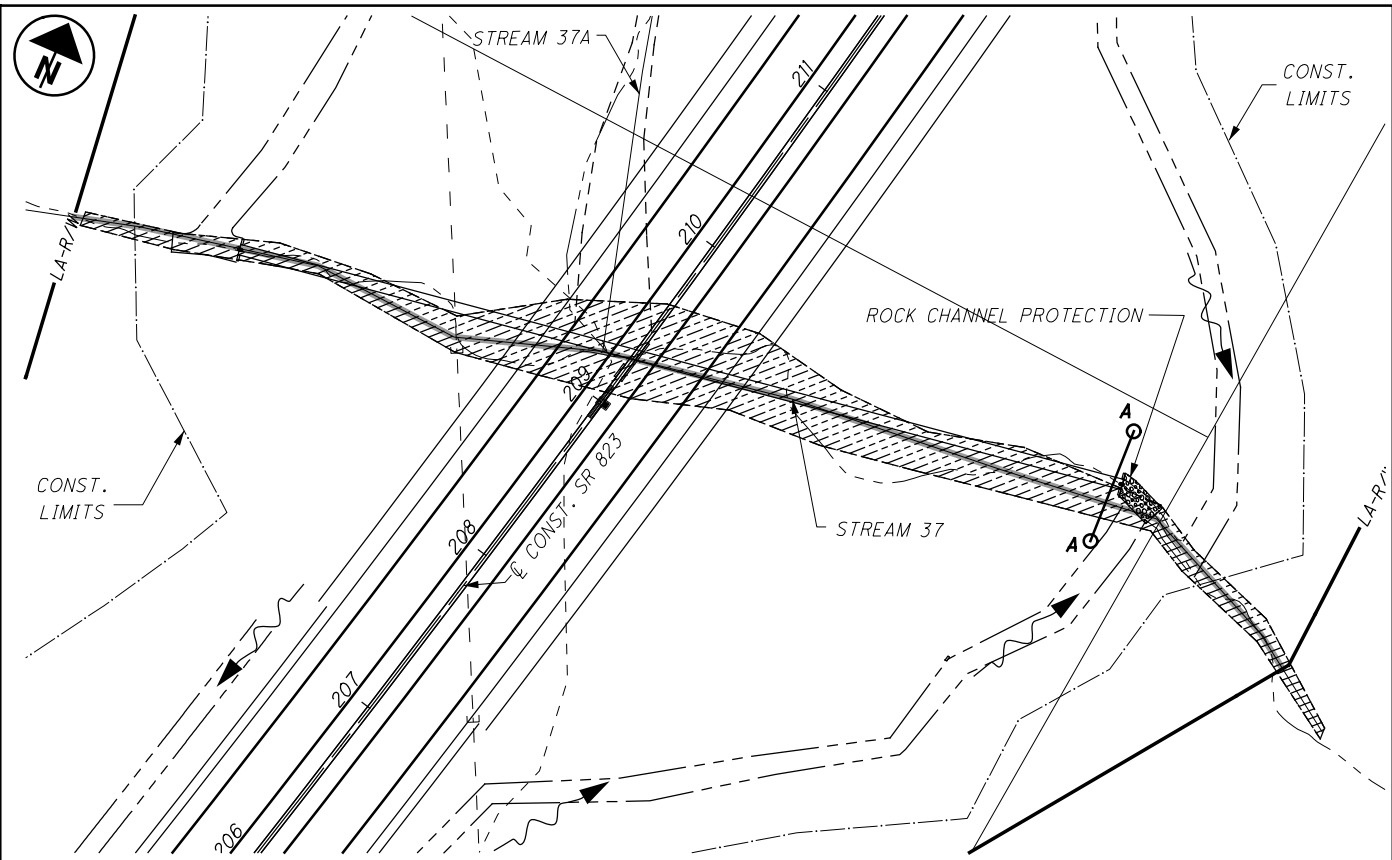
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
3-73A**



- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 WILLIAN T. BRYAN, HAROLD R. BRYAN,  
 BETTY GAY MAIDEN, PAMELA JOY BRYAN,  
 PATRICIA FAYE GILLILAND, RAYMOND EUGENE BRYAN,  
 HAROLD G. WILLIAMS

LENGTH OF IMPACT:	691 LF
AREA EXCAVATED OR FILLED:	0.115 ACRE
EXCAVATION BELOW OHW:	31 CY
NET FILL BELOW OHW:	49 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 37**

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

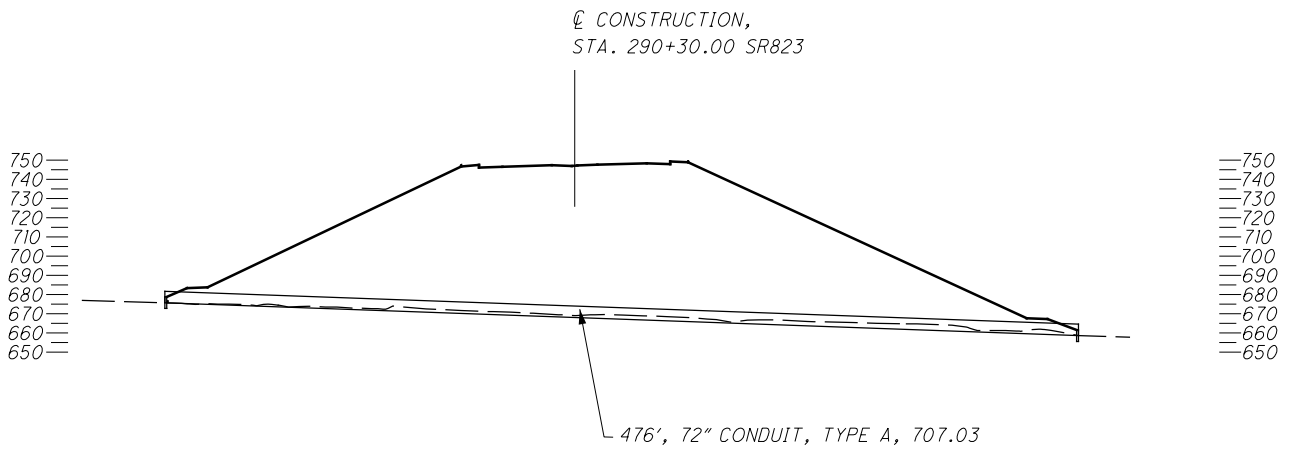
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-74**





**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 37**

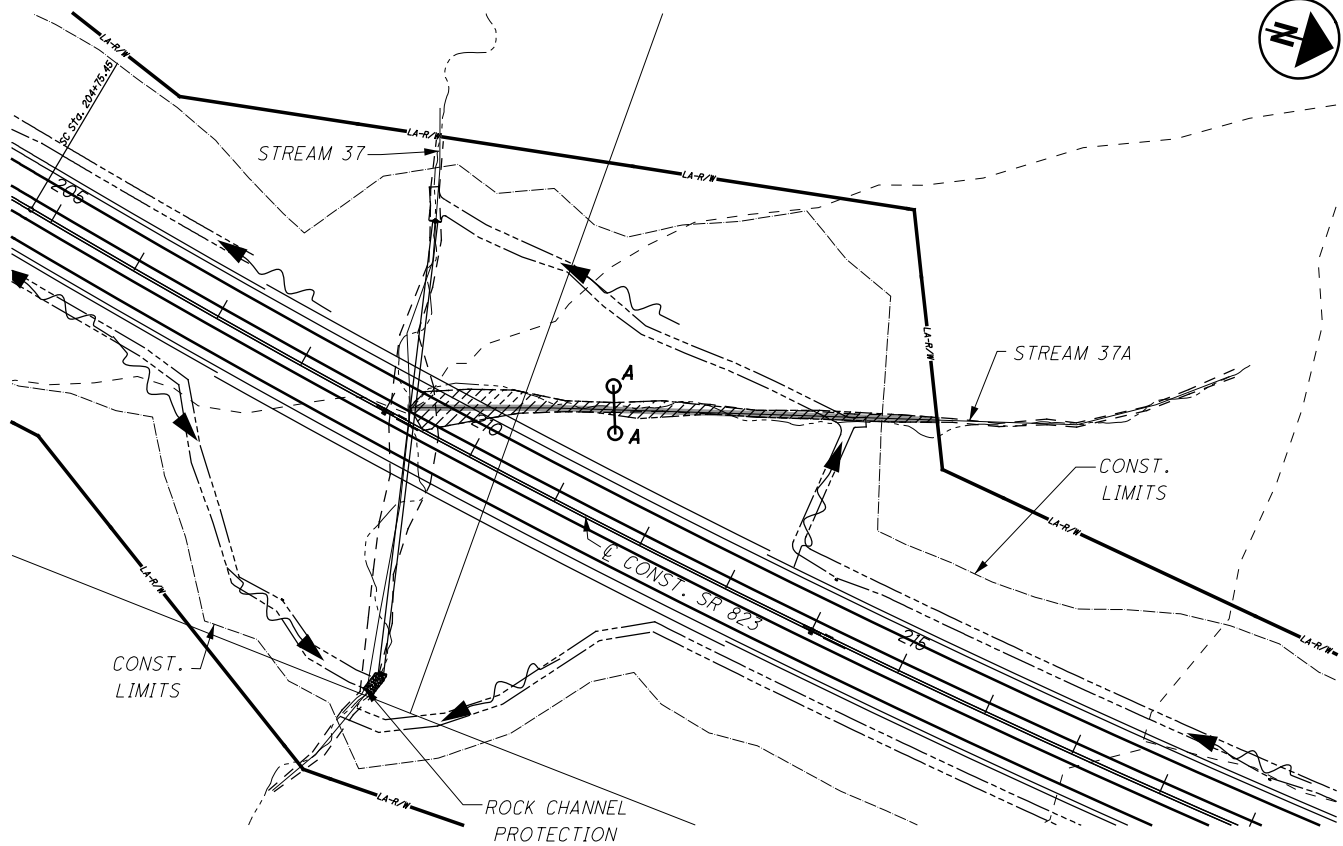
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

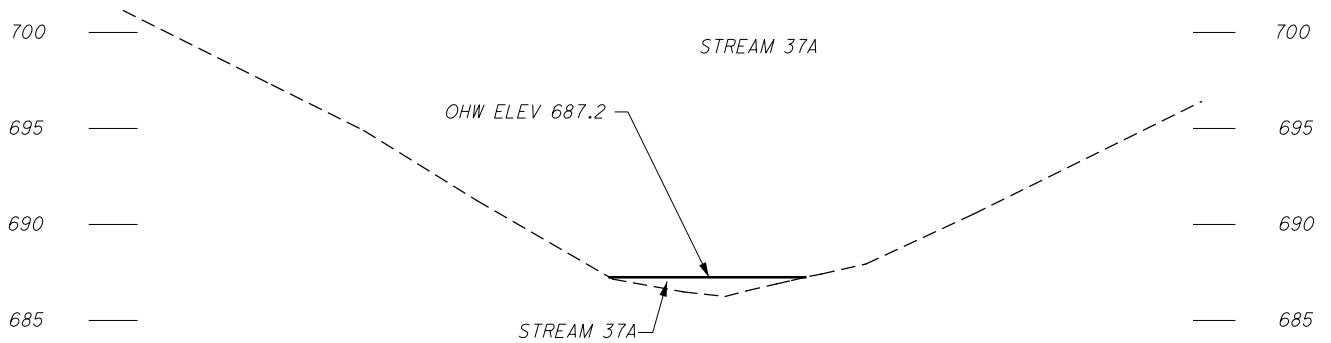
PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-74A**



### PLAN



### CROSS SECTION A-A

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH

OHWM

**PROPERTY OWNERS:**  
 HAROLD GAMPP, RONALD L. GAMPP,  
 DALE L. GAMPP, RALPH W. GAMPP, WILIAM T. BRYAN, PARTNERS  
 HAROLD R. BRYAN,  
 BETTY GAY MAIDEN, PAMELA JOY BRYAN,  
 PATRICIA FAYE FILLILAND, RAYMOND EUGENE BRYAN

LENGTH OF IMPACT:	549 LF
AREA EXCAVATED OR FILLED:	0.050 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	41 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 37A

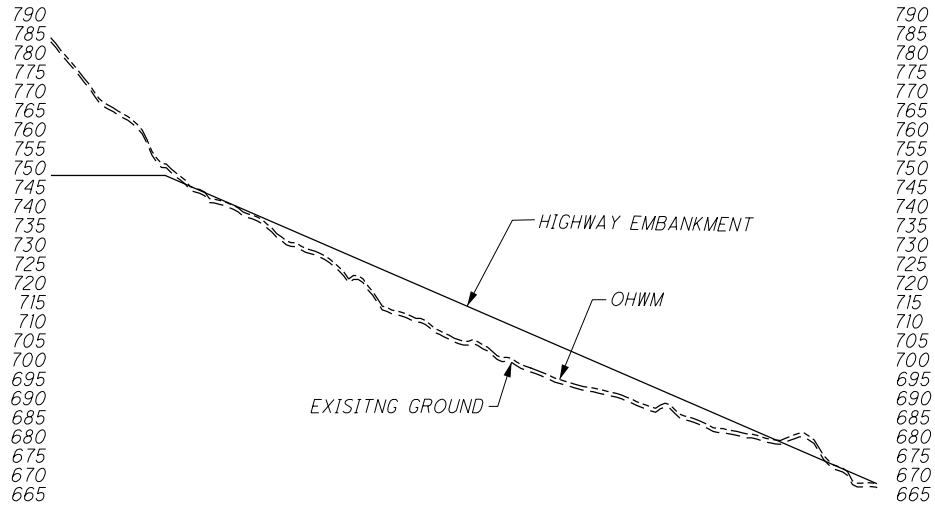
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-75



## STREAM 37A PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 37A

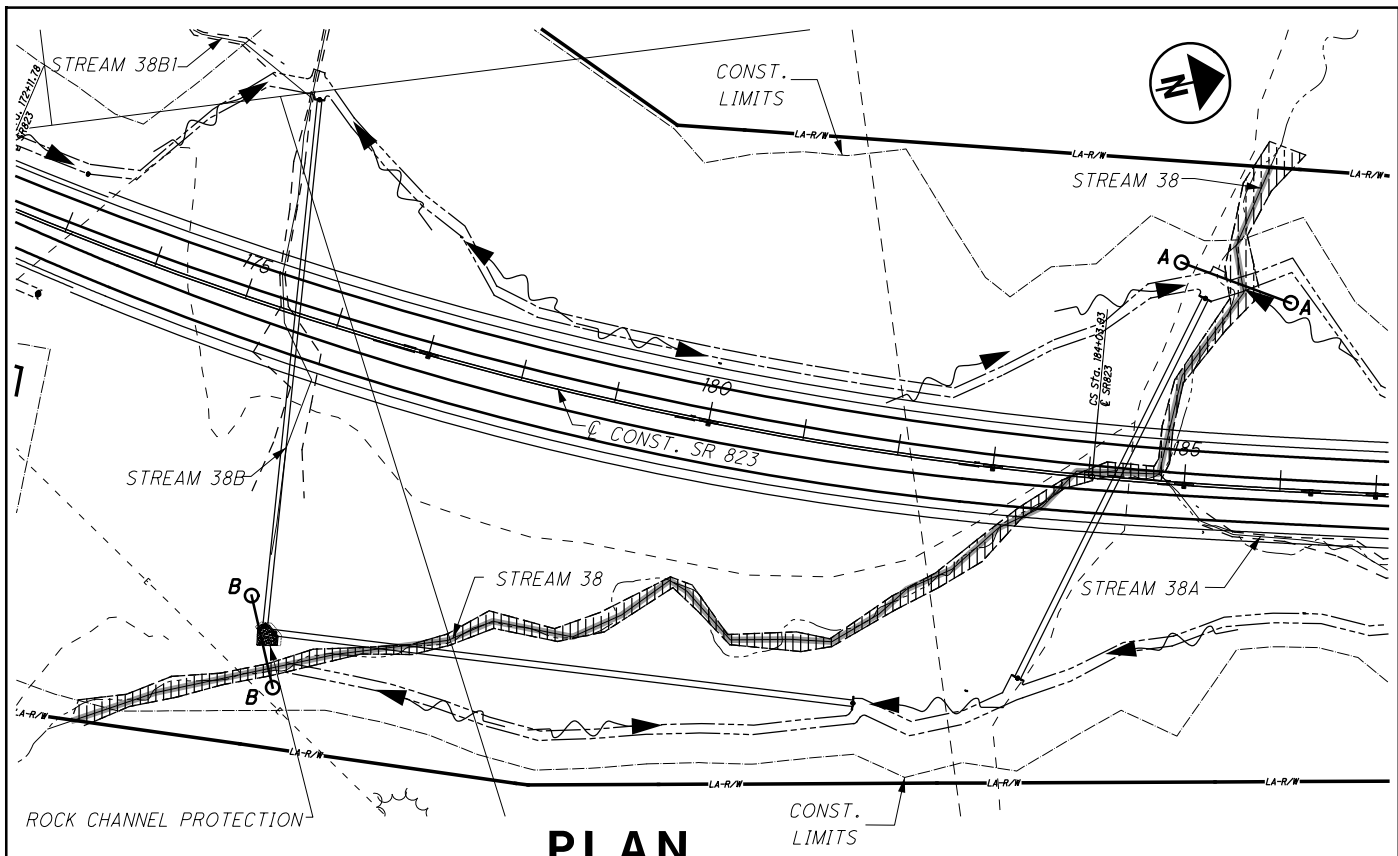
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1"=200'

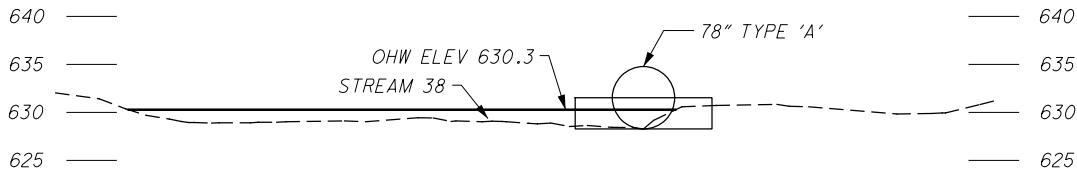
DATE: AUGUST 15, 2013

## FIGURE 3-75A

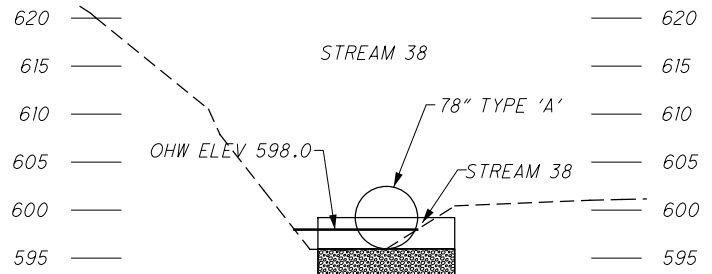


**PLAN**

STREAM 38



**CROSS SECTION A-A**



**CROSS SECTION B-B**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE, OF THE  
 EDITH L. KITZLER REVOCABLE TRUST U/A DATED AUGUST 17, 1993  
 SAMUAL S. WILLIAMS, JILL L. WILLIAMS

**LENGTH OF IMPACT:** 1600 LF  
**AREA EXCAVATED OR FILLED:** 0.340 ACRE  
**EXCAVATION BELOW OHW:** 6 CY  
**NET FILL BELOW OHW:** 520 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38**

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

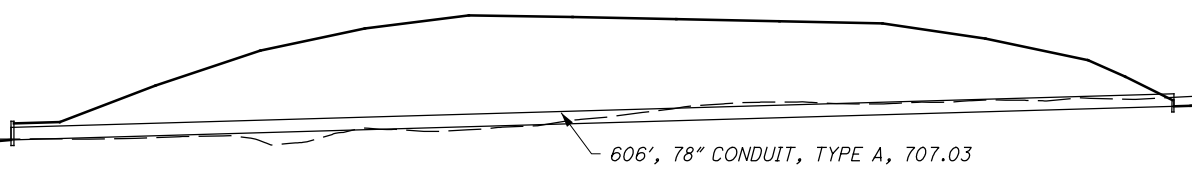
PLAN SCALE: 1" = 200'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-76**

700  
690  
680  
670  
660  
650  
640  
630  
620  
610  
600  
590  
580

700  
690  
680  
670  
660  
650  
640  
630  
620  
610  
600  
590  
580



606', 78" CONDUIT, TYPE A, 707.03

## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 38

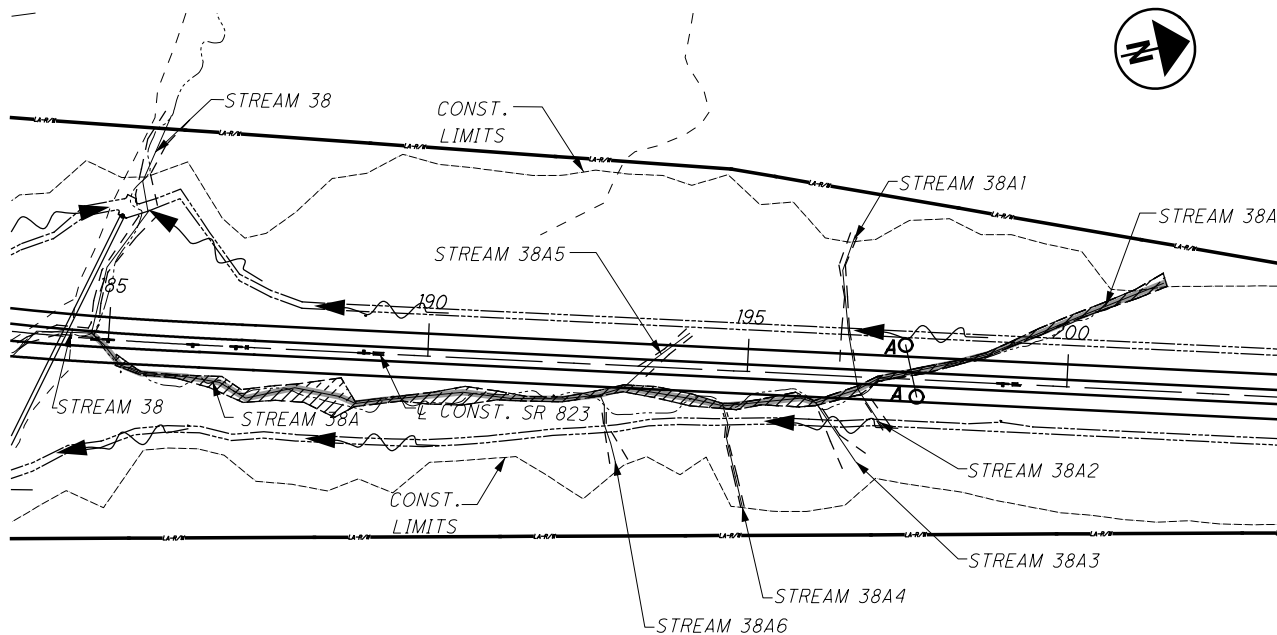
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

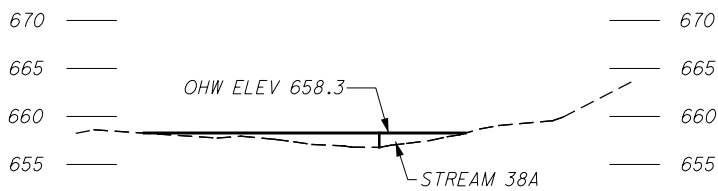
CULVERT SECTION 1"=100'

DATE: AUGUST 15, 2013

# FIGURE 3-76A



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE,  
 OF THE EDITH L. KITZLER REVOCABLE TRUST U/A  
 DATED AUGUST 17, 1993  
 WILLIAM T. BRYAN, HAROLD R. BYYAN, BETTY GAY  
 MAIDEN, PAMELA JOY BYRAN, PATRICIA FAYE  
 GILLILAND, RAYMOND EUGENE BRYAN

LENGTH OF IMPACT:	1755 LF
AREA EXCAVATED OR FILLED:	0.201 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	244 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38A**

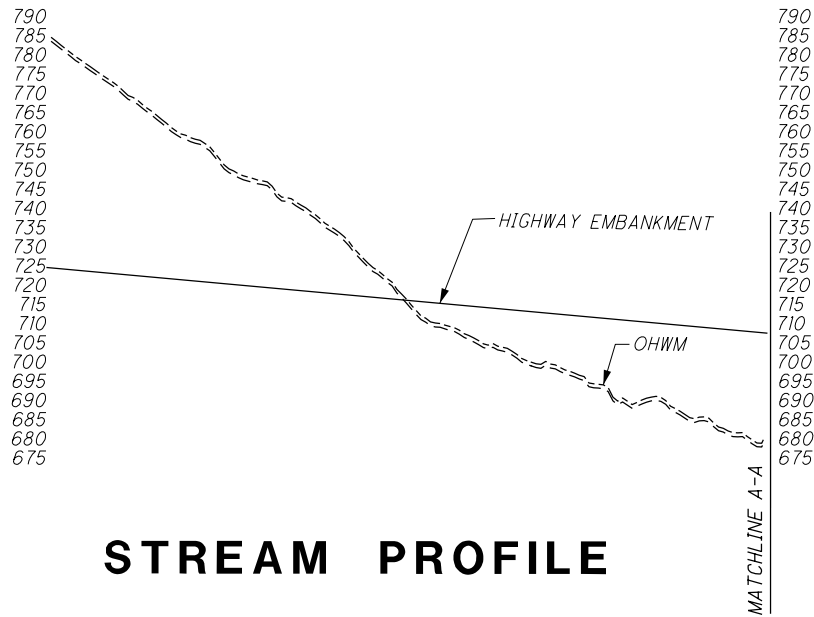
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

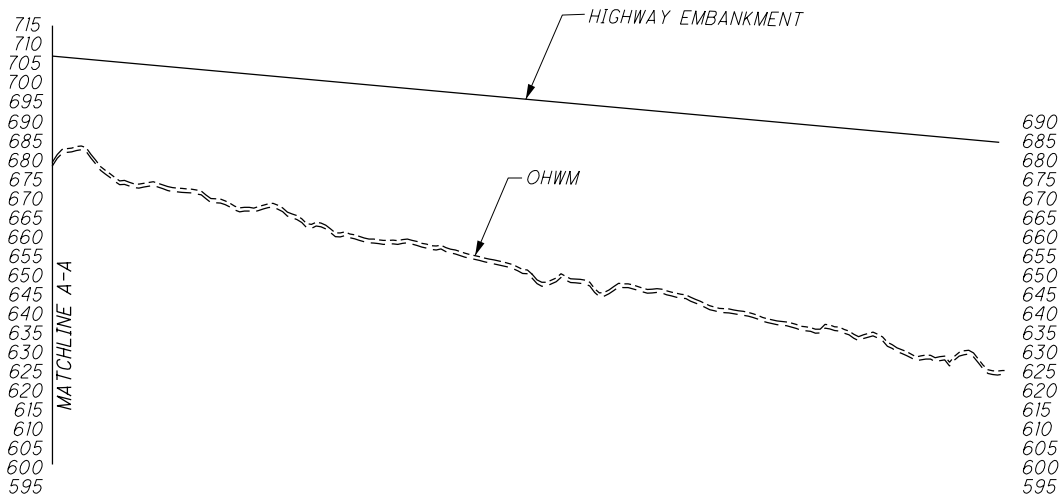
PLAN SCALE: 1" = 300'  
 CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-77**



## STREAM PROFILE



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 38A

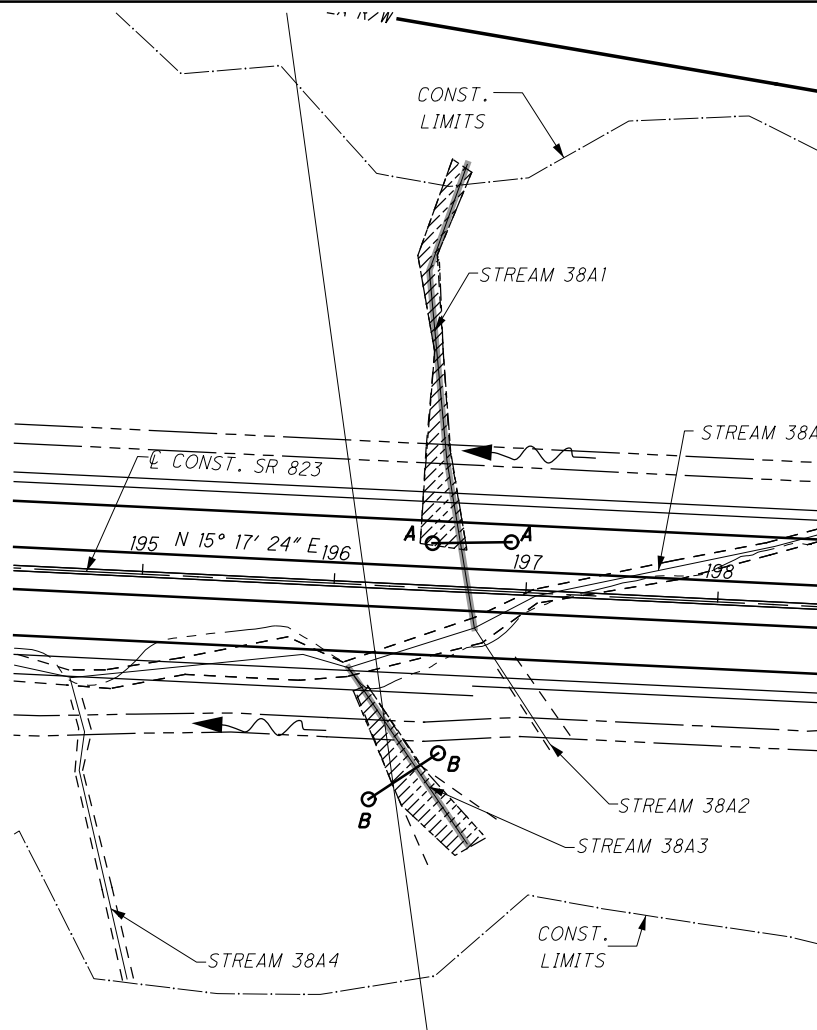
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE : 1" = 200'

DATE: AUGUST 15, 2013

# FIGURE 3-77A



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 WILIAM T. BRYAN, HAROLD R. BYYAN, BETTY GAY MAIDEN,  
 PAMELA JOY BYRAN, PATRICIA FAYE FILLILAND, RAYMOND  
 EUGENE BRYAN  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE, OF  
 THE EDITH L. KITZLER REVOCABLE TRUST U/A DATED  
 AUGUST 17TH, 1993

**STREAM 38A1**

LENGTH OF IMPACT:	247 LF
AREA EXCAVATED OR FILLED:	0.011 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	9 CY

**STREAM 38A3**

LENGTH OF IMPACT:	111 LF
AREA EXCAVATED OR FILLED:	0.005 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	4 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38A1  
 STREAM 38A3**

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

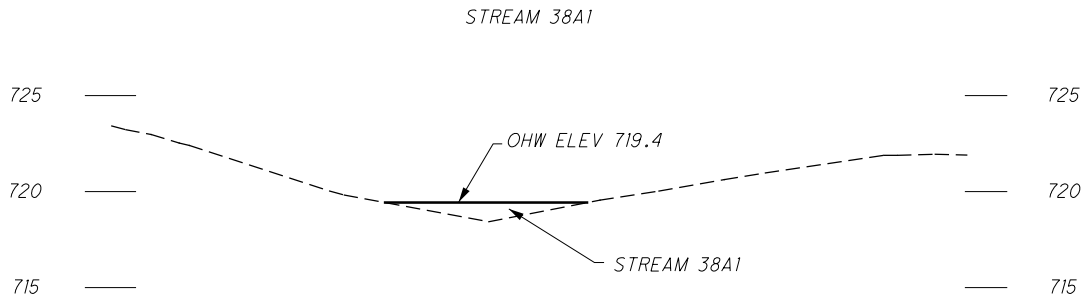
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

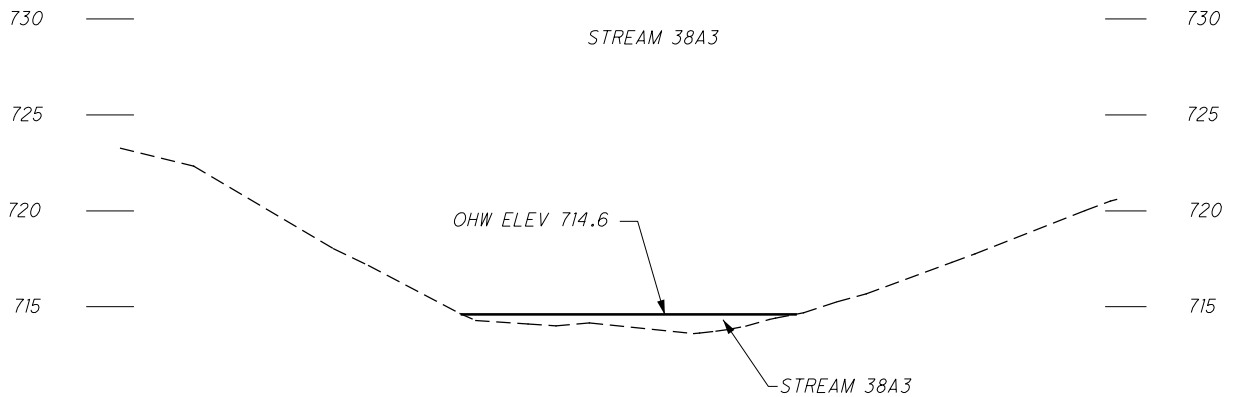
DATE: AUGUST 15, 2013

**FIGURE  
 3-78**





**CROSS SECTION A-A**



**CROSS SECTION B-B**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 38A1  
STREAM 38A3**

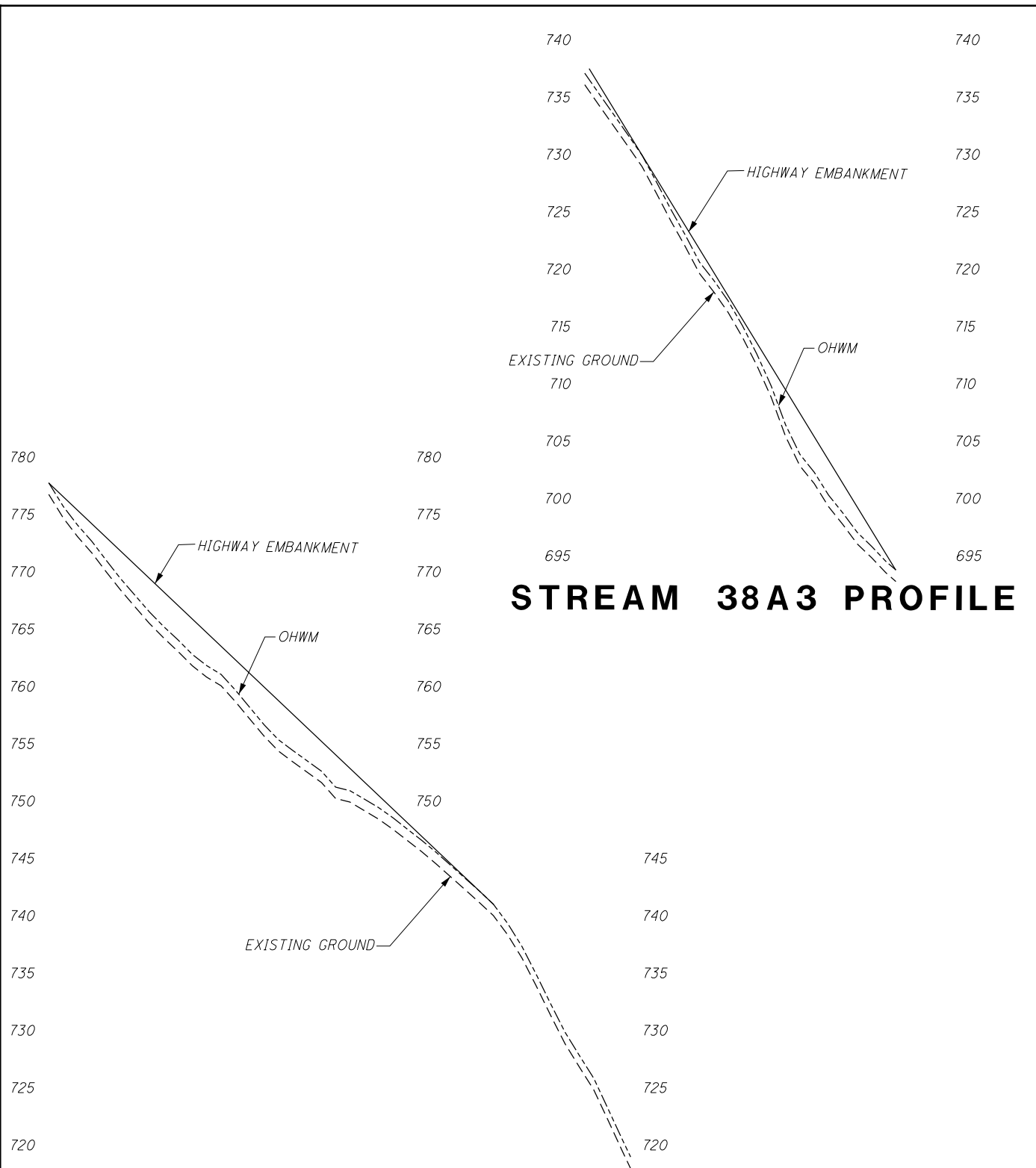
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
3-78A**



**STREAM 38A3 PROFILE**

**STREAM 38A1 PROFILE**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 38A1  
STREAM 38A3**

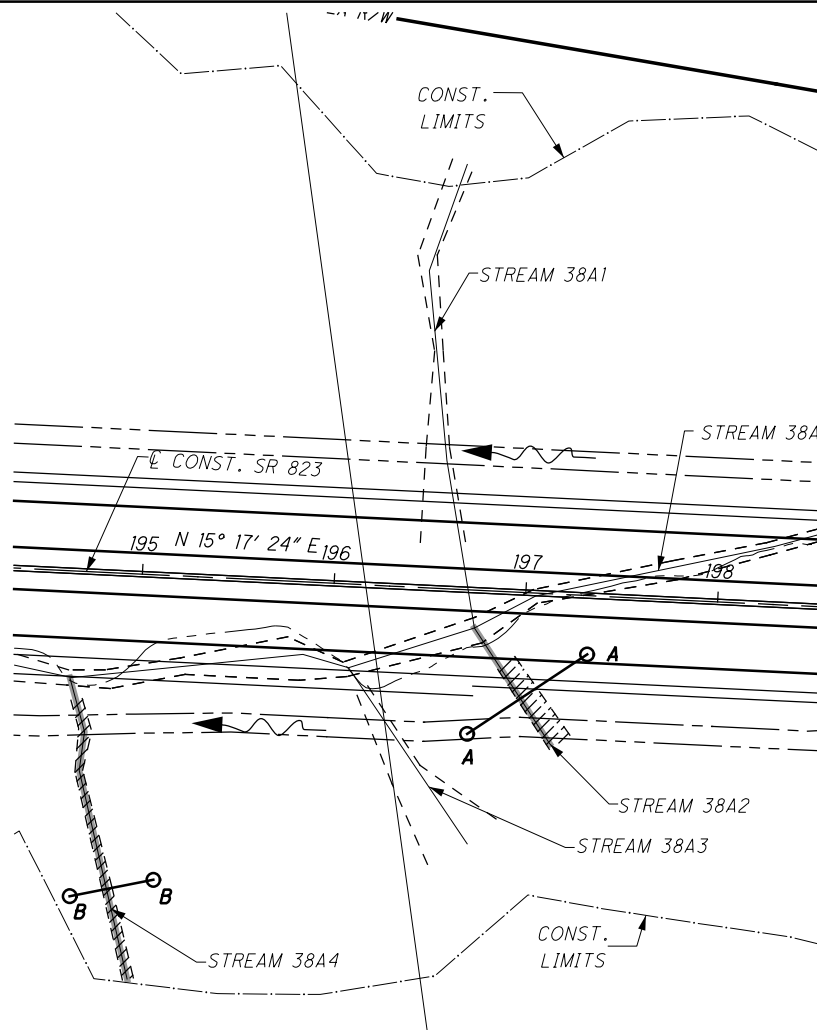
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-78B**



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 WILIAM T. BRYAN, HAROLD R. BYYAN, BETTY GAY MAIDEN,  
 PAMELA JOY BYRAN, PATRICIA FAYE FILLILAND, RAYMOND  
 EUGENE BRYAN  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE, OF  
 THE EDITH L. KITZLER REVOCABLE TRUST U/A DATED  
 AUGUST 17TH, 1993

**STREAM 38A2**

LENGTH OF IMPACT:	72 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	3 CY

**STREAM 38A4**

LENGTH OF IMPACT:	161 LF
AREA EXCAVATED OR FILLED:	0.015 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	12 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38A2  
 STREAM 38A4**

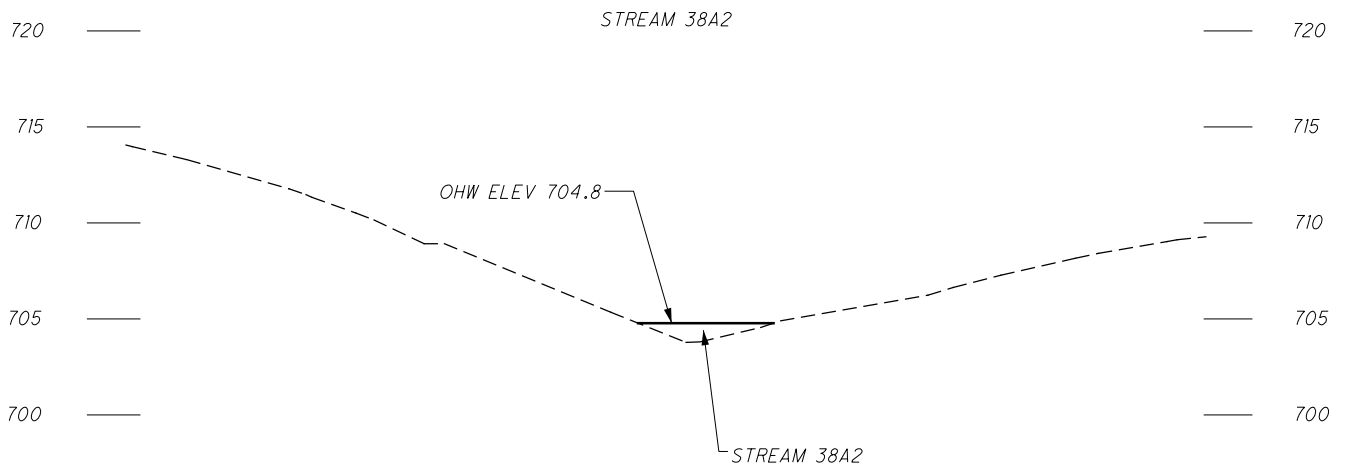
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

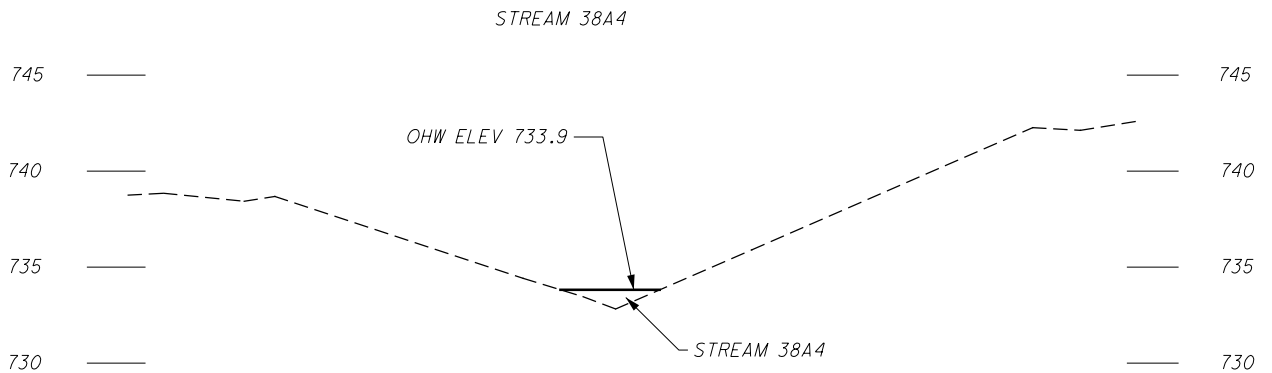
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-79**



### CROSS SECTION A-A



### CROSS SECTION B-B



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 38A2 STREAM 38A4

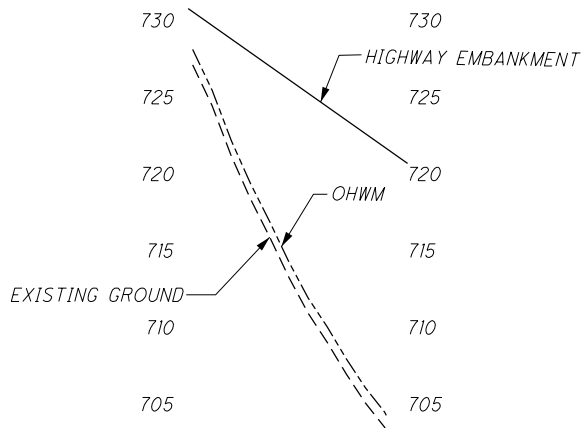
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

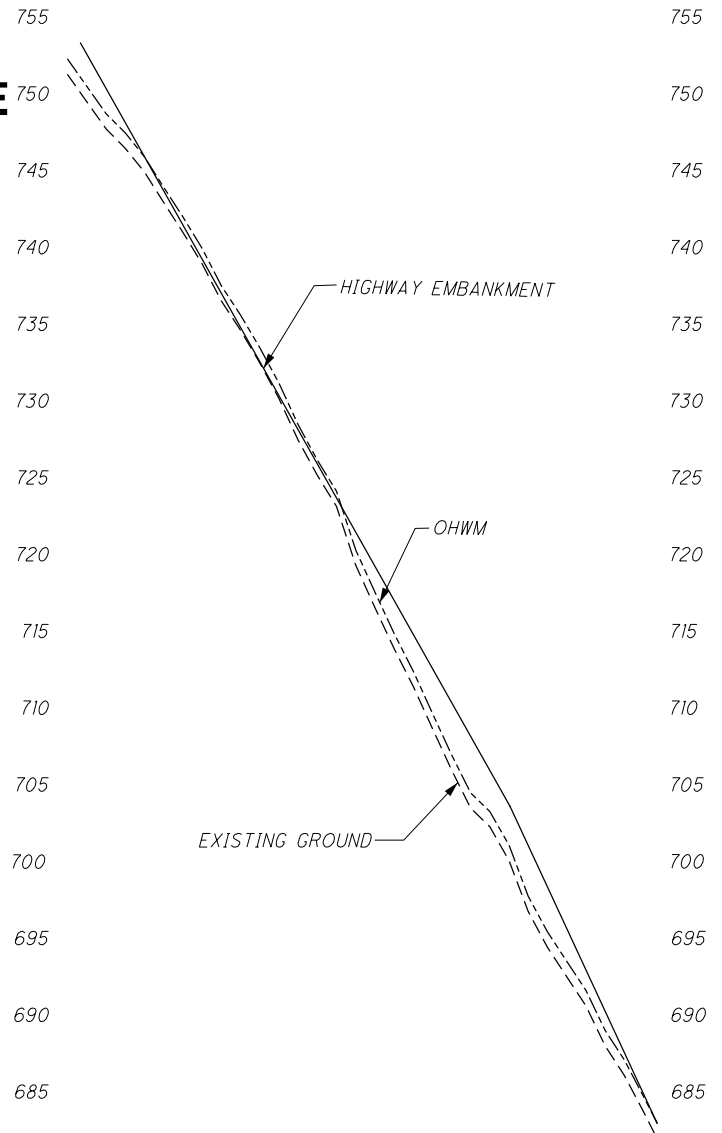
CROSS SECTION: 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-79A



## STREAM 38A2 PROFILE



## STREAM 38A4 PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 38A2 STREAM 38A4

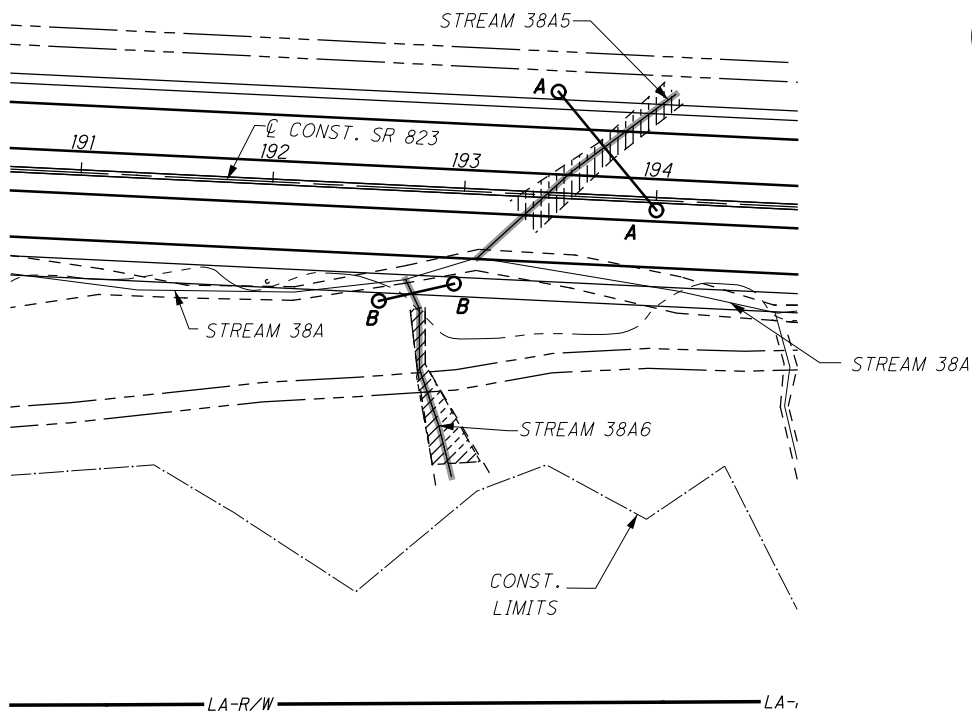
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

## FIGURE 3-79B



**PLAN**

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - OHWM

PROPERTY OWNERS:  
 RONALD D. CORIELL AND EDITH L. KITZLER  
 TRUSTEE, OF THE EDITH L. KITZLER REVOCABLE  
 TRUST U/A DATED AUGUST 17TH, 1993

**STREAM 38A5**

LENGTH OF IMPACT:	134 LF
AREA EXCAVATED OR FILLED:	0.006 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	5 CY

**STREAM 38A6**

LENGTH OF IMPACT:	107 LF
AREA EXCAVATED OR FILLED:	0.002 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	2 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38A5  
 STREAM 38A6**

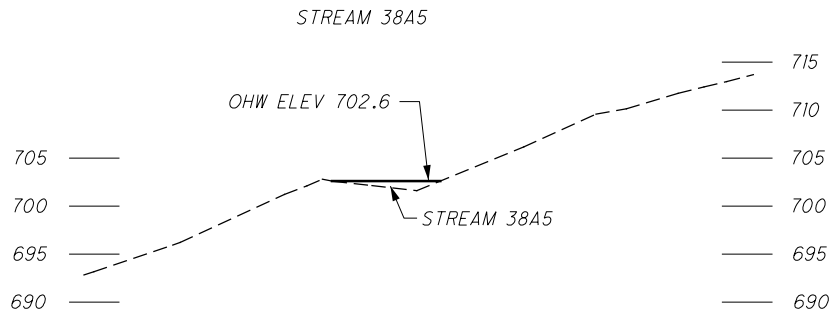
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

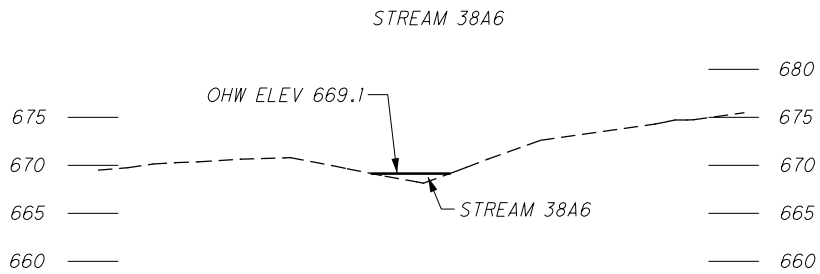
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-80**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 38A5  
STREAM 38A6**

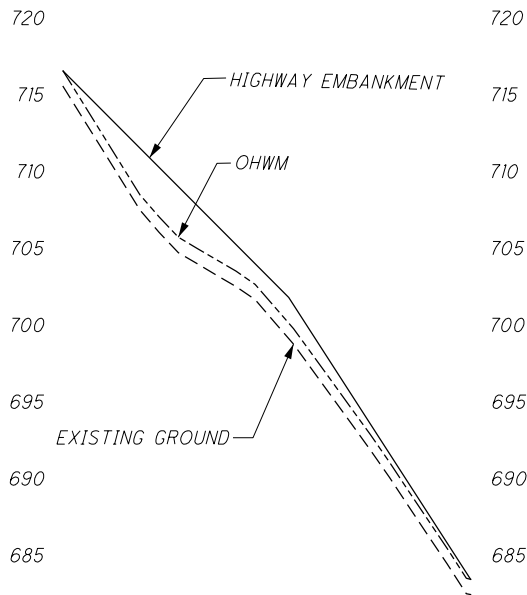
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

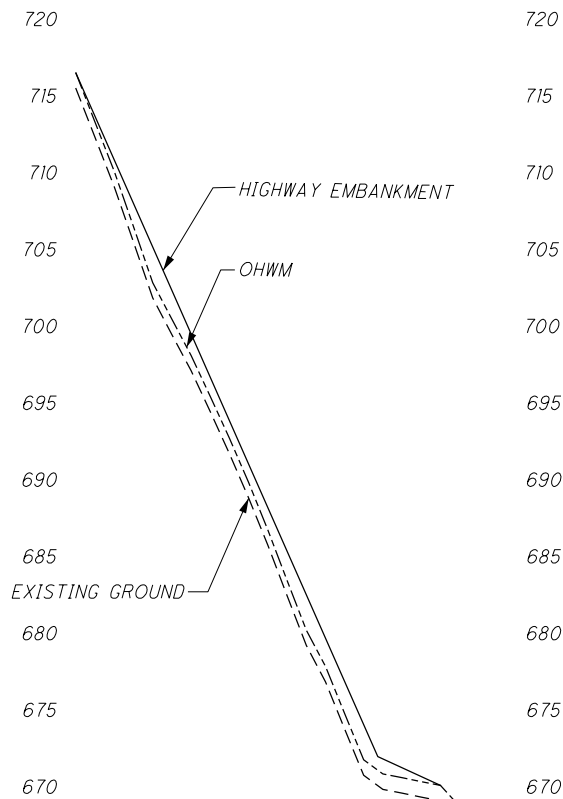
CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
3-80A**



### STREAM 38A5 PROFILE



### STREAM 38A6 PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 38A5 STREAM 38A6

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

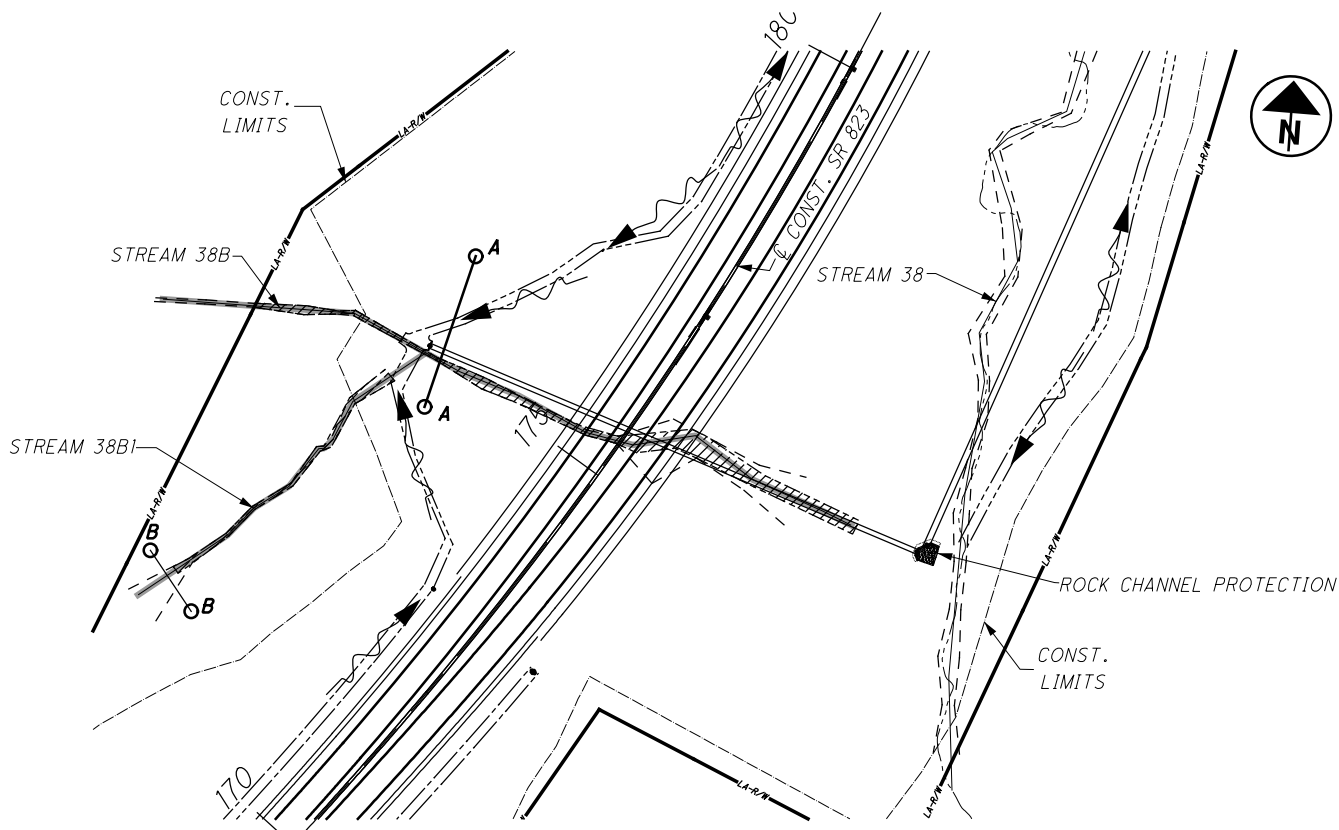
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

STREAM PROFILE 1"=50'

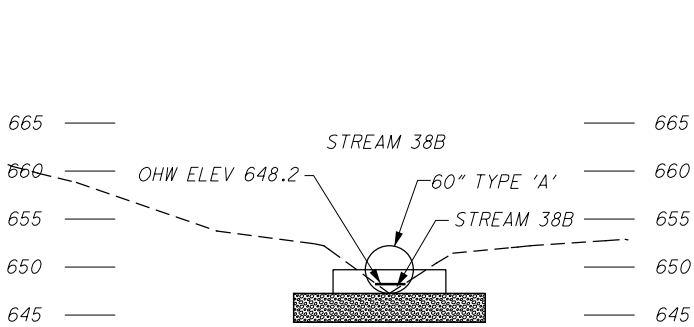
DATE: AUGUST 15, 2013

# FIGURE 3-80B





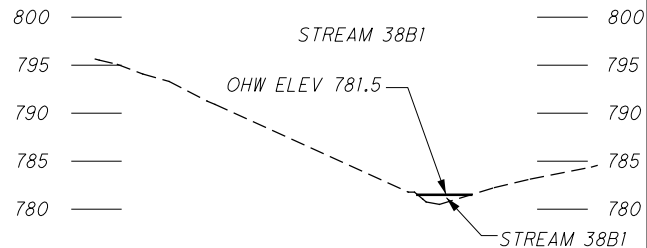
**PLAN**



**CROSS SECTION A-A**

- LEGEND
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE,  
 OF THE EDITH L. KITZLER REVOCABLE TRUST U/A  
 DATED AUGUST 17, 1993



**CROSS SECTION B-B**

**STREAM 38B**

LENGTH OF IMPACT:	681 LF
AREA EXCAVATED OR FILLED:	0.132 ACRE
EXCAVATION BELOW OHW:	47 CY
NET FILL BELOW OHW:	70 CY

**STREAM 38B1**

LENGTH OF IMPACT:	398 LF
AREA EXCAVATED OR FILLED:	0.046 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	37 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38B  
 STREAM 38B1**

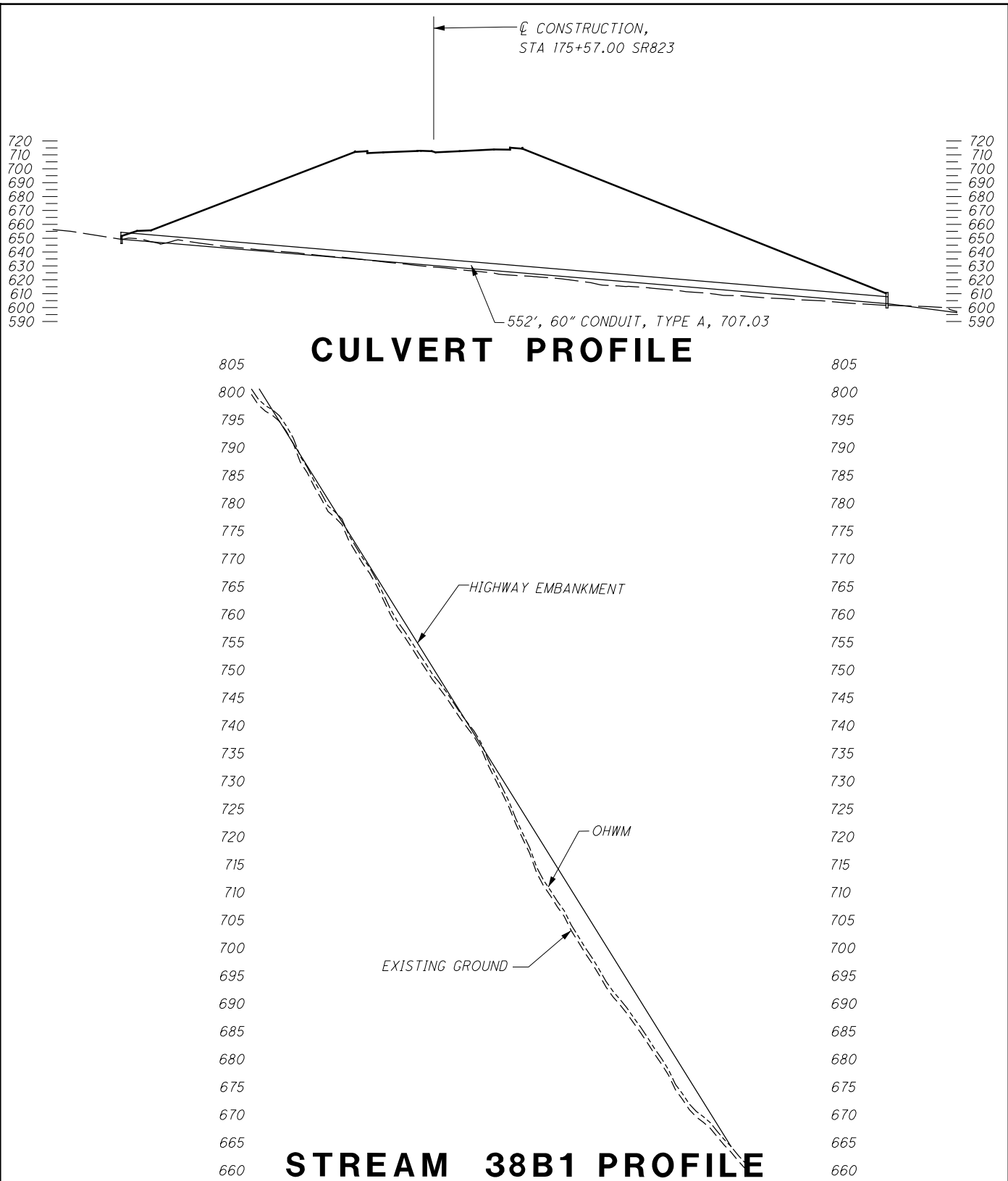
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION: 1"=20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-81**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 38B  
STREAM 38B1**

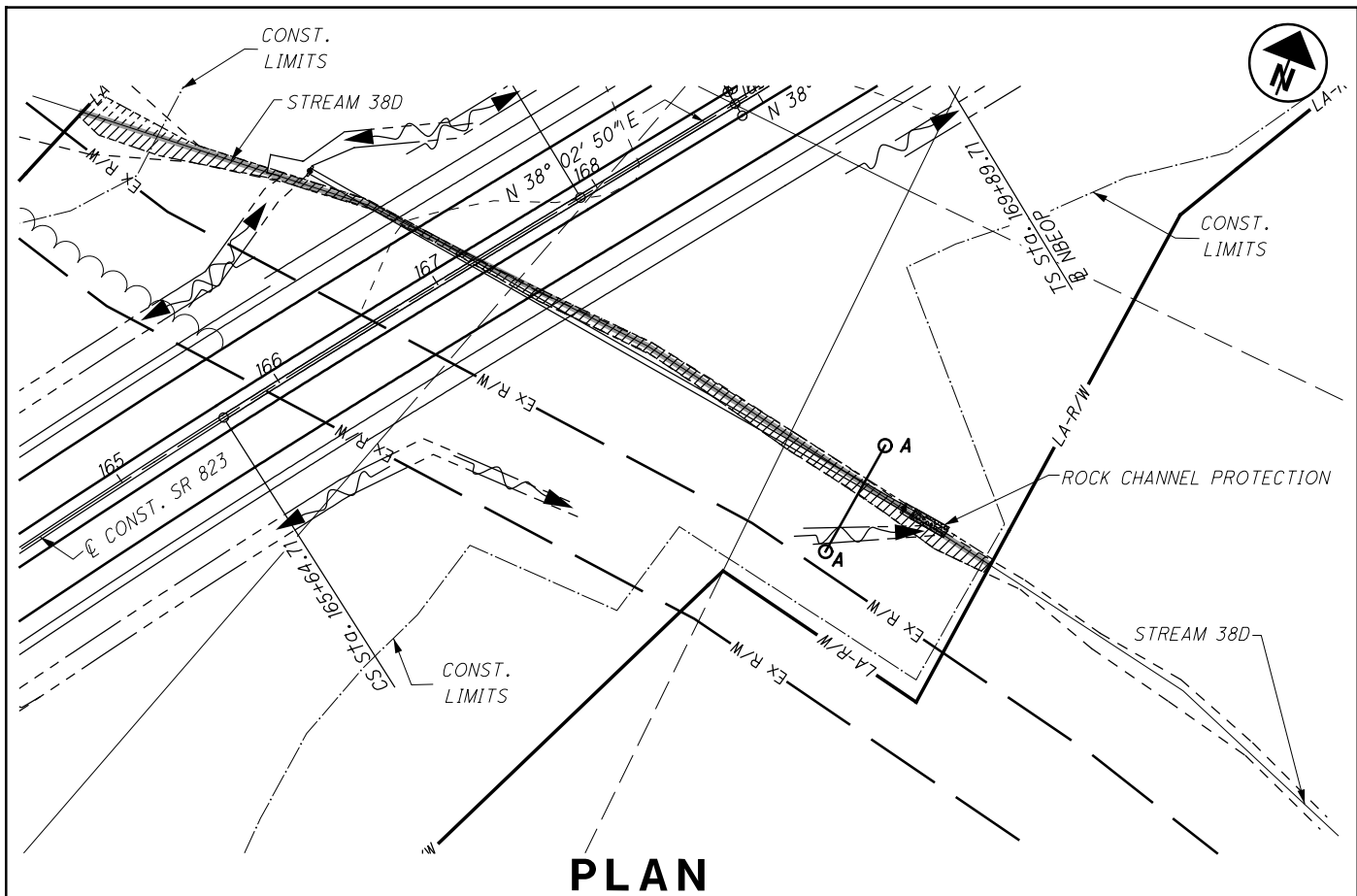
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

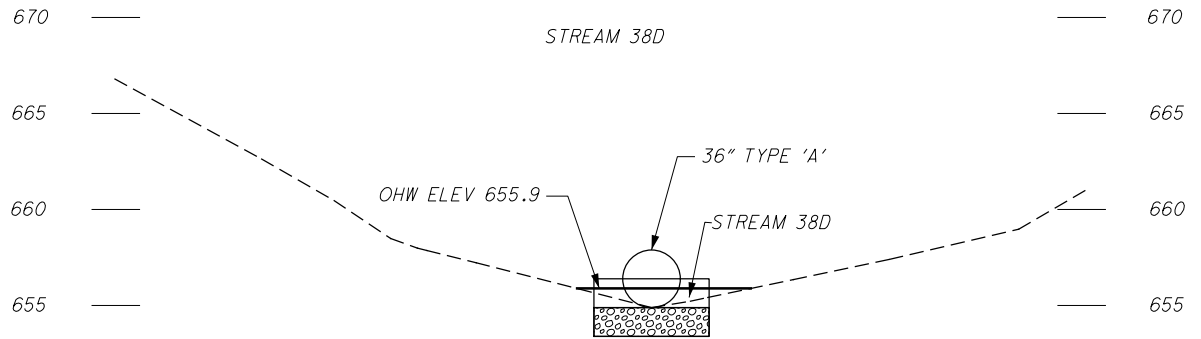
CULVERT PROFILE: 1"=100'  
STREAM PROFILE: 1"=100'

DATE: AUGUST 15, 2013

**FIGURE  
3-81A**



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 RONALD D. CORIELL  
 MICHAEL E. BLACKBURN

LENGTH OF IMPACT:	548 LF
AREA EXCAVATED OR FILLED:	0.068 ACRE
EXCAVATION BELOW OHW:	8 CY
NET FILL BELOW OHW:	24 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 38D**

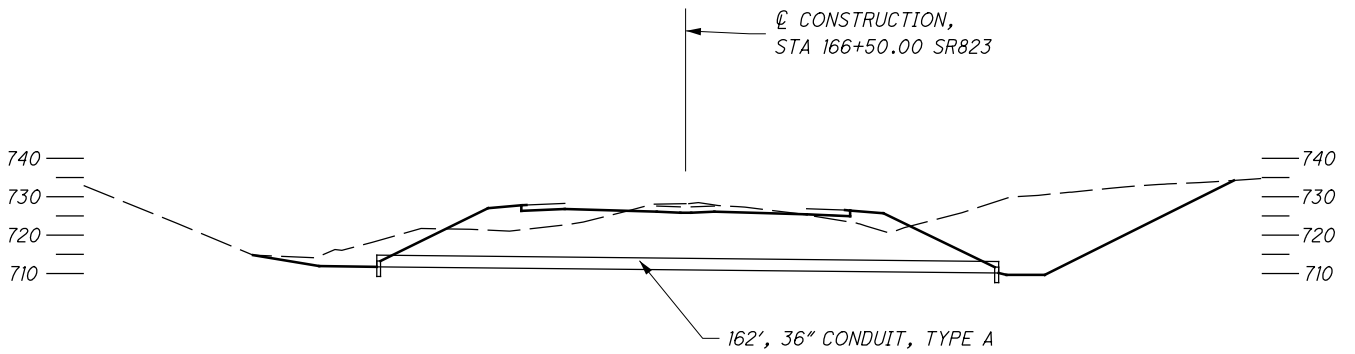
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1"=10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-82**



## CULVERT PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 38D

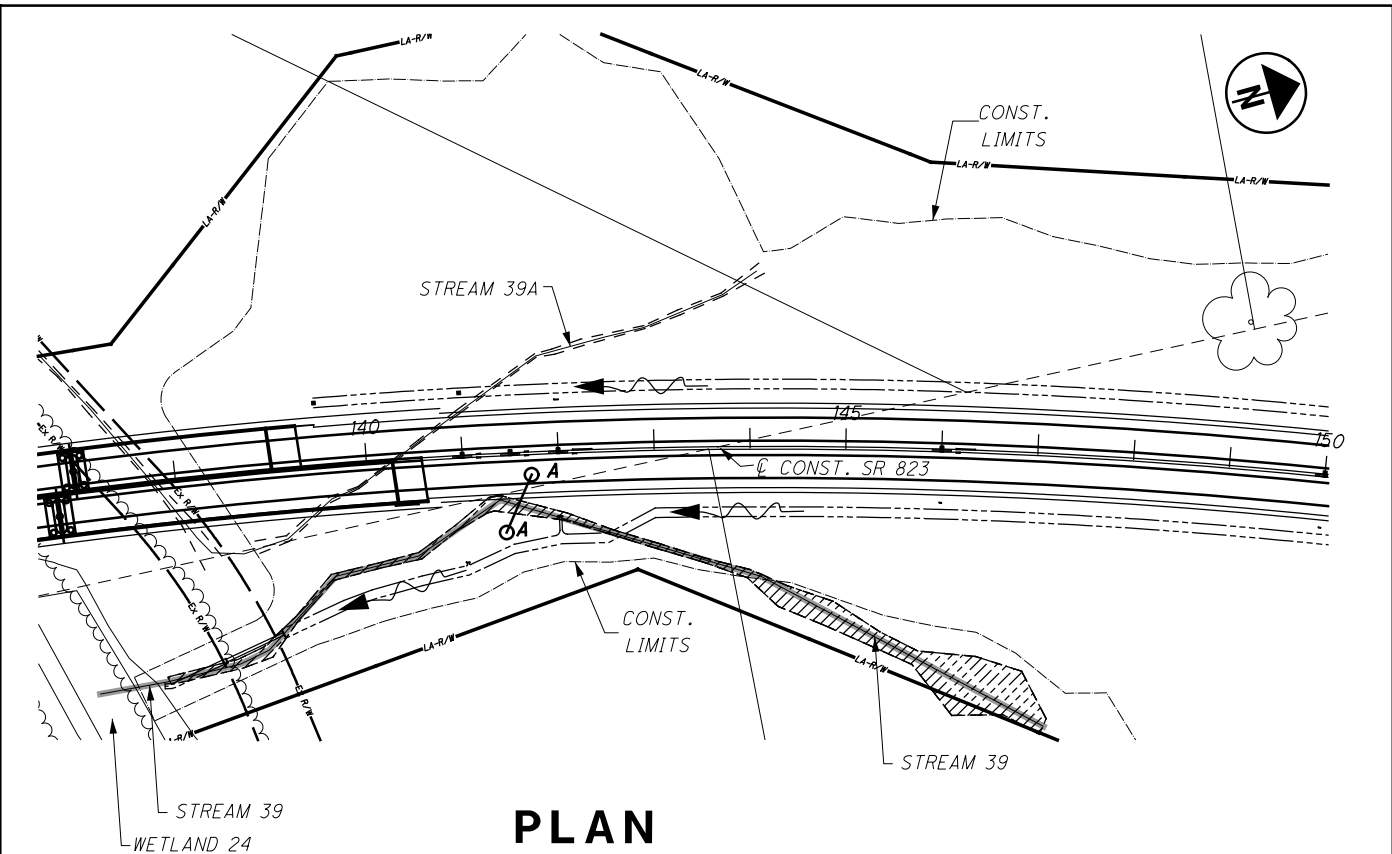
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

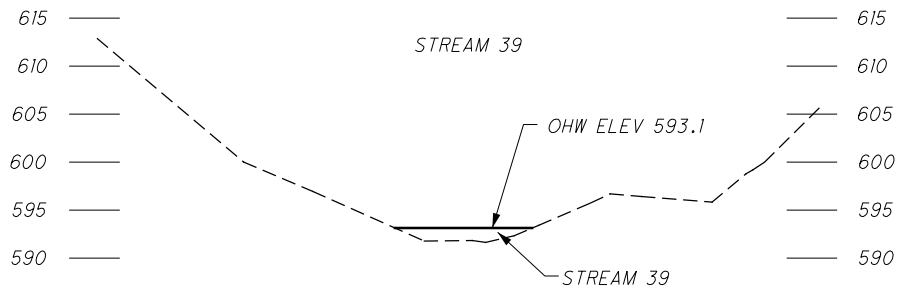
CULVERT PROFILE: 1"=50'

DATE: AUGUST 15, 2013

## FIGURE 3-82A




## PLAN



## CROSS SECTION A-A

### LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
-  OHWM

PROPERTY OWNERS:  
KIMBERLY R. SANSON  
DON HADSELL

LENGTH OF IMPACT: 1095 LF  
AREA EXCAVATED OR FILLED: 0.176 ACRE  
EXCAVATION BELOW OHW: 0 CY  
NET FILL BELOW OHW: 213 CY



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 39

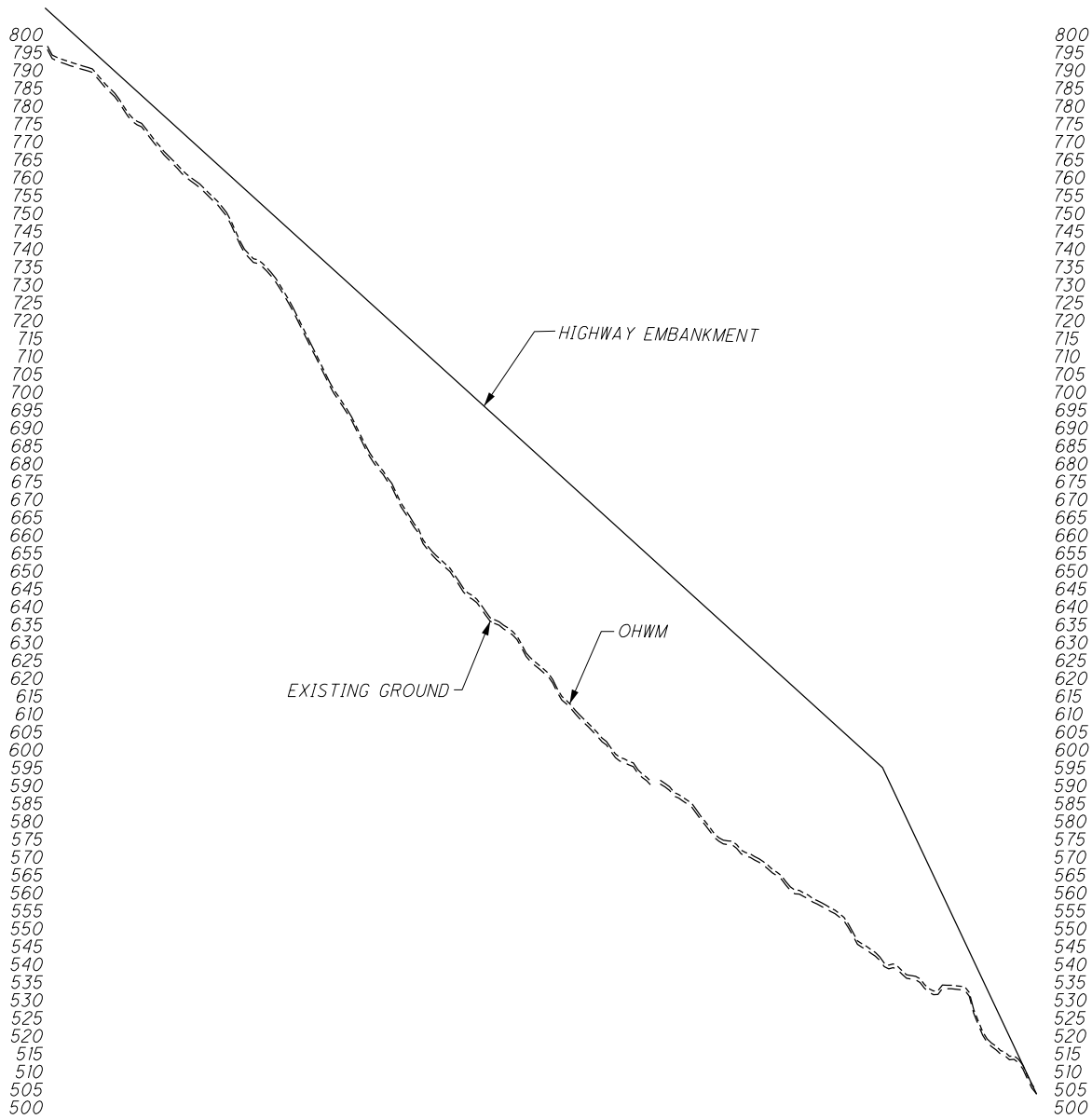
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

## FIGURE 3-83



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 39

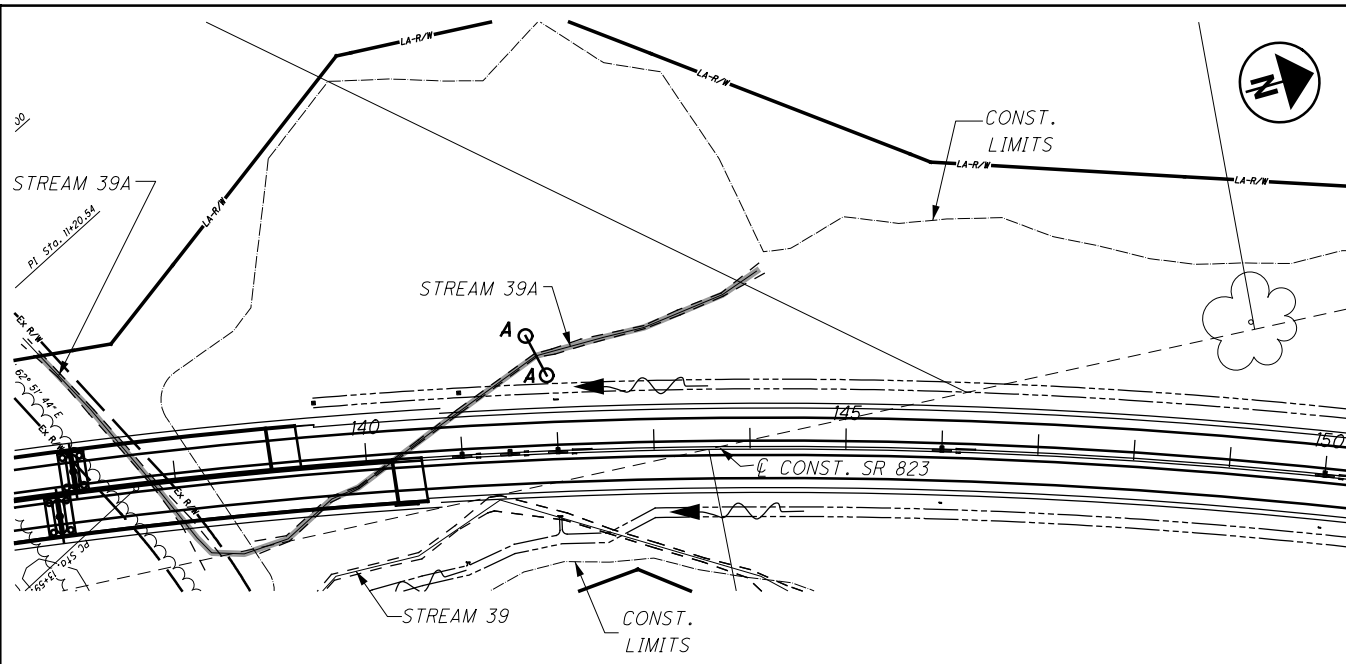
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

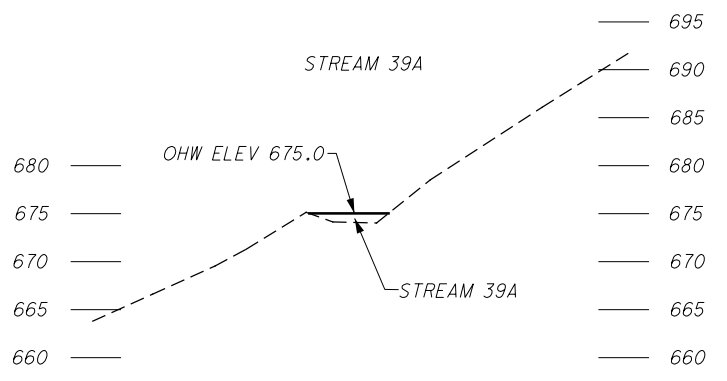
STREAM PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

# FIGURE 3-83A



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

PROPERTY OWNERS:  
 DON HADSELL  
 ANDREW L. ELDRIDGE

LENGTH OF IMPACT: 925 LF  
 AREA EXCAVATED OR FILLED: 0.042 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 34 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 39A**

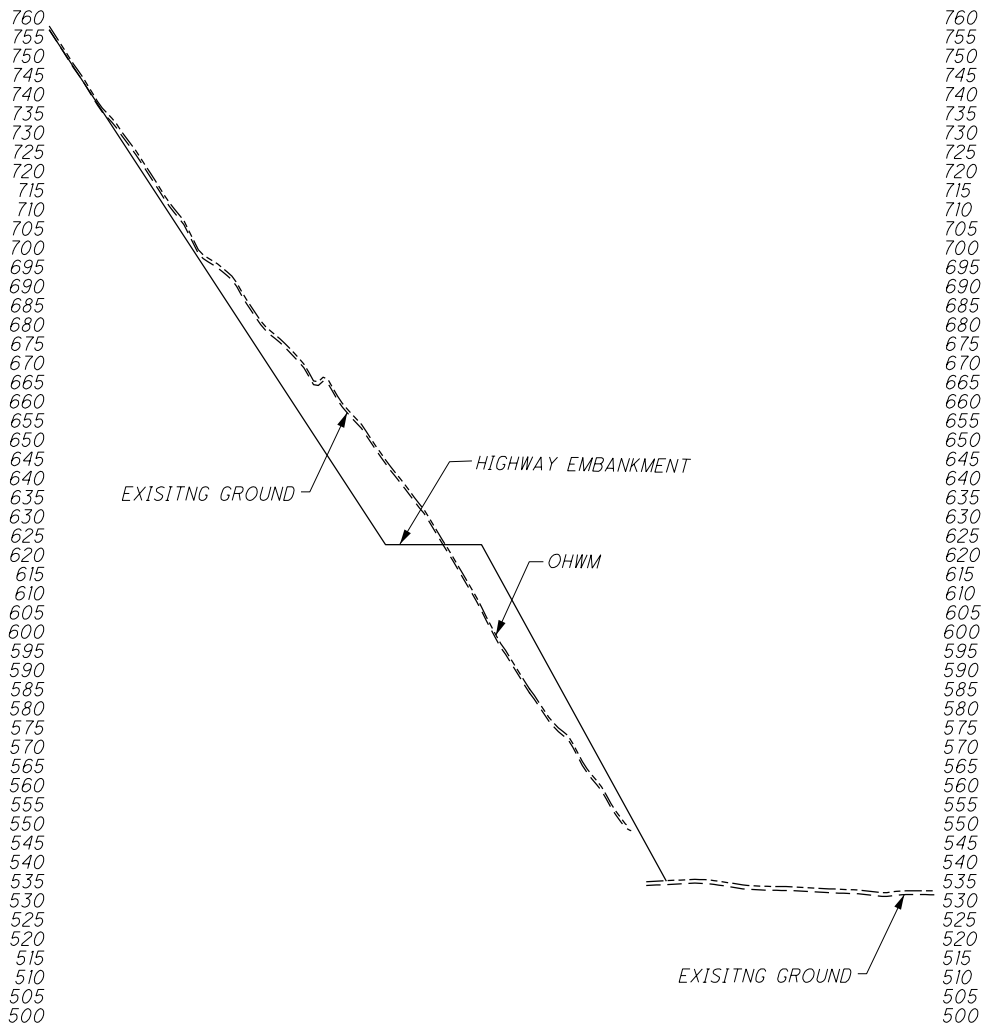
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'

DATE: AUGUST 15, 2013

**FIGURE  
 3-84**



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 39A

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

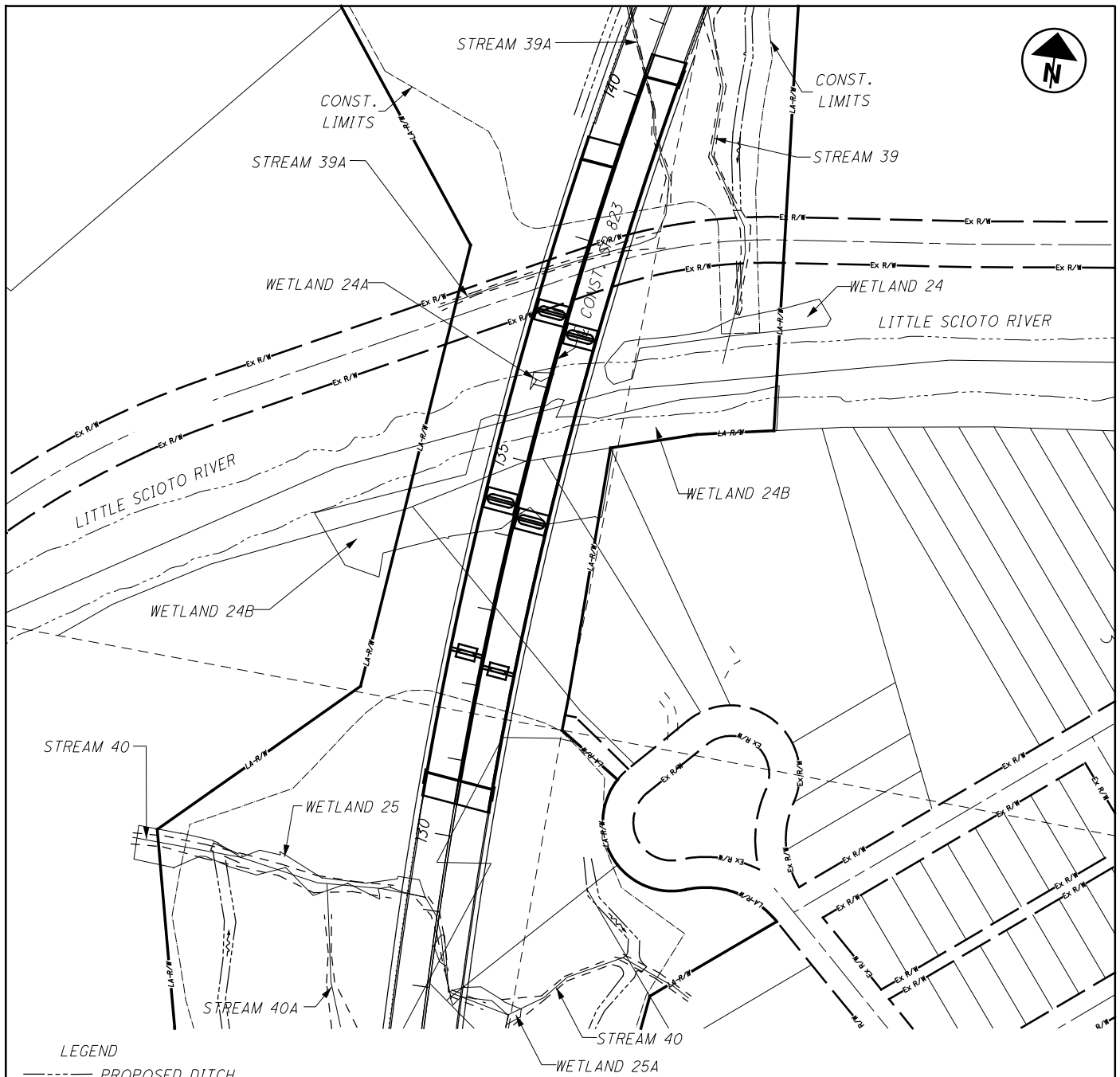
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

STREAM PROFILE: 1" = 200'

DATE: AUGUST 15, 2013

## FIGURE 3-84A





- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨ OHWM

## PLAN

**PROPERTY OWNERS:**  
 DON HADSELL  
 ANDREW L. ELDRIDGE  
 C.W.G HANNAH (HEIRS AND ASSIGNS)

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY



# IMPACTS AT LITTLE SCIOTO RIVER

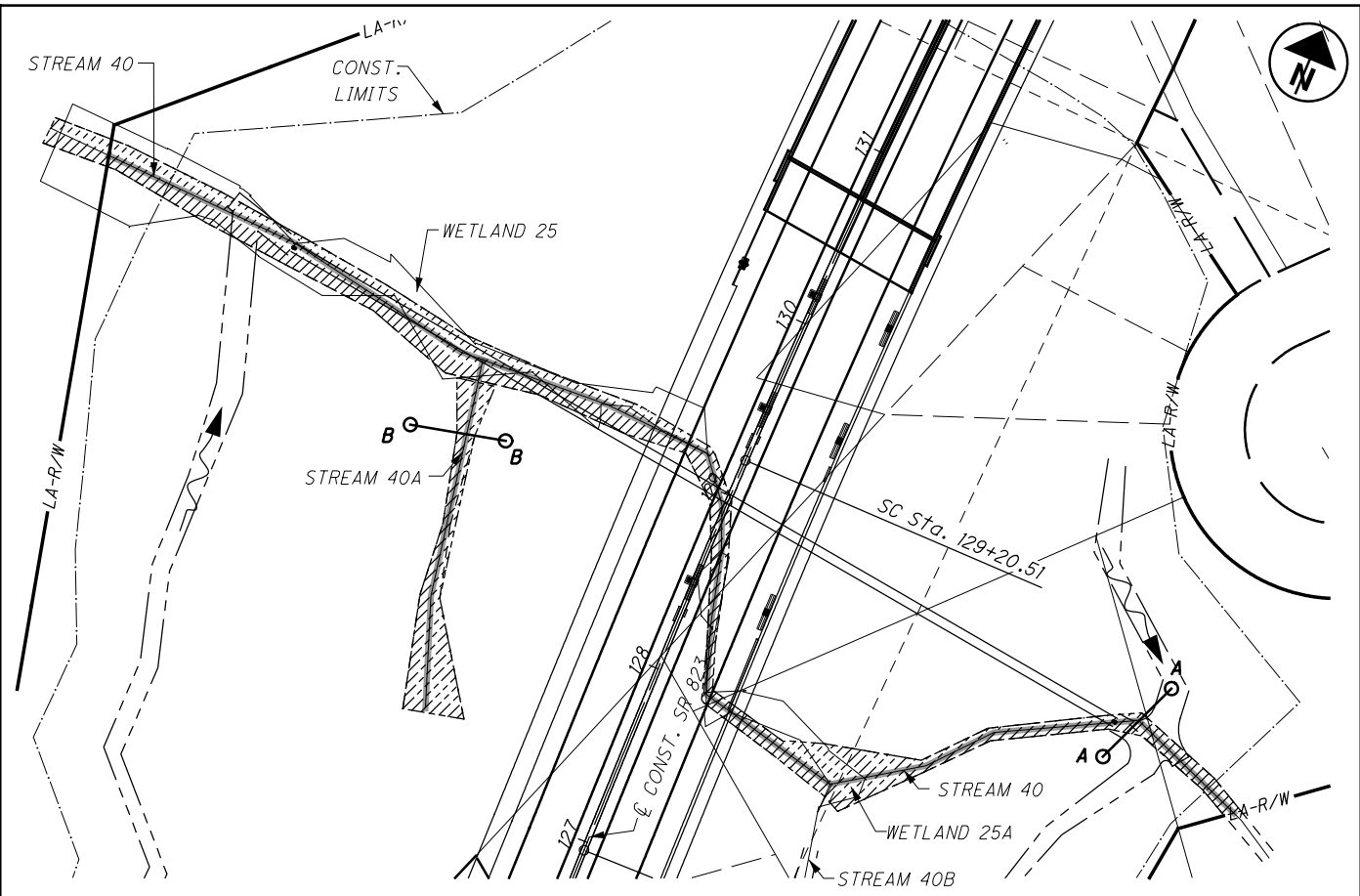
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'

DATE: JULY 2, 2013

## FIGURE 3-85

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



**PLAN**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 GARY LEE BENNETT, JR  
 AND ANNETTE BENNETT  
 DENNIS JORDAN AND JOYCE JORDAN

**STREAM 40**

LENGTH OF IMPACT:	810 LF
AREA EXCAVATED OR FILLED:	0.071 ACRE
EXCAVATION BELOW OHW:	2 CY
NET FILL BELOW OHW:	36 CY

**STREAM 40A**

LENGTH OF IMPACT:	188 LF
AREA EXCAVATED OR FILLED:	0.009 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	7 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 40  
 STREAM 40A**

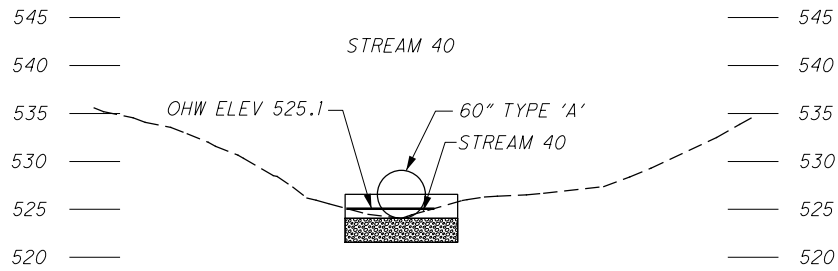
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

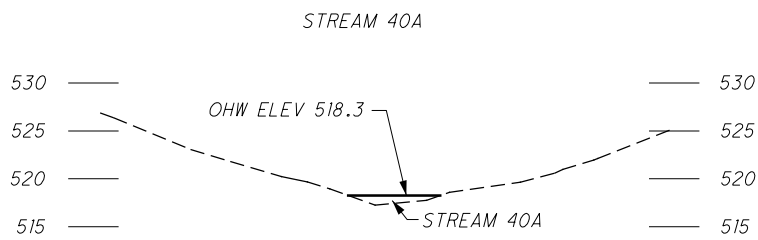
PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
 3-86**



**CROSS SECTION A-A**



**CROSS SECTION B-B**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 40  
STREAM 40A**

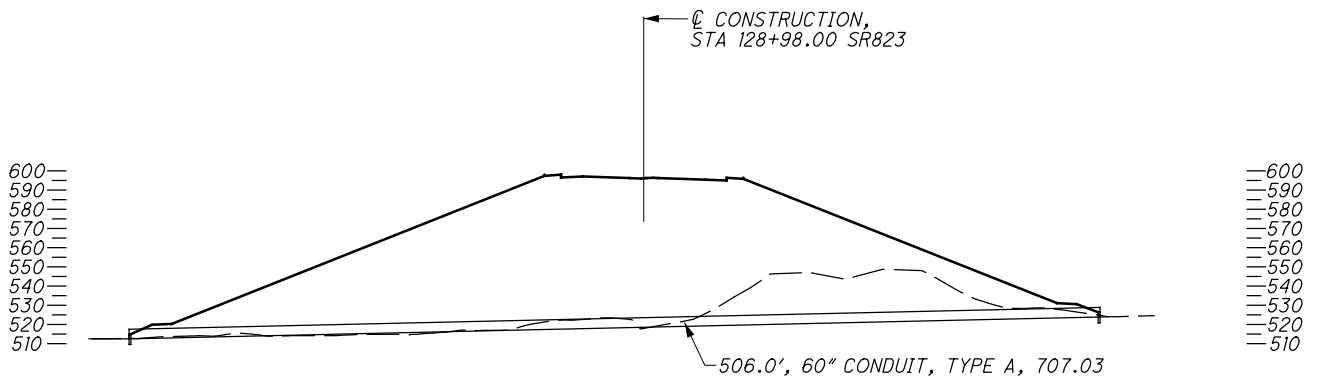
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

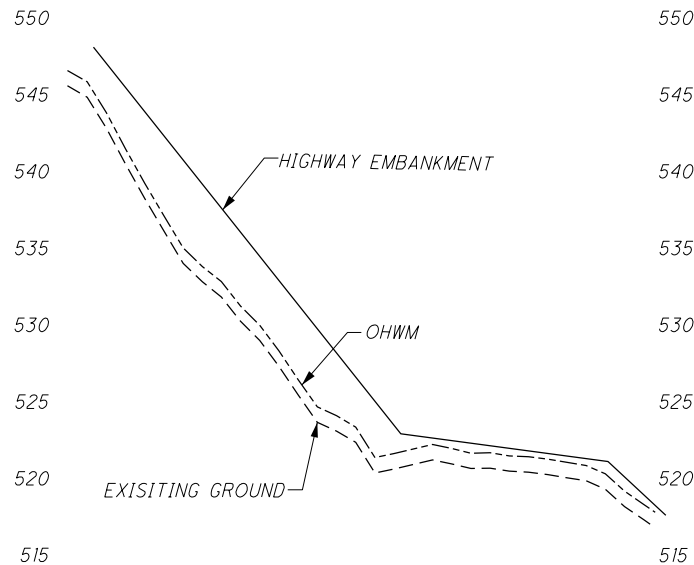
CROSS SECTION: 1"-20'

DATE: AUGUST 15, 2013

**FIGURE  
3-86A**



## CULVERT PROFILE



## STREAM 40A PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 40 STREAM 40A

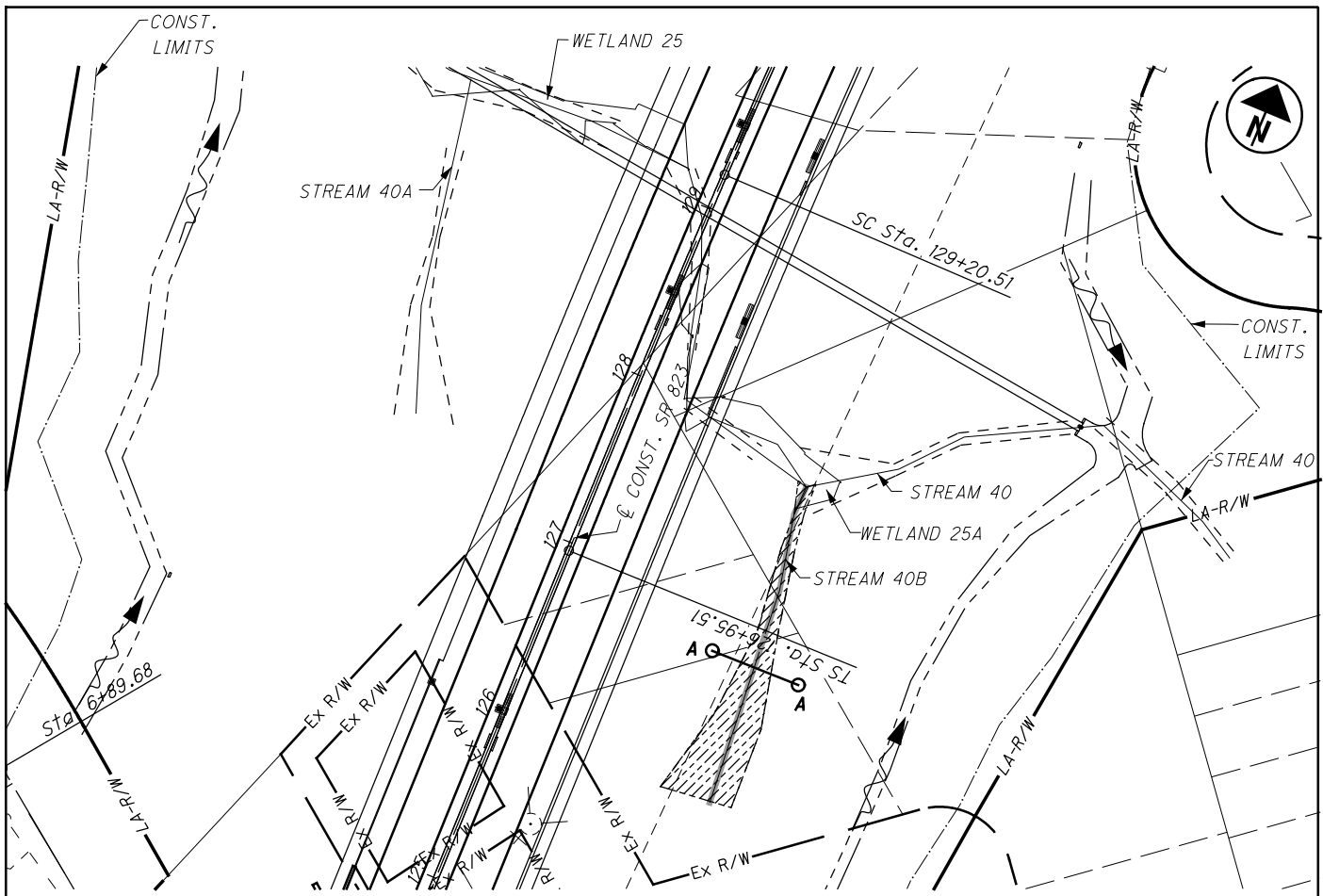
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

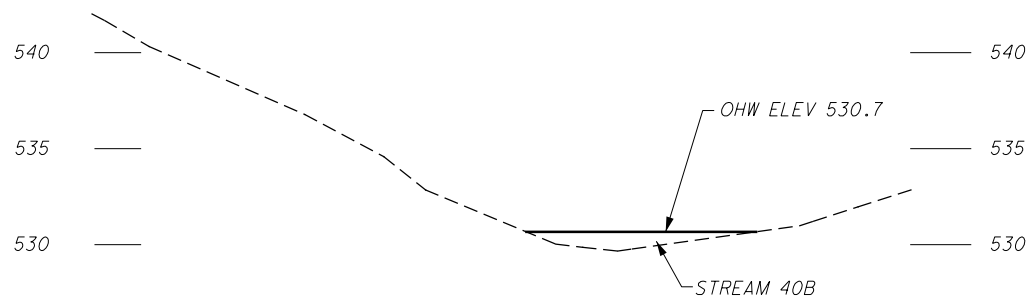
CULVERT PROFILE: 1"=100'  
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

## FIGURE 3-86B



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
DENNIS JORDAN AND JOYCE JORDAN  
BLUEMOUNT CORPORATION

LENGTH OF IMPACT:	183 LF
AREA EXCAVATED OR FILLED:	0.004 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	3 CY



**PREFERRED ALTERNATIVE IMPACTS AT STREAM 40B**

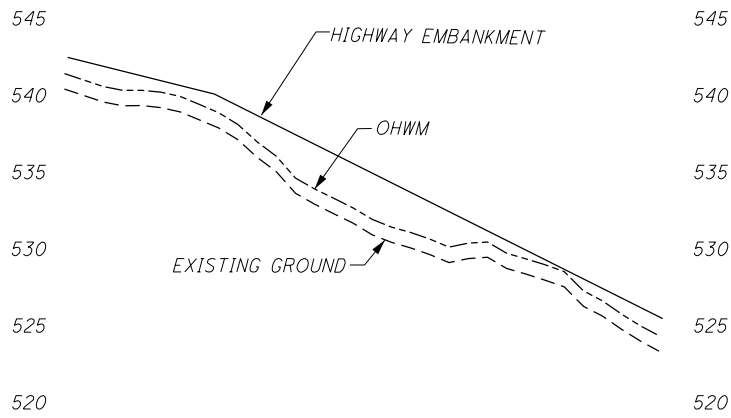
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

**FIGURE 3-87**



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 40B

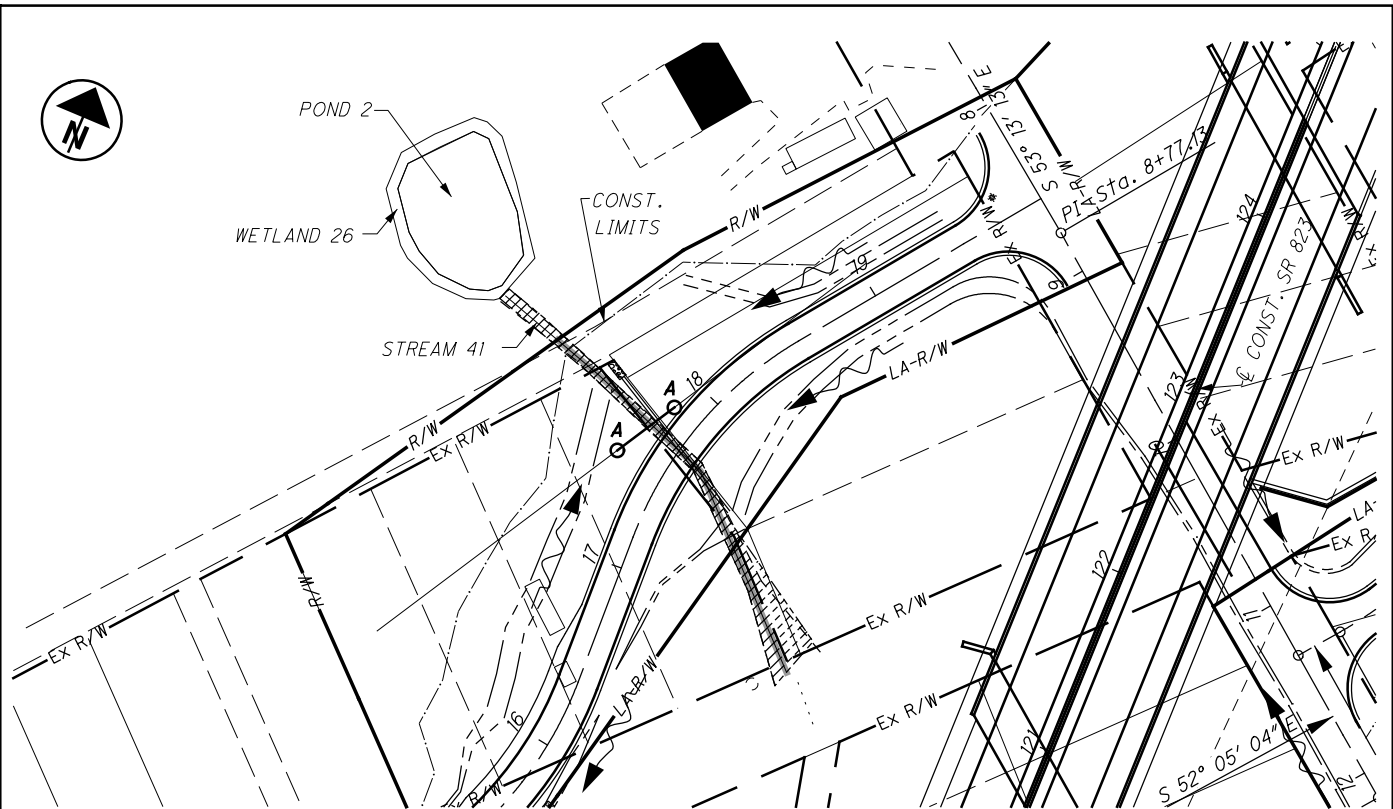
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

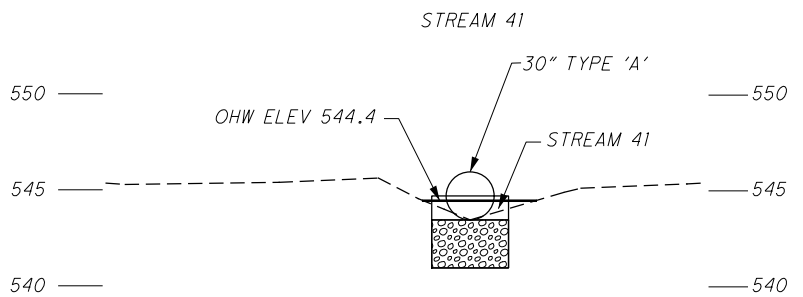
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-87A**



## PLAN



## CROSS SECTION A-A

### LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM

PROPERTY OWNERS:  
STATE OF OHIO  
ROBERT DIALS AND MARY LOU DIALS

LENGTH OF IMPACT:	215 LF
AREA EXCAVATED OR FILLED:	0.013 ACRE
EXCAVATION BELOW OHW:	5 CY
NET FILL BELOW OHW:	6 CY



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 41

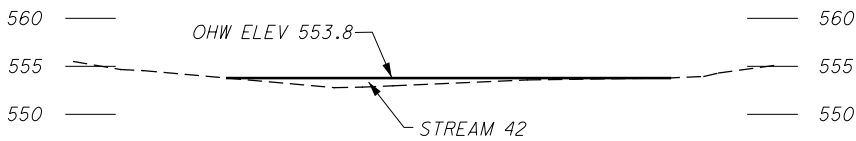
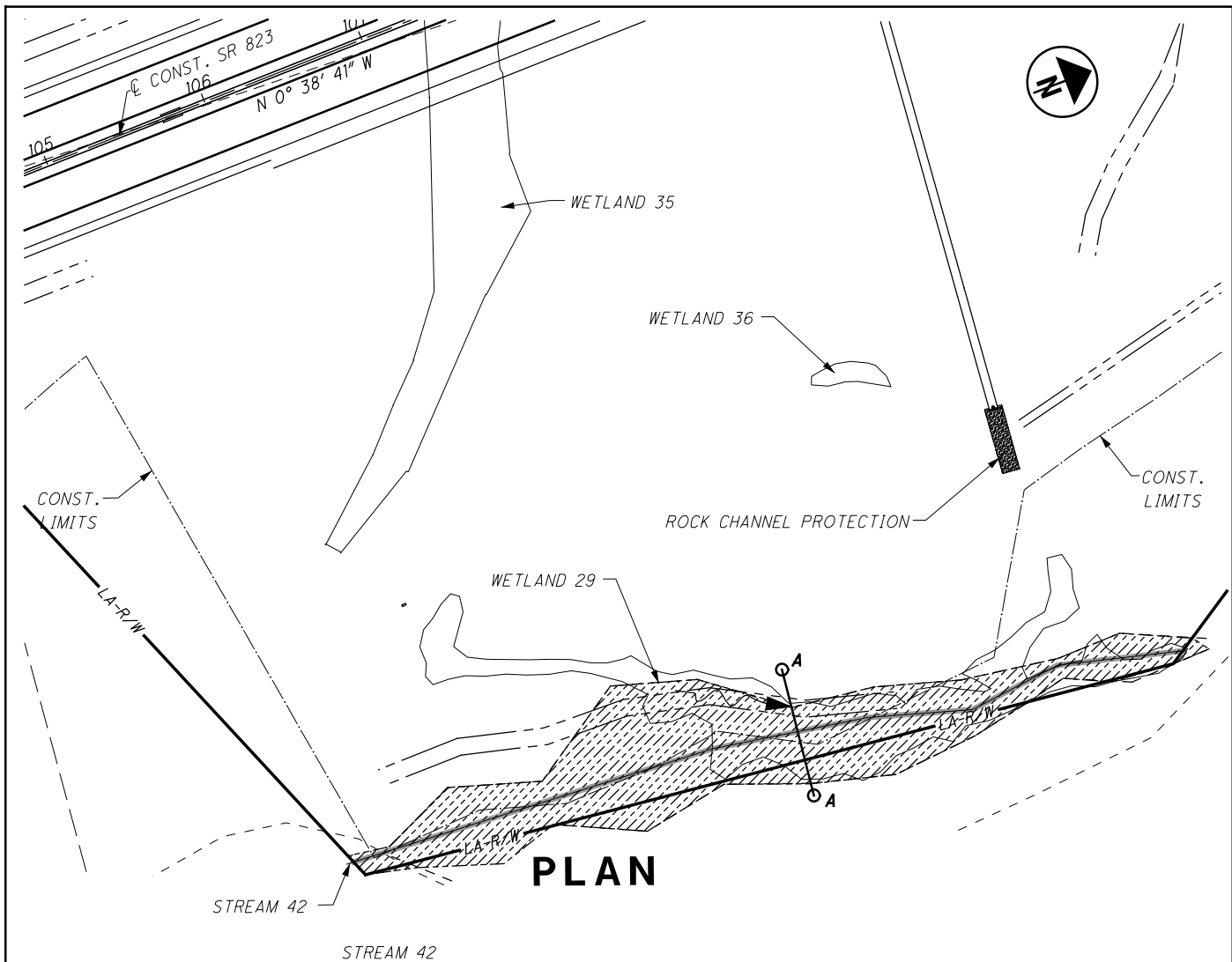
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=10'

DATE: AUGUST 15, 2013

## FIGURE 3-88



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
MARK FITZGERALD

LENGTH OF IMPACT: 510 LF  
 AREA EXCAVATED OR FILLED: 0.035 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 28 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 42**

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

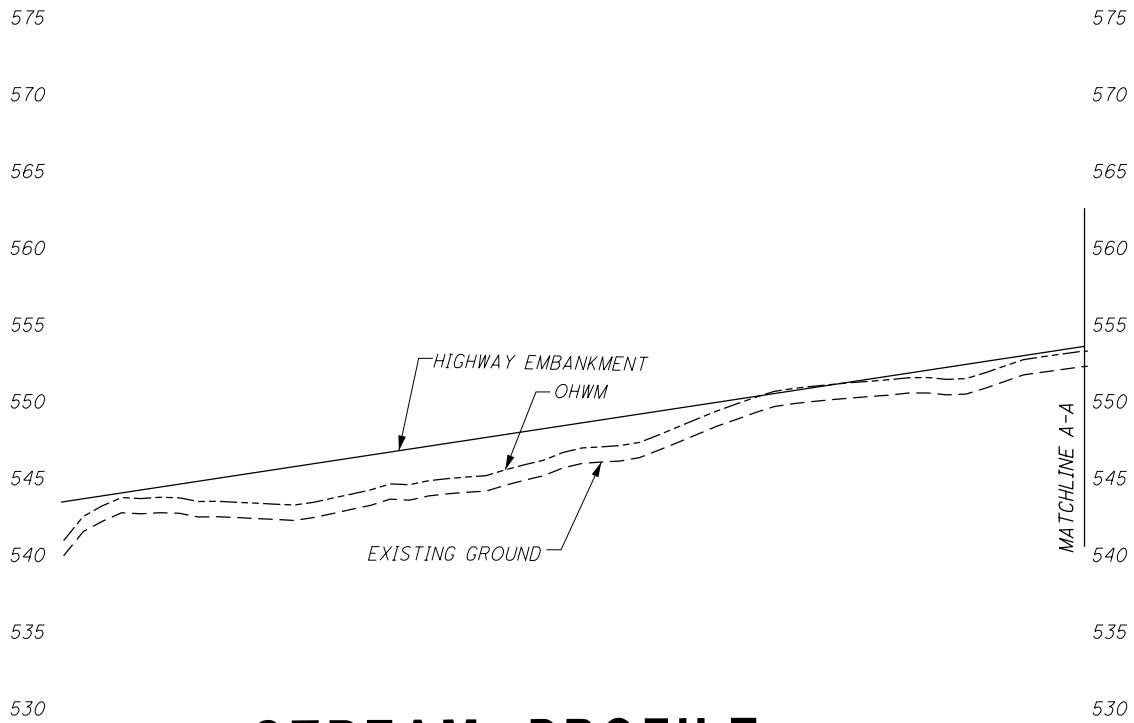
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1"=20'

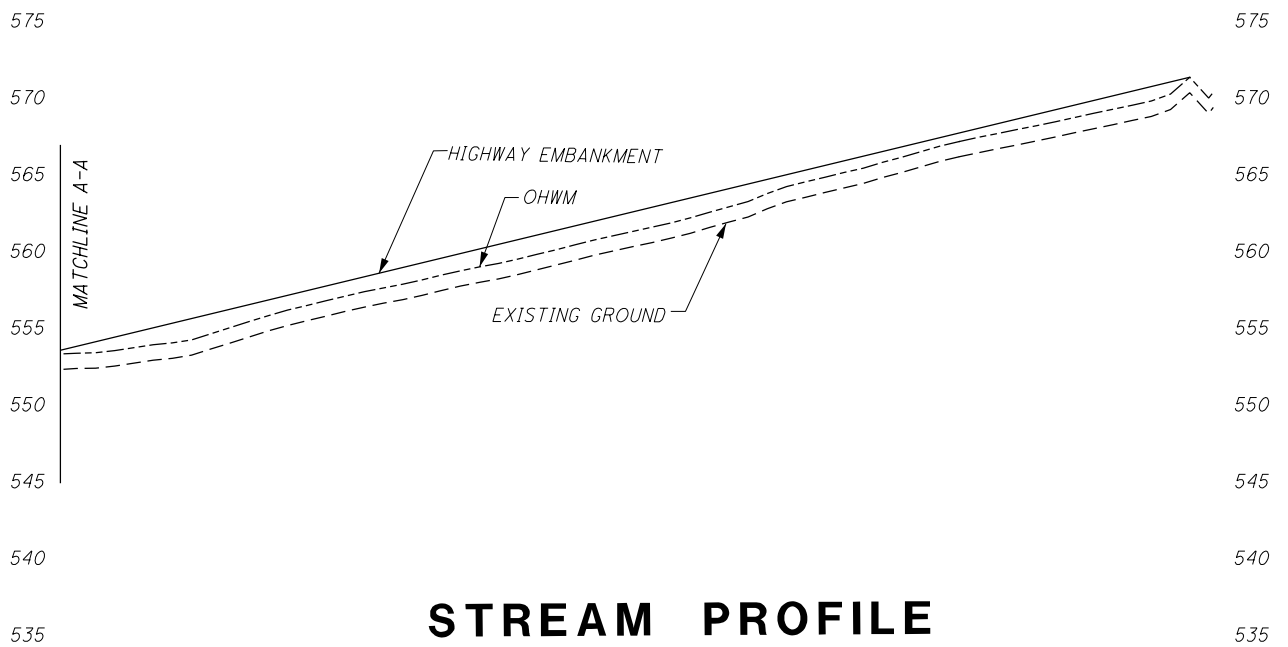
DATE: AUGUST 15, 2013

**FIGURE  
3-89**





## STREAM PROFILE



## STREAM PROFILE



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 42

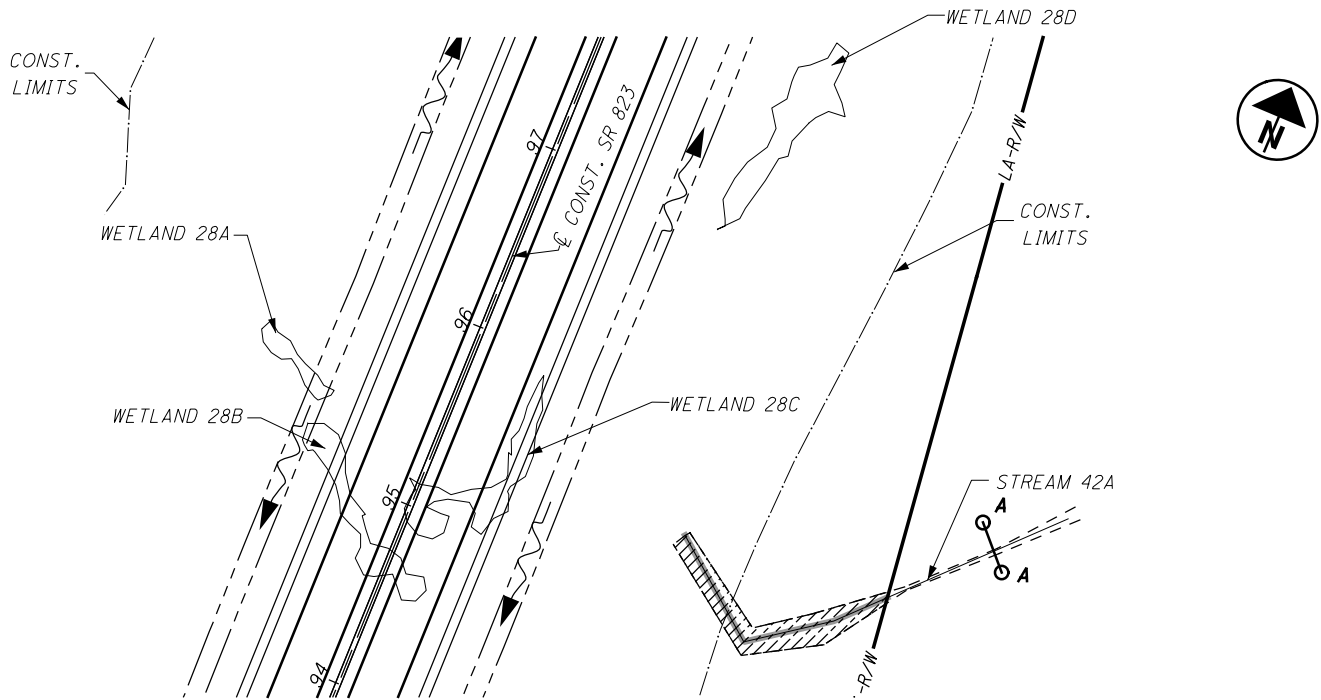
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

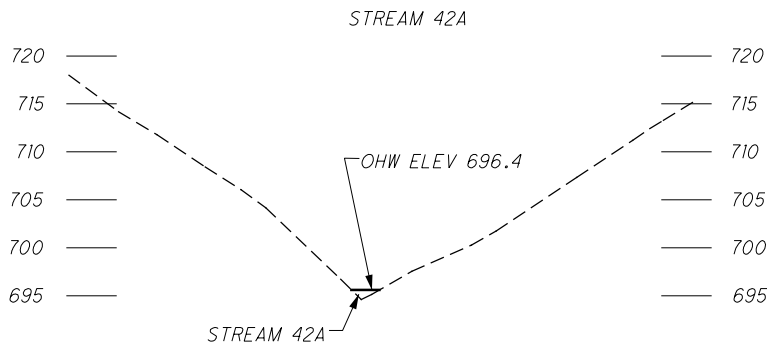
STREAM PROFILE: 1" = 50'

DATE: AUGUST 15, 2013

# FIGURE 3-89A



## PLAN



## CROSS SECTION A-A

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
MARK FITZGERALD

LENGTH OF IMPACT:	142 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	3 CY



# PREFERRED ALTERNATIVE IMPACTS AT STREAM 42A

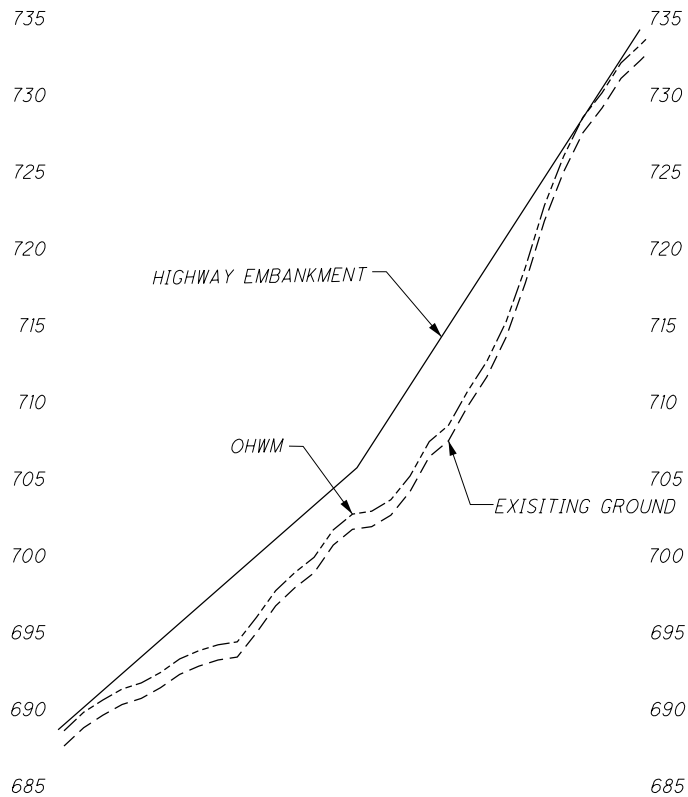
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1"=20'

DATE: AUGUST 15, 2013

## FIGURE 3-90



## STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 42A

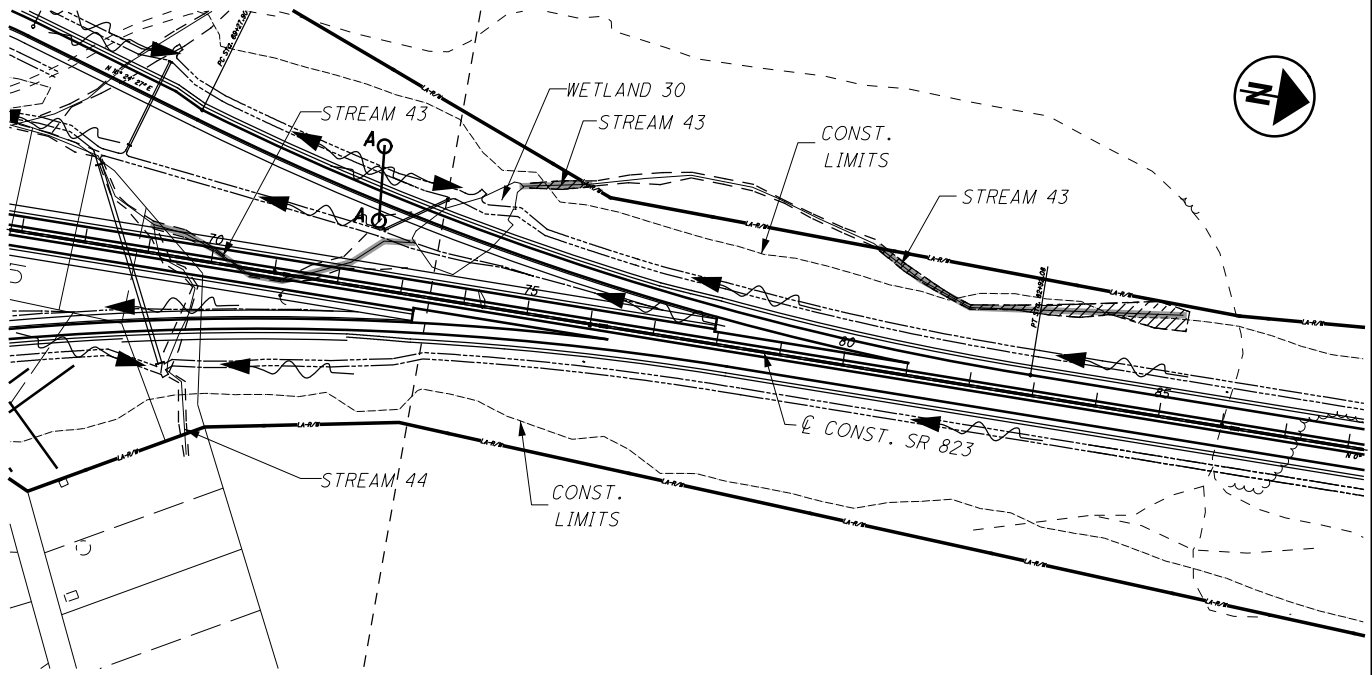
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

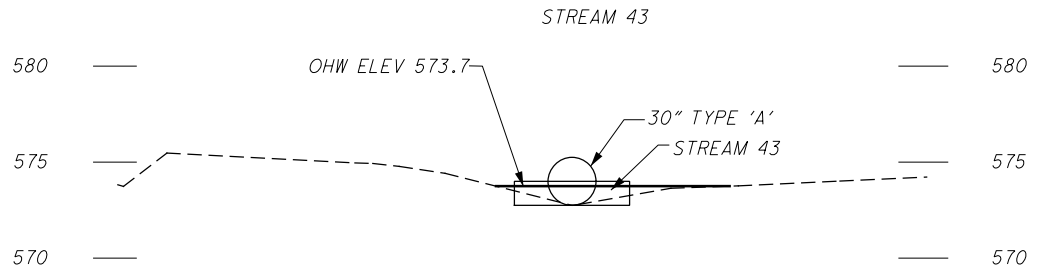
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

# FIGURE 3-90A



### PLAN



### CROSS SECTION A-A

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

PROPERTY OWNERS:  
 MARK FITZGERALD  
 STATE OF OHIO  
 PAUL SOLTIS

LENGTH OF IMPACT: 1044 LF  
 AREA EXCAVATED OR FILLED: 0.048 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 39 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 43

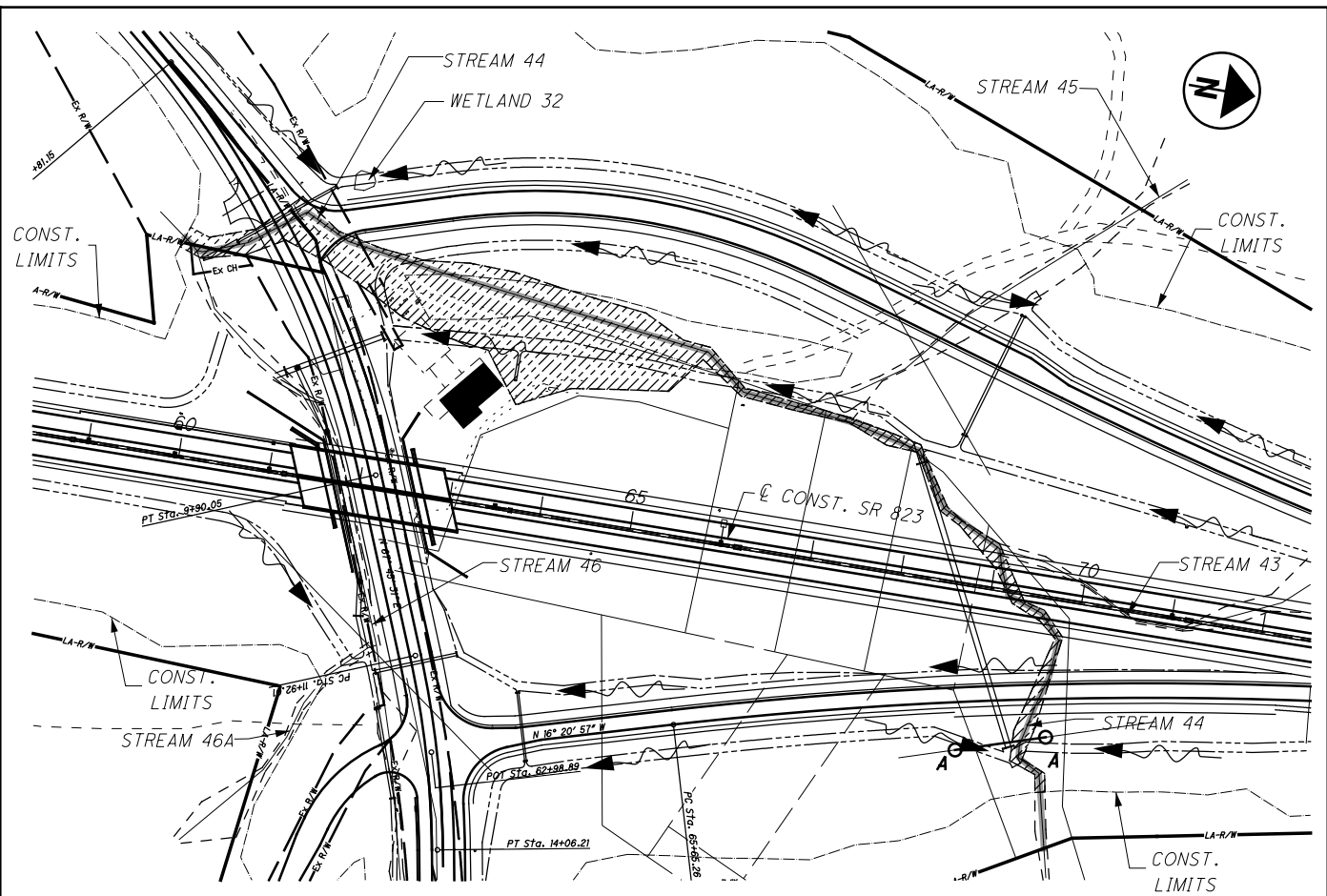
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

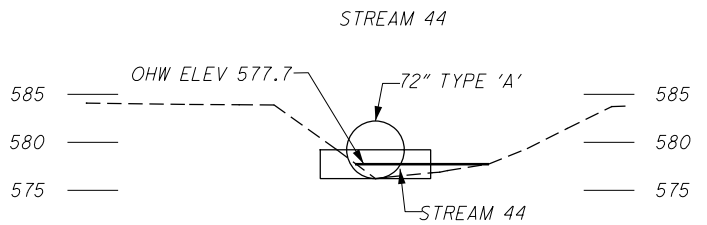
PLAN SCALE: 1" = 300'  
 CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

## FIGURE 3-91



**PLAN**



**CROSS SECTION A-A**

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨ OHWM

**PROPERTY OWNERS:**  
 DERRICK E. LATTIMORE AND ROYNA F. LATTIMORE  
 PAUL SOLTIS  
 GREGORY MILLER (1/2 INTREST) AND FLORENCE SOLTIS (1/2 INTREST)  
 RONDA K. STURGILL SHELLA GAST  
 AND JOHN McHENRY AND CANDANCE McHENRY  
 MARK FITZGERALD

LENGTH OF IMPACT: 1436 LF  
 AREA EXCAVATED OR FILLED: 0.410 ACRE  
 EXCAVATION BELOW OHW: 2 CY  
 NET FILL BELOW OHW: 439 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 44**

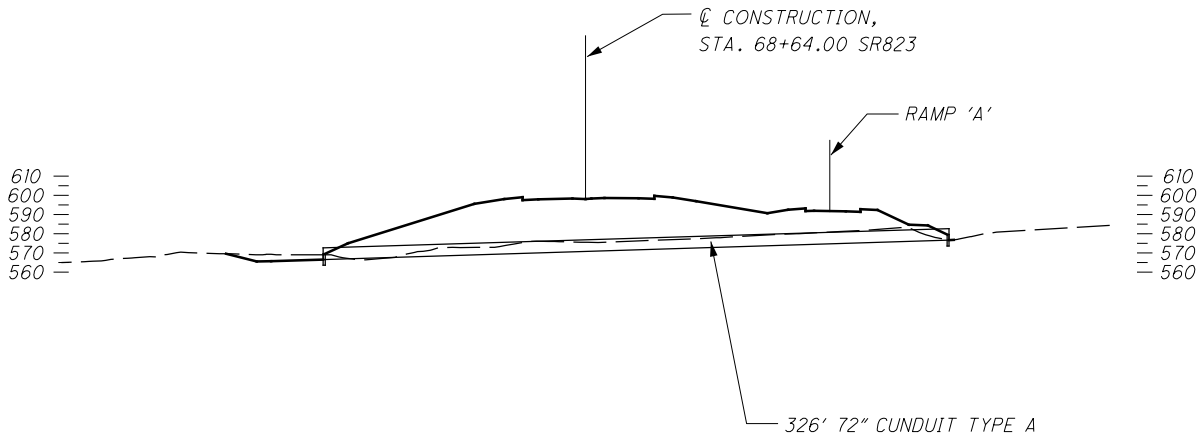
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION: 1" = 20'

DATE: AUGUST 15, 2013

**FIGURE  
 3-92**



## CULVERT PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 44

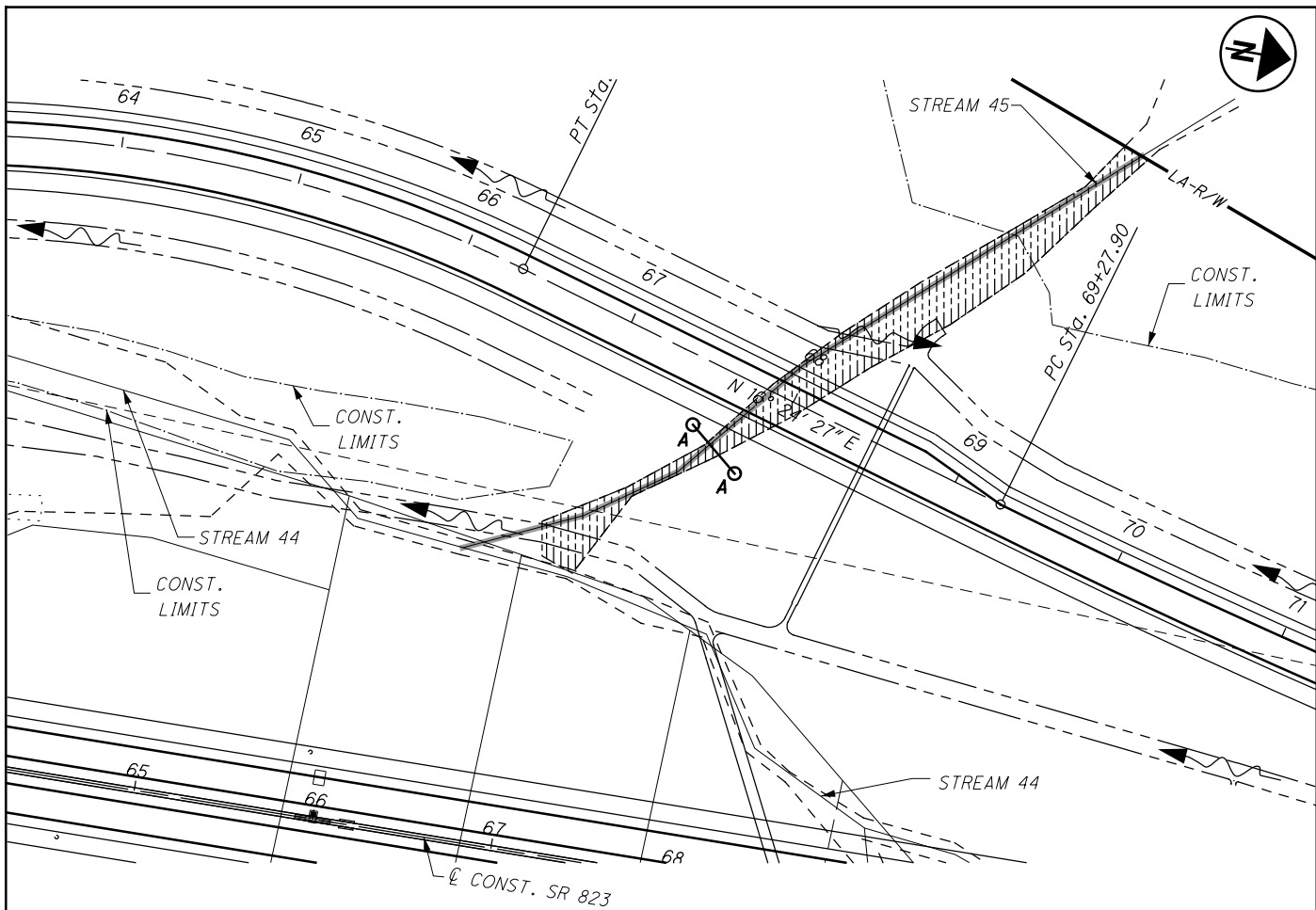
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

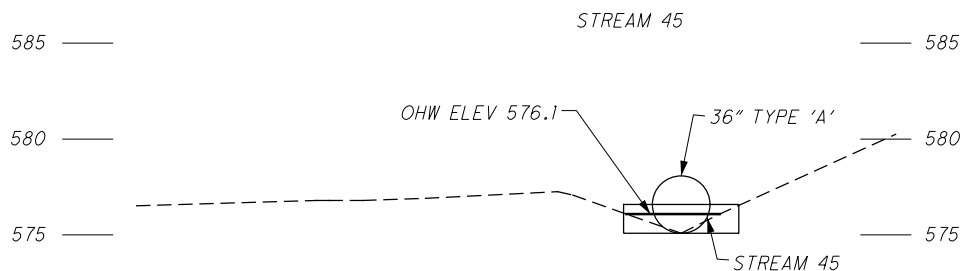
CULVERT PROFILE: 1" = 100'

DATE: AUGUST 15, 2013

## FIGURE 3-92A



**PLAN**



**CROSS SECTION A-A**

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM

PROPERTY OWNERS:  
 MARK FITZGERALD  
 STATE OF OHIO

LENGTH OF IMPACT:	438 LF
AREA EXCAVATED OR FILLED:	0.030 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	24 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 STREAM 45**

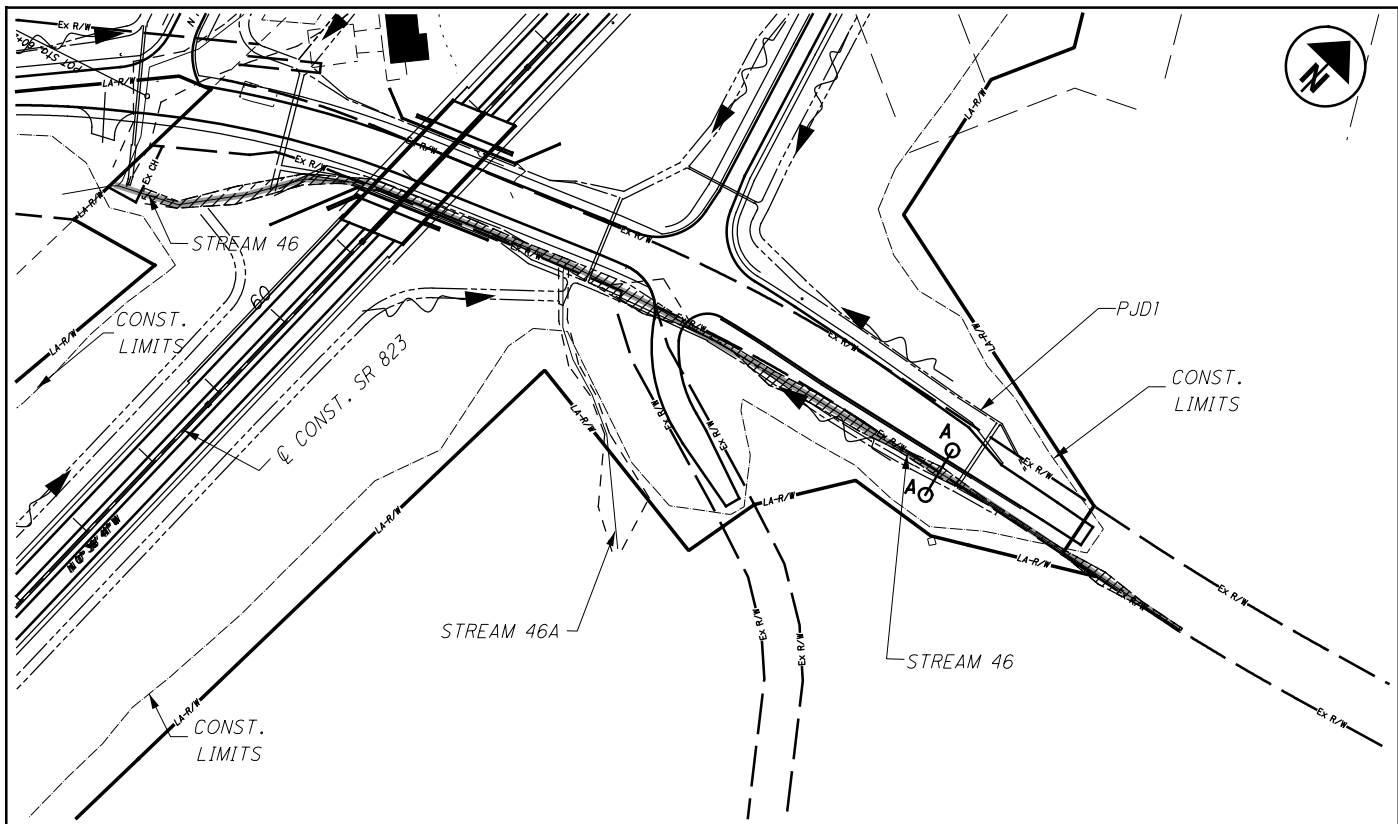
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

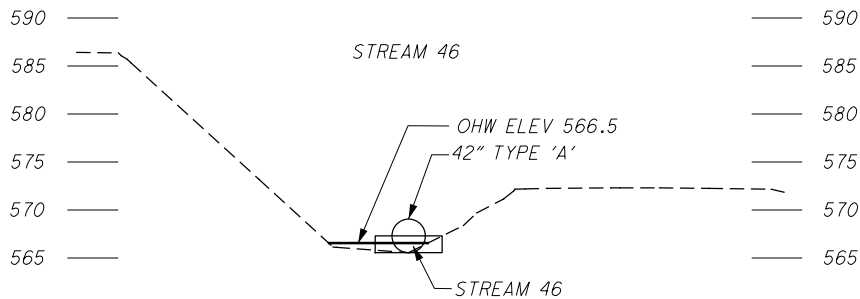
PLAN SCALE: 1" = 100'  
 CROSS SECTION: 1" = 10'

DATE: AUGUST 15, 2013

**FIGURE  
 3-93**



## PLAN



## CROSS SECTION A-A

### LEGEND

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM

PROPERTY OWNERS:  
 LANDON W. EVANS AND TONYA A. EVANS  
 MECHAEAL G. RIDER AND GAIL A. LAW  
 STATE OF OHIO

LENGTH OF IMPACT: 1231 LF  
 AREA EXCAVATED OR FILLED: 0.086 ACRE  
 EXCAVATION BELOW OHW: 1 CY  
 NET FILL BELOW OHW: 67 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 46

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

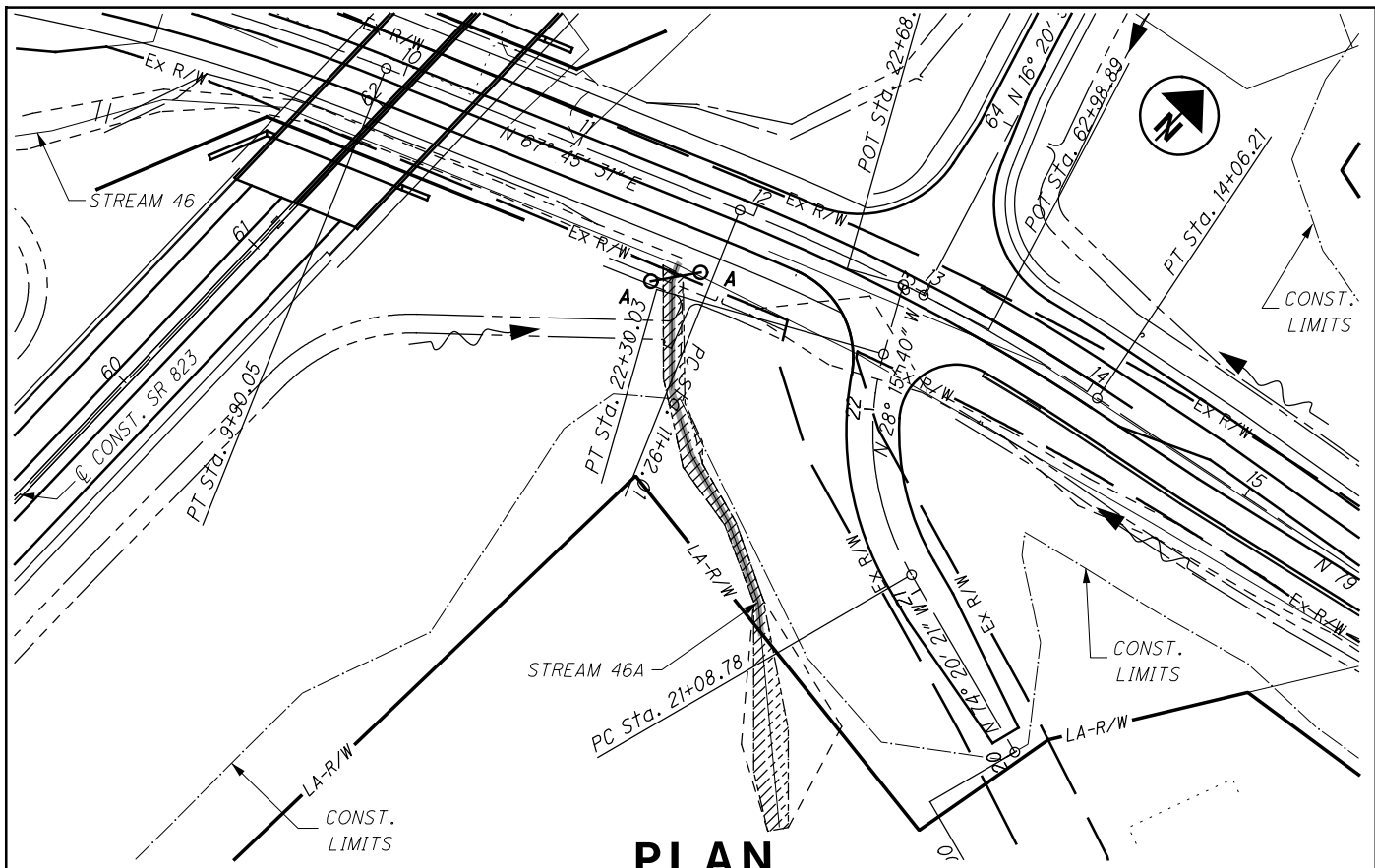
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 CROSS SECTION 1" = 20'

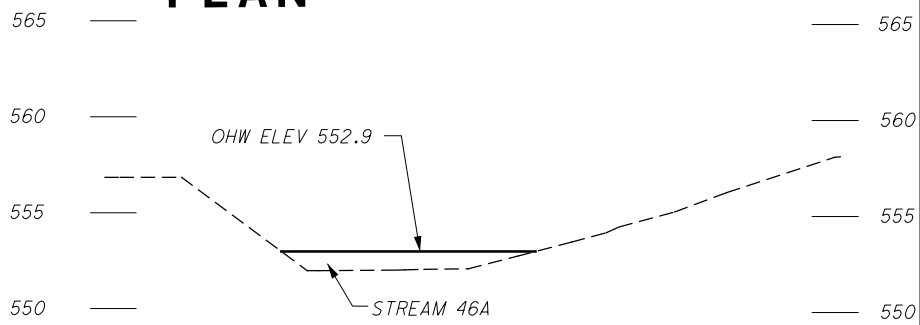
DATE: AUGUST 15, 2013

## FIGURE 3-94





**PLAN**



**CROSS SECTION A-A**

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨ OHWM

PROPERTY OWNERS:  
MICHAEL G. RITTER AND GAIL A. LAW

LENGTH OF IMPACT: 205 LF  
 AREA EXCAVATED OR FILLED: 0.009 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 8 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 46A**

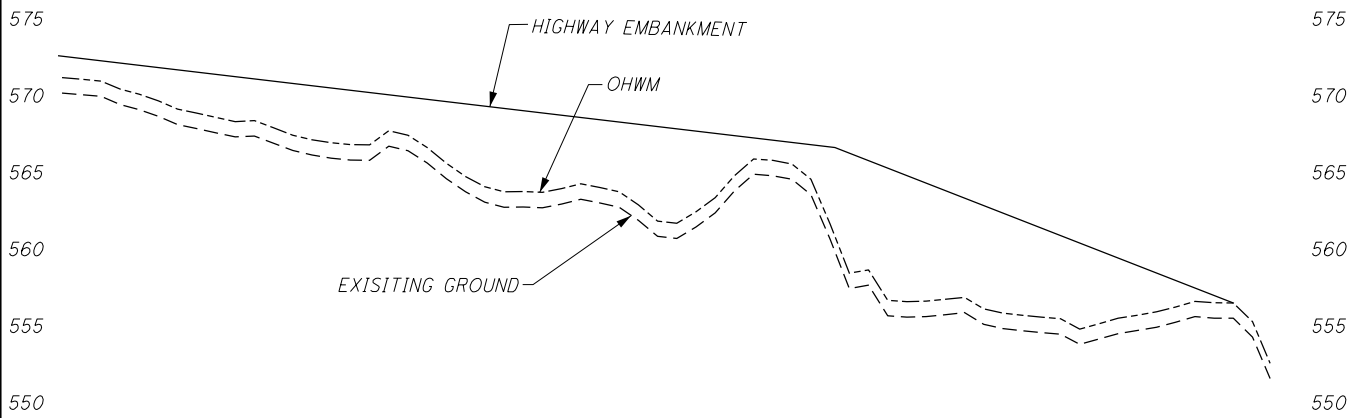
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 CROSS SECTION 1" = 10'

DATE: AUGUST 15, 2013

**FIGURE  
3-95**



# STREAM PROFILE



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 46A

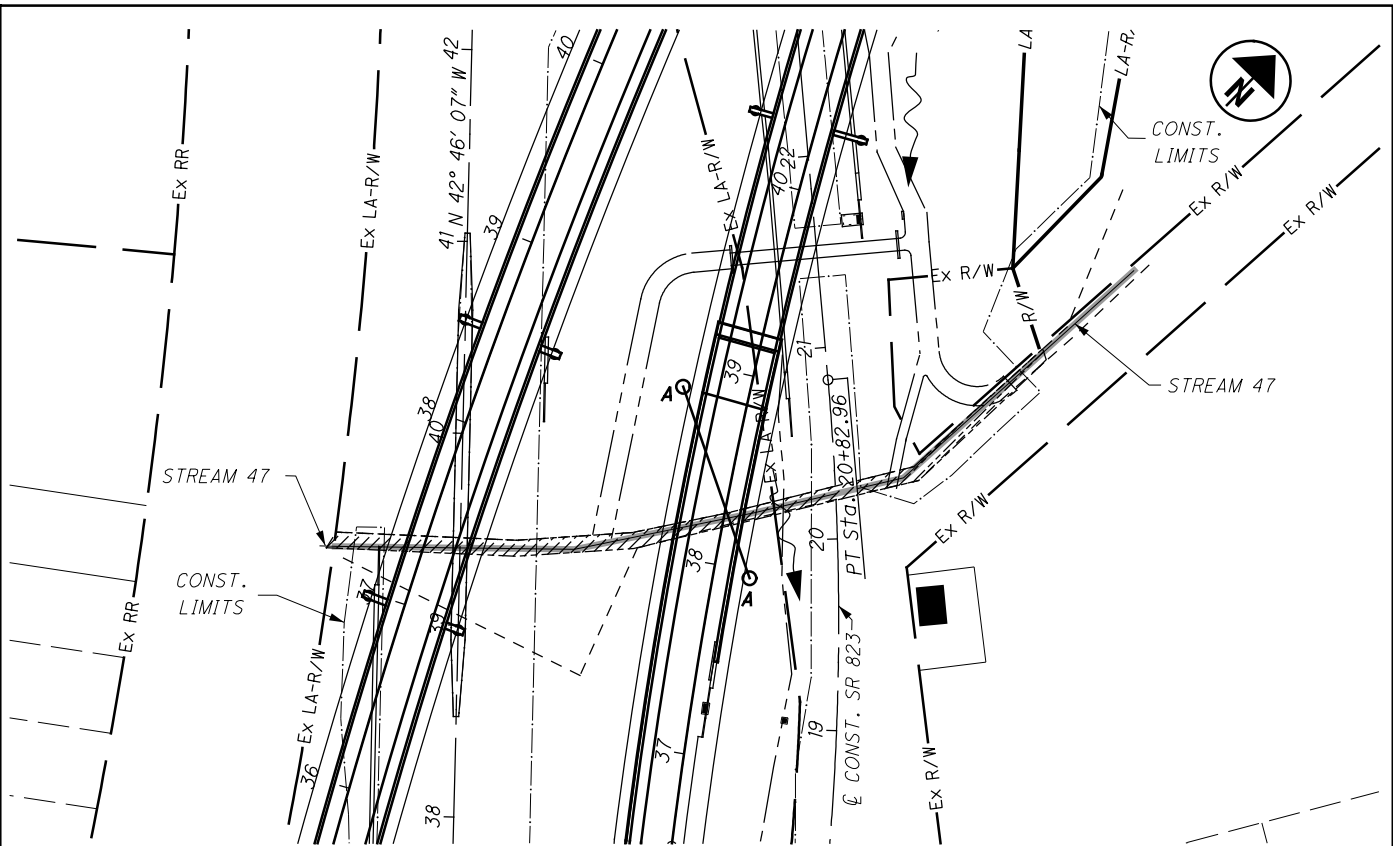
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

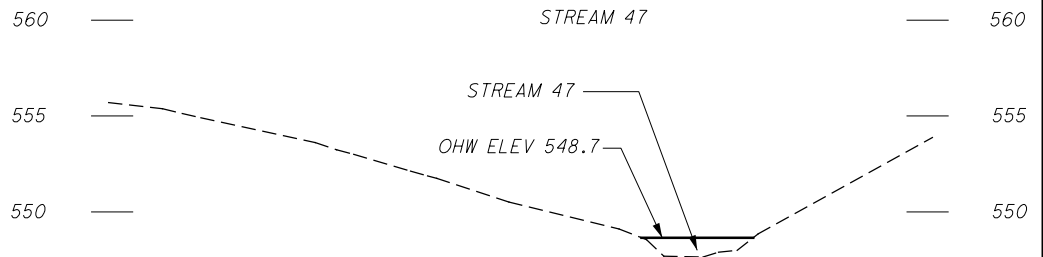
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

### FIGURE 3-95A



**PLAN**



**CROSS SECTION A-A**

**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨▨▨▨ OHWM

PROPERTY OWNERS:  
C. DAVID GODDARD  
STATE OF OHIO

LENGTH OF IMPACT: 470 LF  
AREA EXCAVATED OR FILLED: 0.043 ACRE  
EXCAVATION BELOW OHW: 0 CY  
NET FILL BELOW OHW: 35 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 47**

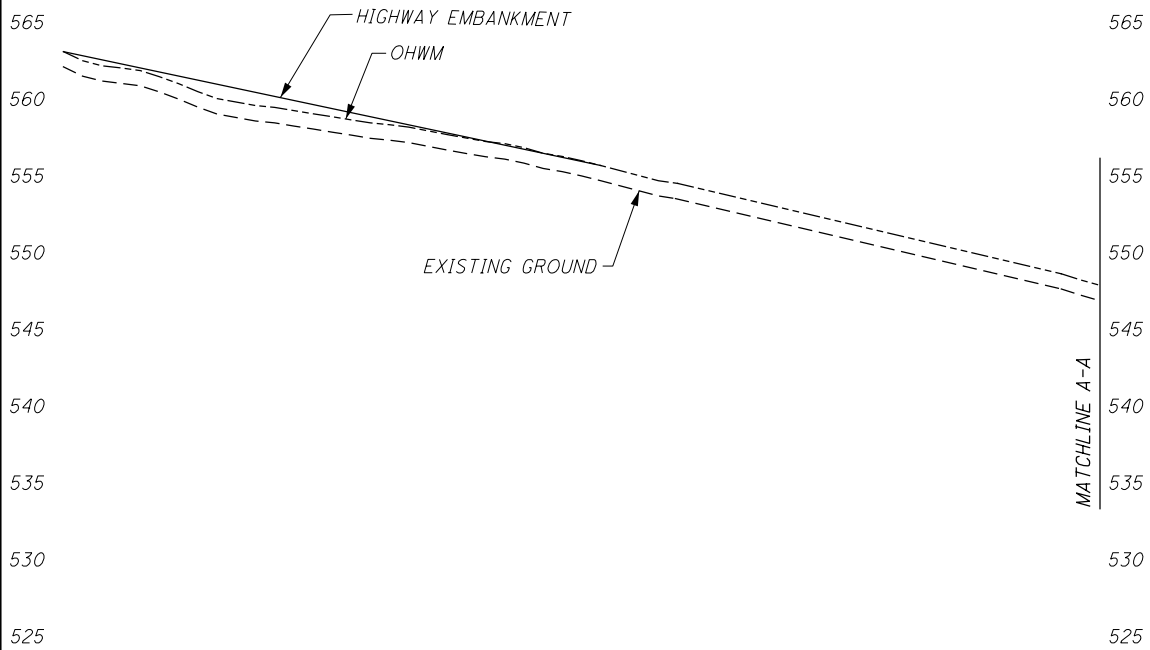
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

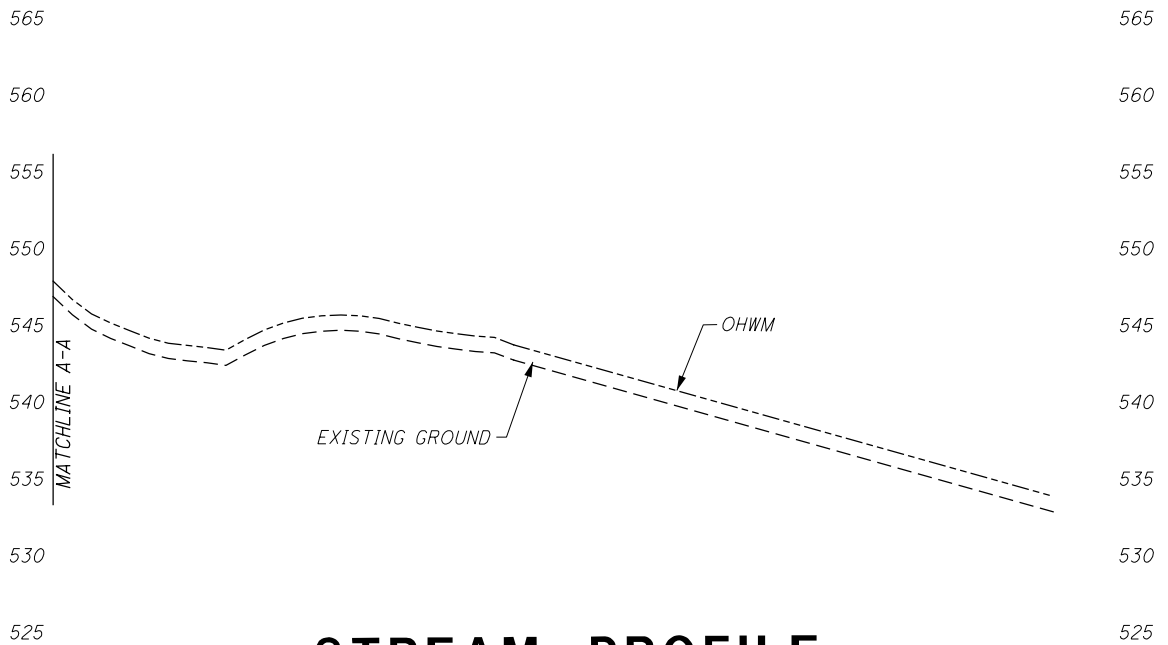
PLAN SCALE: 1" = 100'  
CROSS SECTION: 1" = 10'

DATE: AUGUST 15, 2013

**FIGURE  
3-96**



## STREAM PROFILE



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 47

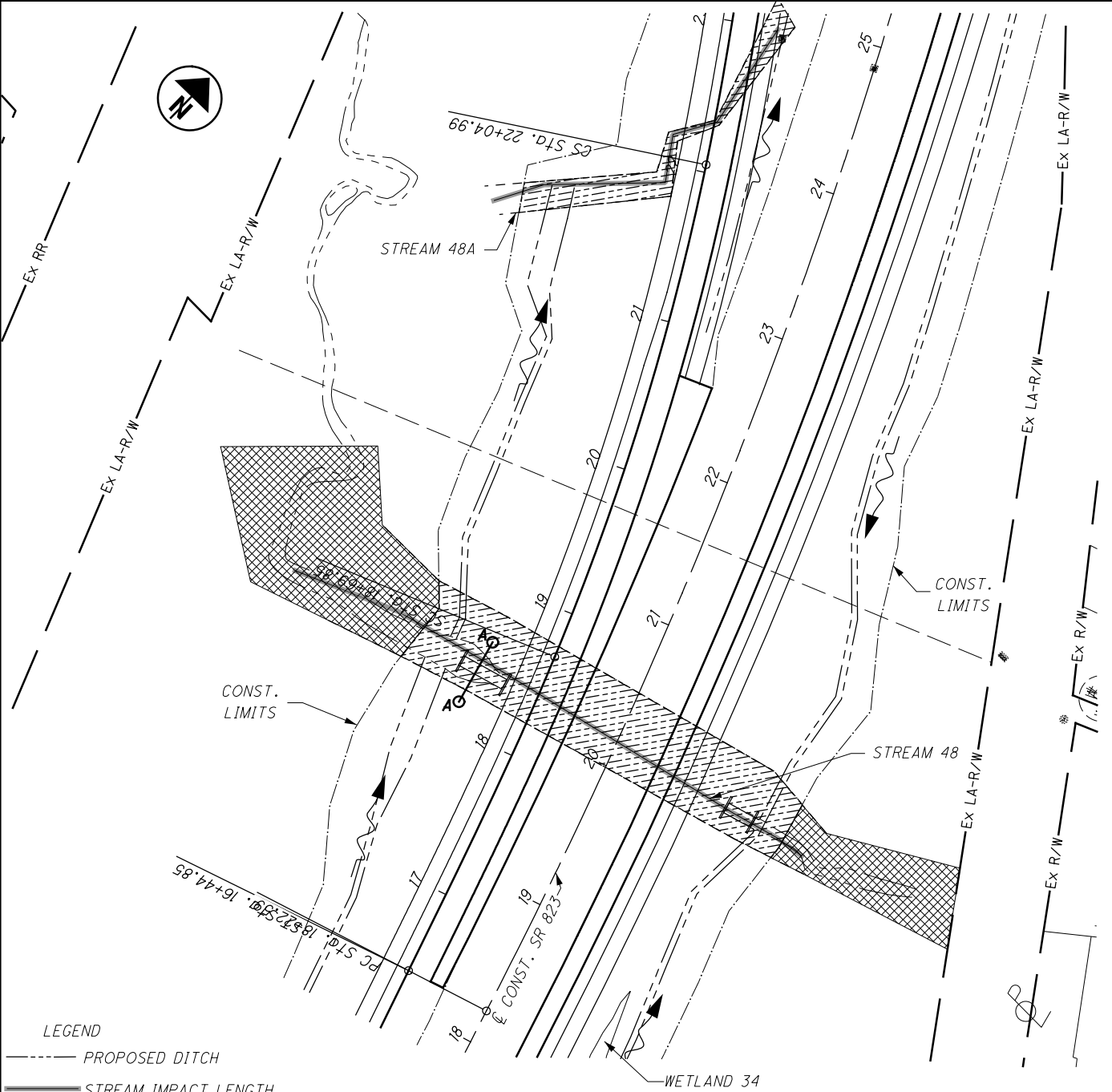
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-96A**



**LEGEND**

- PROPOSED DITCH
- STREAM IMPACT LENGTH
- ▨ OHWM
- ▣ NO BUILD ZONE

PROPERTY OWNERS:  
STATE OF OHIO

**PLAN**  
**STREAM 48**

LENGTH OF IMPACT: 271 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 38 CY

**STREAM 48A**

LENGTH OF IMPACT: 247 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 NET FILL BELOW OHW: 9 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 48  
STREAM 48A**

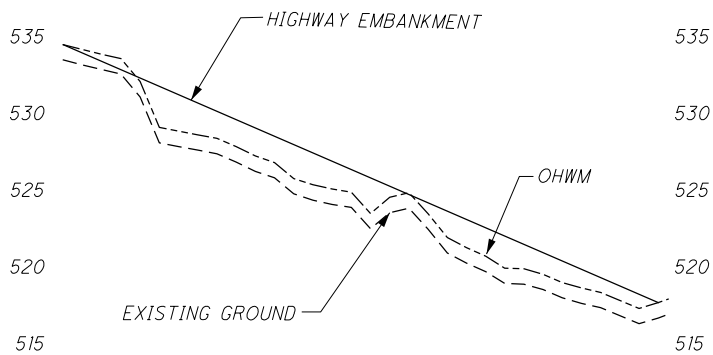
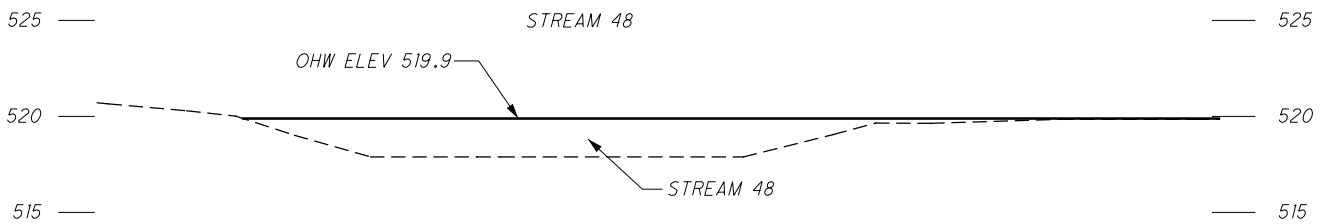
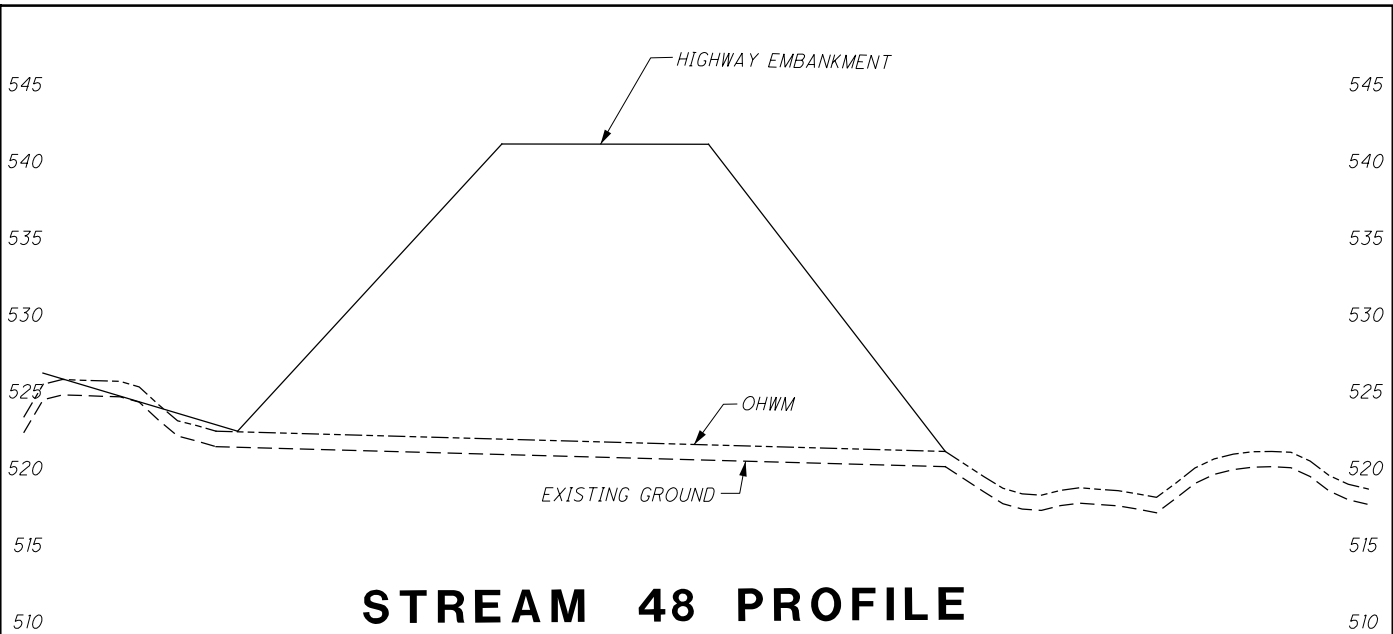
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'

DATE: AUGUST 15, 2013

**FIGURE  
3-97**



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
STREAM 48  
STREAM 48A**

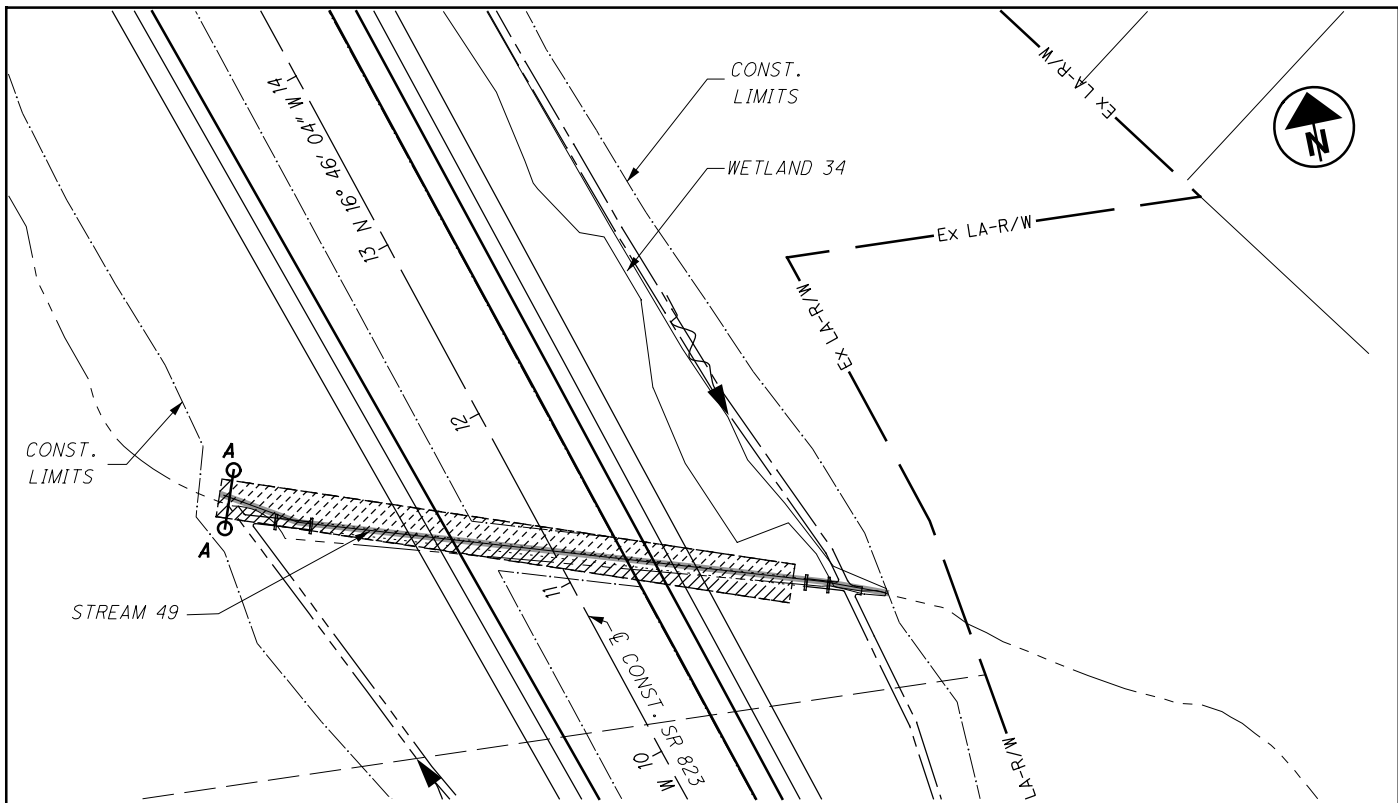
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

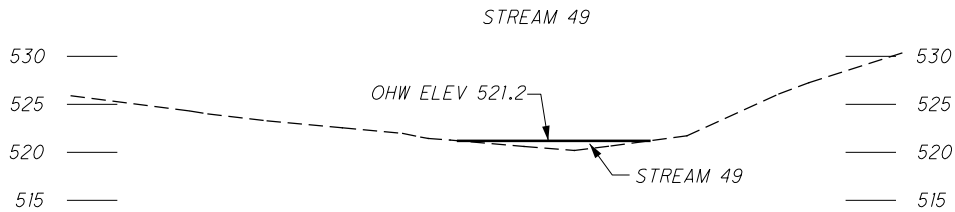
CROSS SECTION: 1"=10'  
STREAM PROFILE: 1"=50'

DATE: AUGUST 15, 2013

**FIGURE  
3-97A**



### PLAN



### CROSS SECTION A-A

- LEGEND**
- PROPOSED DITCH
  - STREAM IMPACT LENGTH
  - ▨▨▨▨ OHWM

PROPERTY OWNERS:  
STATE OF OHIO

LENGTH OF IMPACT:	350 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
NET FILL BELOW OHW:	3 CY



## PREFERRED ALTERNATIVE IMPACTS AT STREAM 49

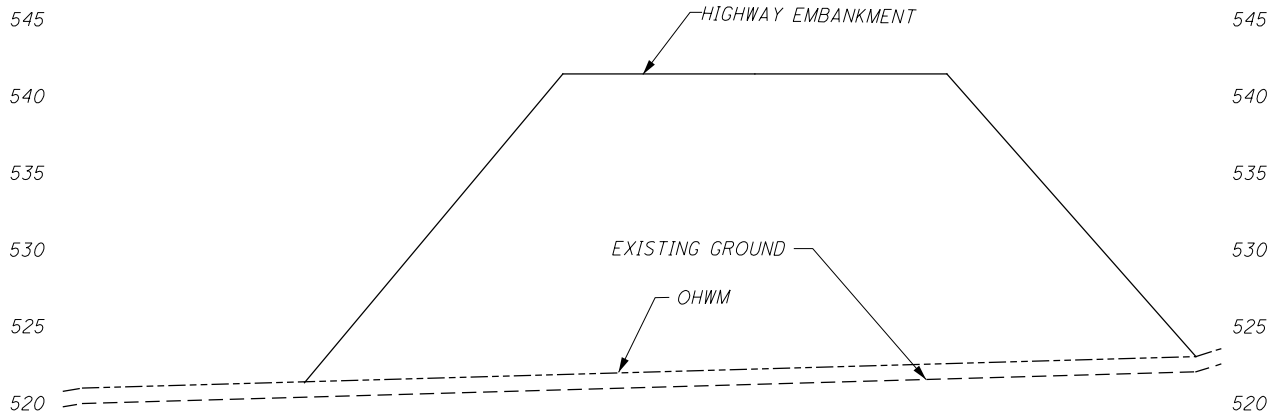
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
CROSS SECTION 1" = 20'

DATE: AUGUST 15, 2013

## FIGURE 3-98



## STREAM PROFILE



### PREFERRED ALTERNATIVE IMPACTS AT STREAM 49

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*

*STREAM PROFILE: 1" =50'*

*DATE: AUGUST 15, 2013*

## FIGURE 3-98A

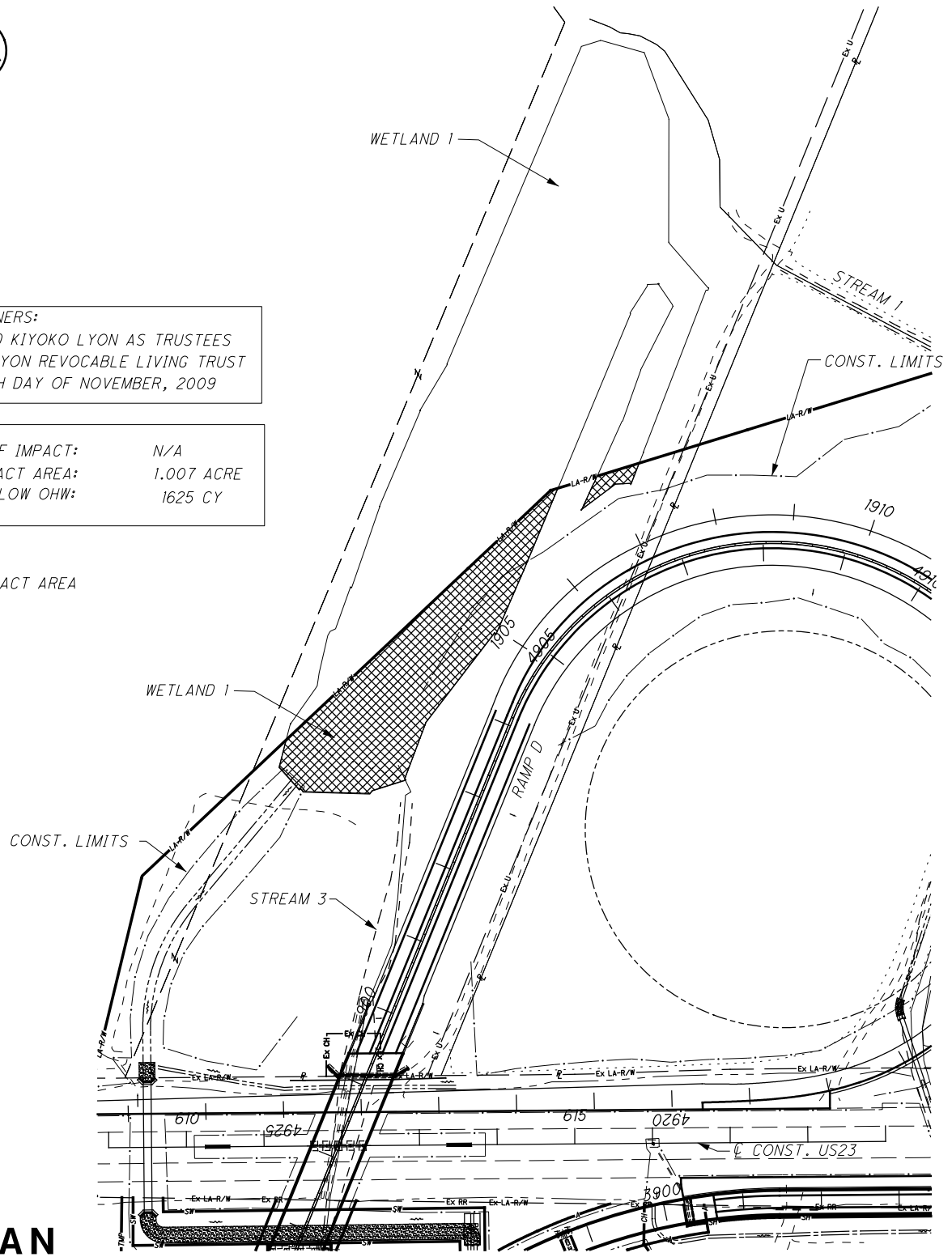




PROPERTY OWNERS:  
 CARL LYON AND KIYOKO LYON AS TRUSTEES  
 OF THE CARL LYON REVOCABLE LIVING TRUST  
 DATED THE 15TH DAY OF NOVEMBER, 2009

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 1.007 ACRE  
 NET FILL BELOW OHW: 1625 CY

LEGEND  
 IMPACT AREA



**PLAN**



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 WETLAND 1**

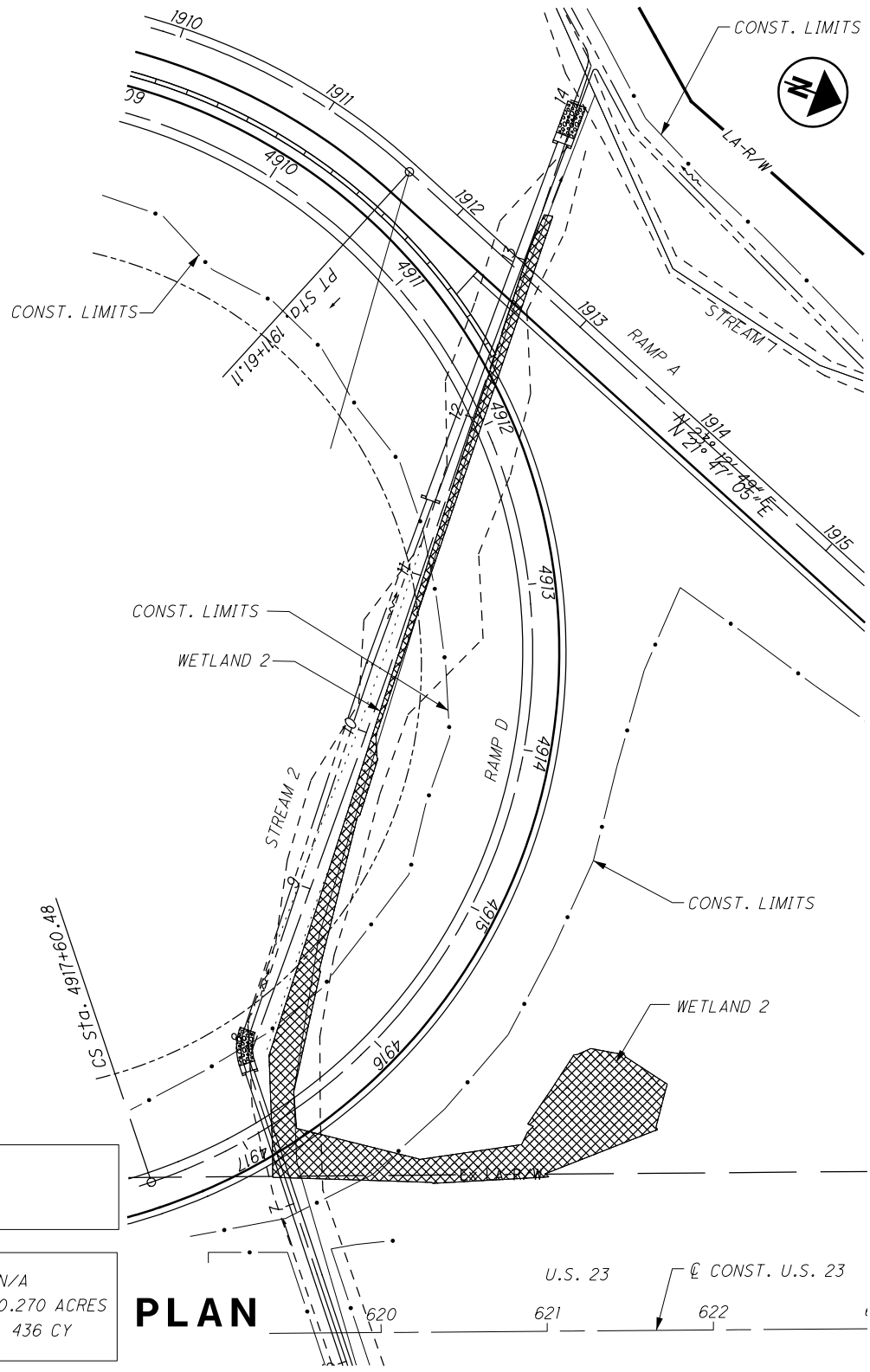
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'

DATE: AUGUST 16, 2013

**FIGURE  
 3-99**



LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
HOWARD BROTHERS FARMS, LLC

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.270 ACRES  
NET FILL BELOW OHW: 436 CY

**PLAN**

U.S. 23      U.S. 23  
620      621      622



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 2**

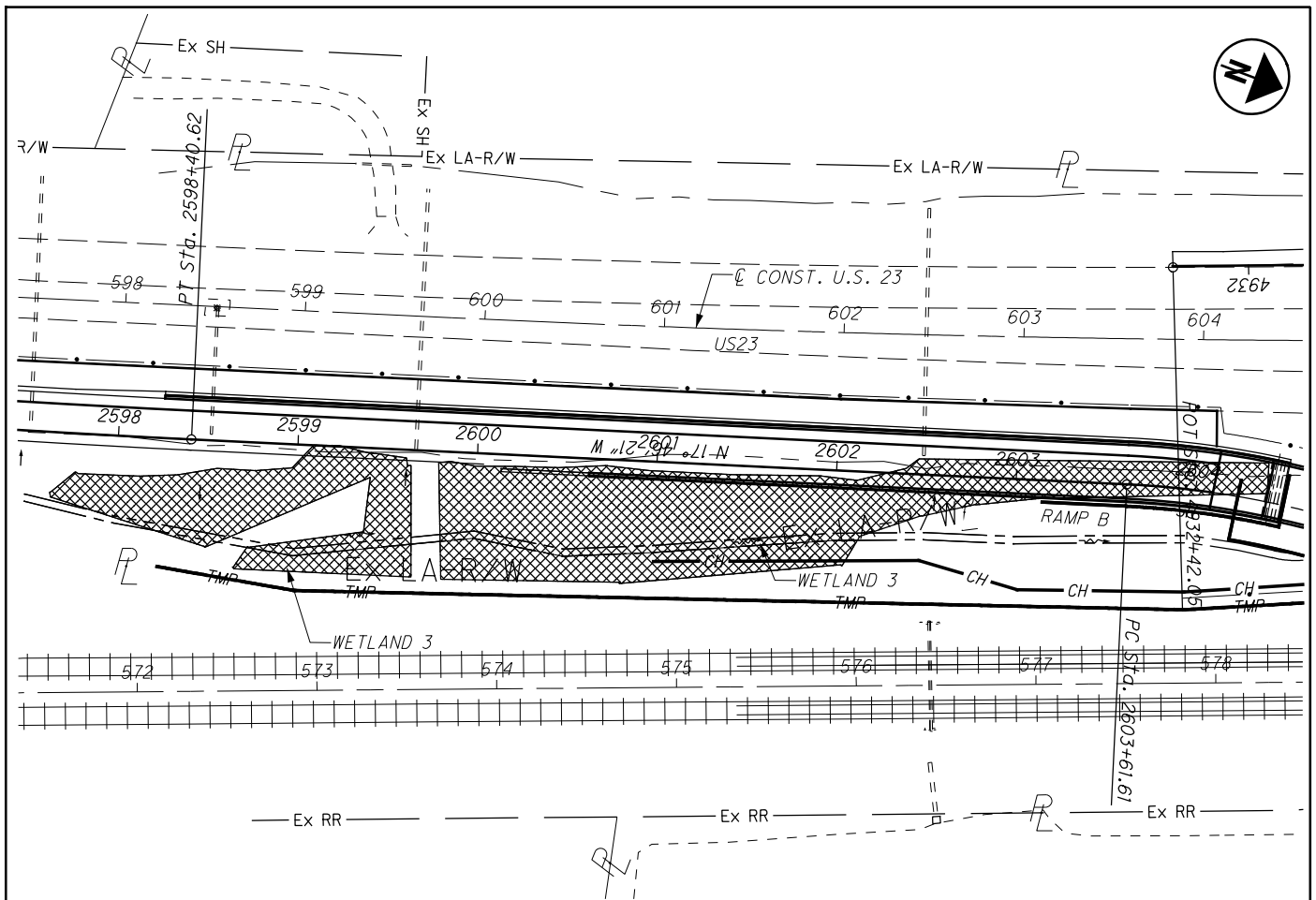
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-100**



# PLAN

**LEGEND**

 IMPACT AREA

PROPERTY OWNERS:  
 CARL LYON AND KIYOKO LYON AS TRUSTEES OF  
 THE CARL LYON REVOCABLE LIVING TRUST DATED  
 THE 15TH DAY OF NOVEMBER, 2009

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0.610 ACRES  
 NET FILL BELOW OHW: 984 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 3

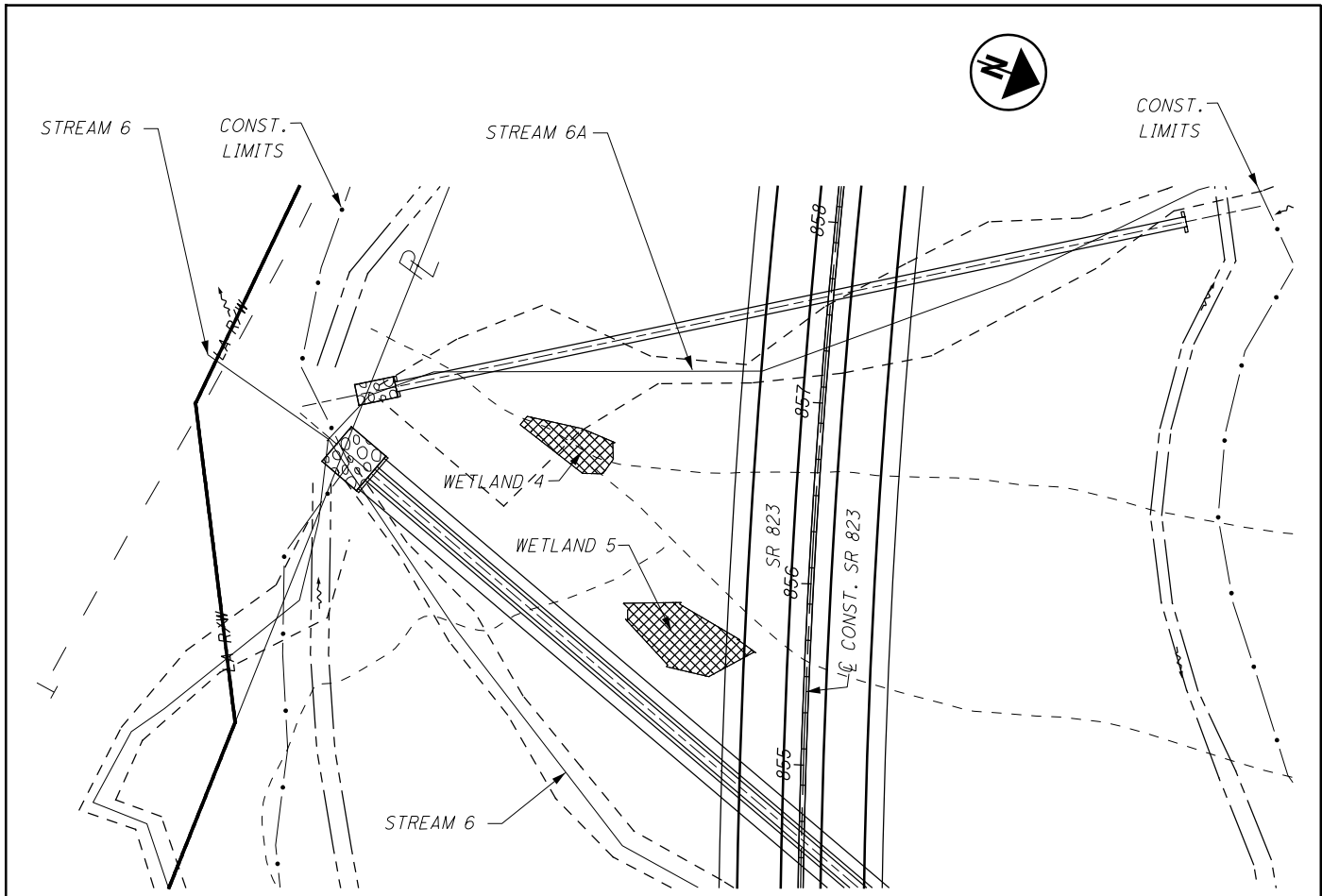
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-101



## PLAN

### LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
SHIRLEY E. NEWTON

### WETLAND 4

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.019 ACRES  
NET FILL BELOW OHW: 31 CY

### WETLAND 5

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.038 ACRES  
NET FILL BELOW OHW: 61 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 4 WETLAND 5

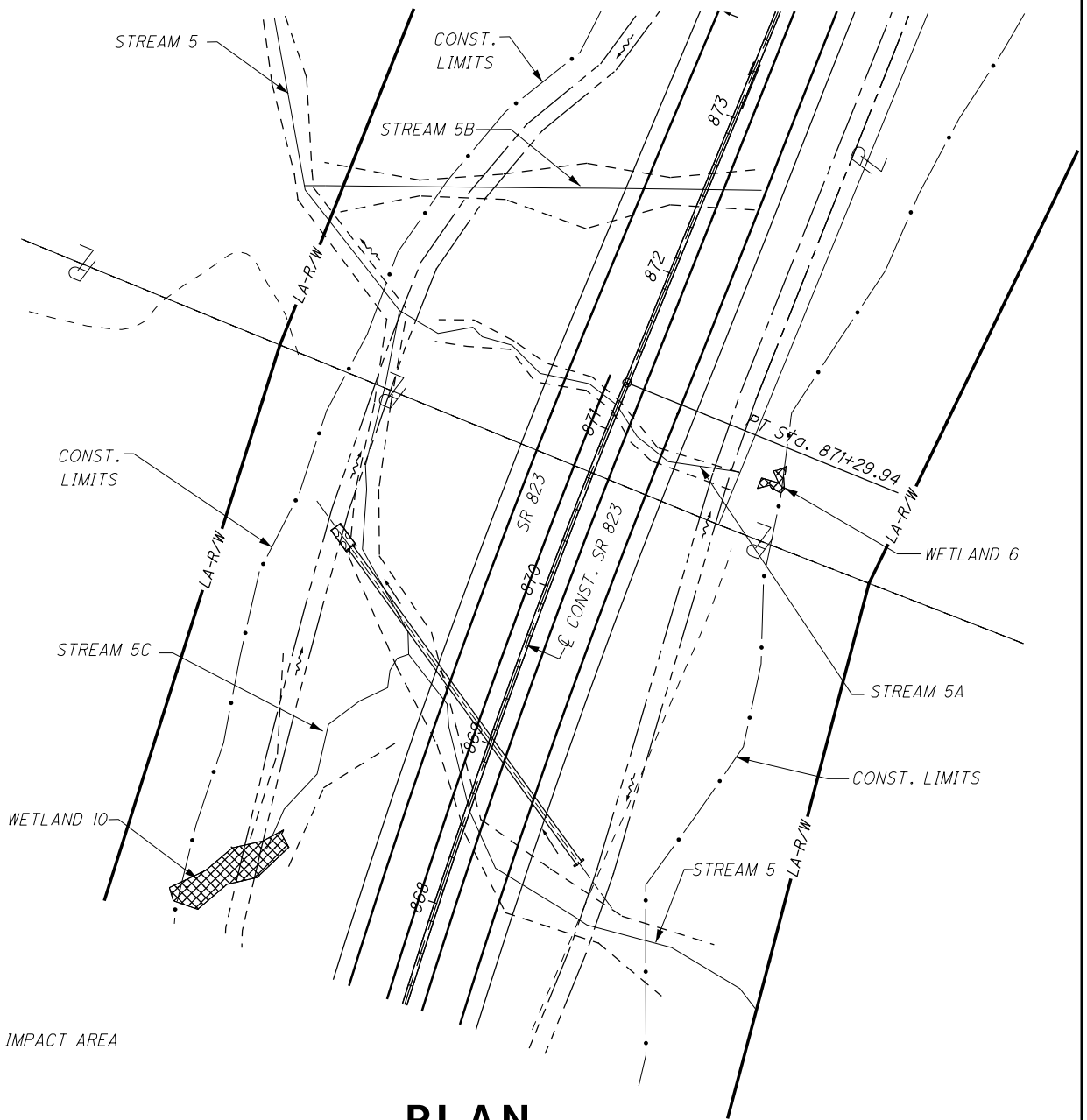
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-102



**LEGEND**

 **IMPACT AREA**

**PLAN**

*PROPERTY OWNERS:*  
 RANDALL SPRIGGS AND BETTY SPRIGGS  
 SOUTHERN OHIO MANAGEMENT CORPORATION

**WETLAND 6**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.003 ACRES
NET FILL BELOW OHW:	5 CY

**WETLAND 10**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.028 ACRES
NET FILL BELOW OHW:	45 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 WETLAND 6  
 WETLAND 10**

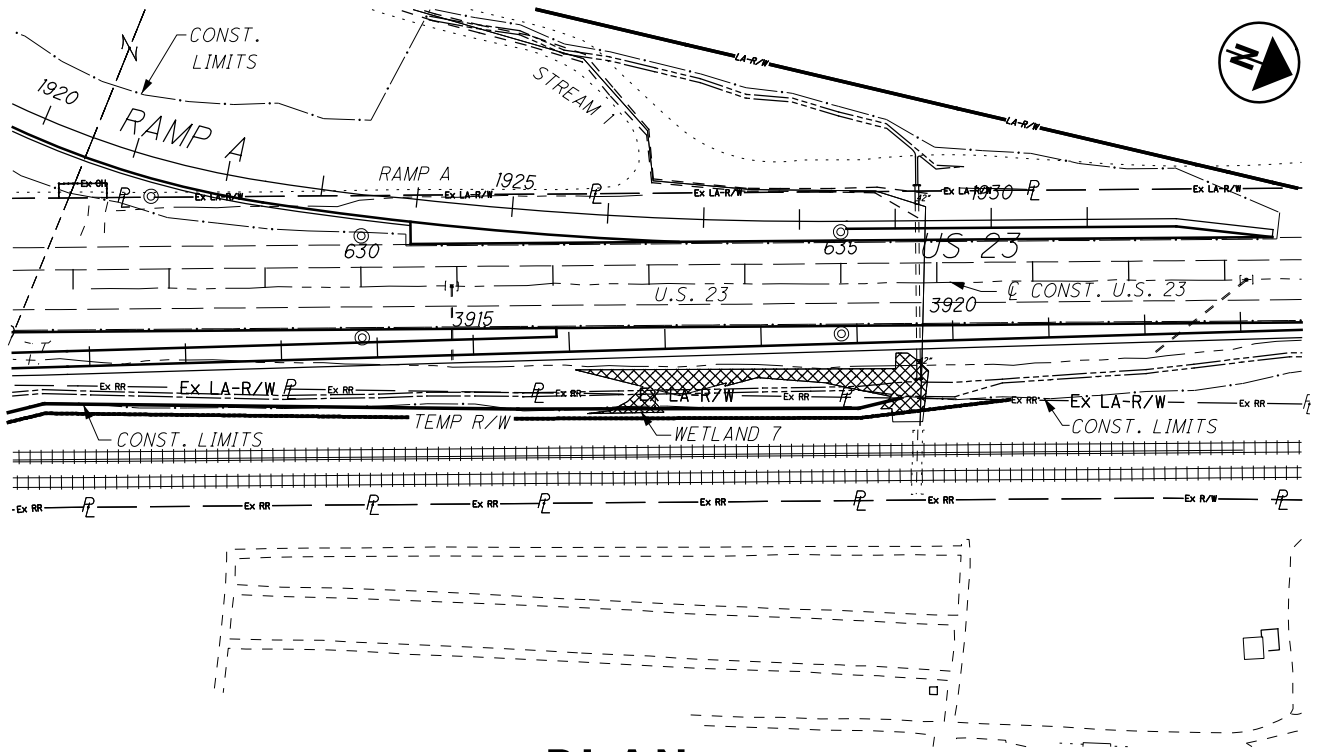
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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  
 3-103**



## PLAN

### LEGEND

 IMPACT AREA

### PROPERTY OWNERS:

NORFOLK SOUTHERN RAILWAY COMPANY

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.188 ACRES
NET FILL BELOW OHW:	303 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 7

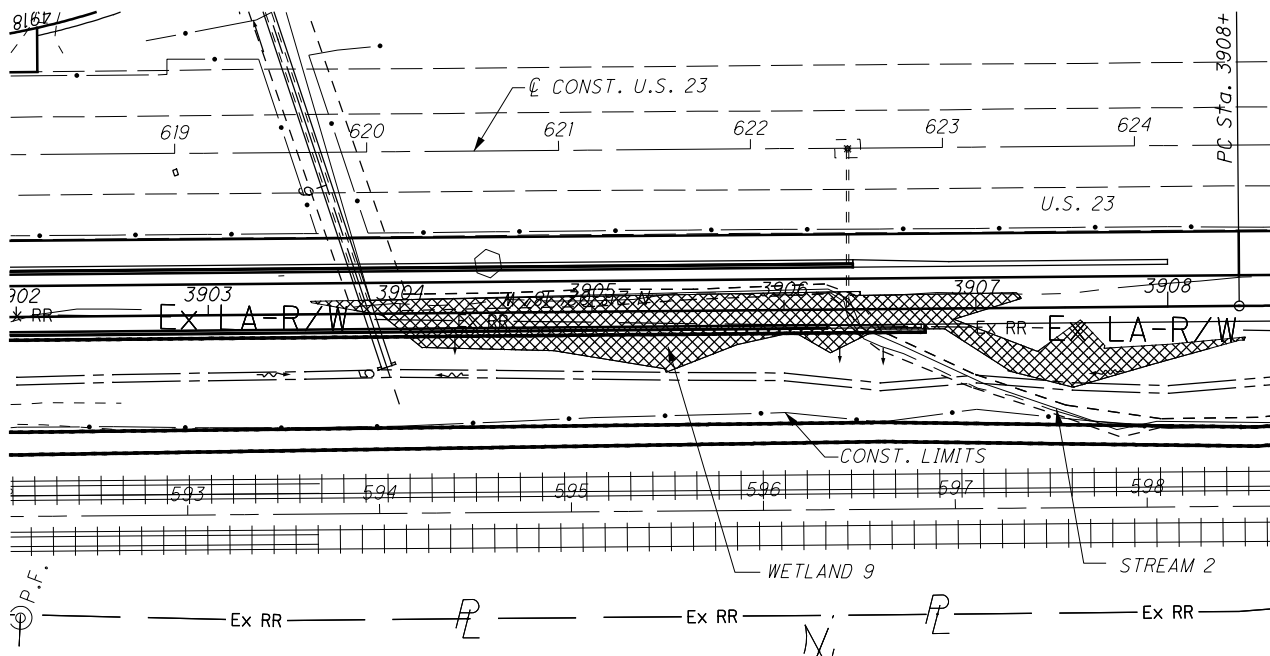
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'


DATE: AUGUST 16, 2013

## FIGURE 3-104



# PLAN

### LEGEND

 IMPACT AREA

#### PROPERTY OWNERS:

NORFOLK SOUTHERN RAILWAY COMPANY

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.237 ACRES
NET FILL BELOW OHW:	382 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 9

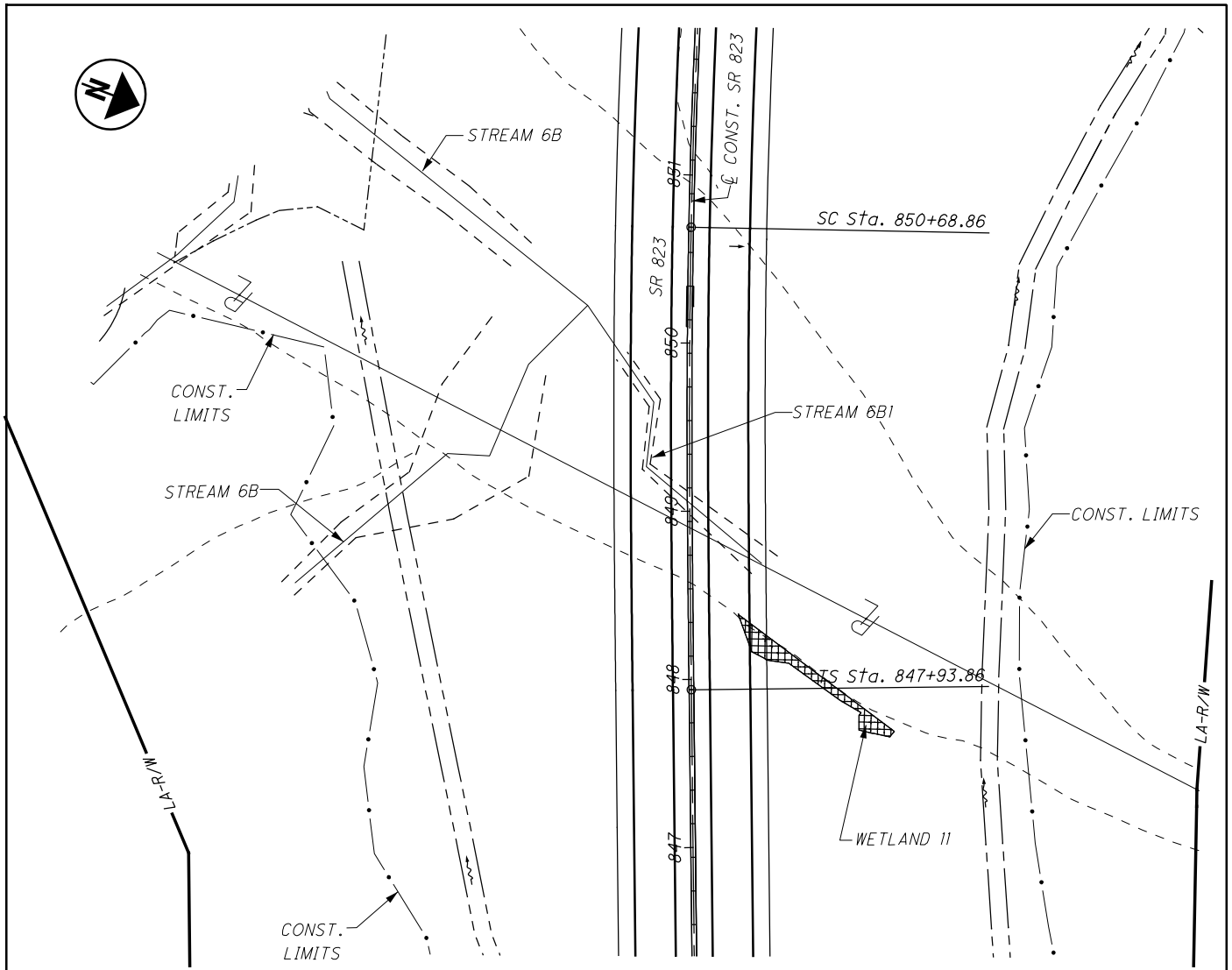
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-105



**PLAN**

LEGEND  
 IMPACT AREA

PROPERTY OWNERS:  
 MERINA J. HOWARD

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0.018 ACRES  
 NET FILL BELOW OHW: 29 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 WETLAND 11**

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

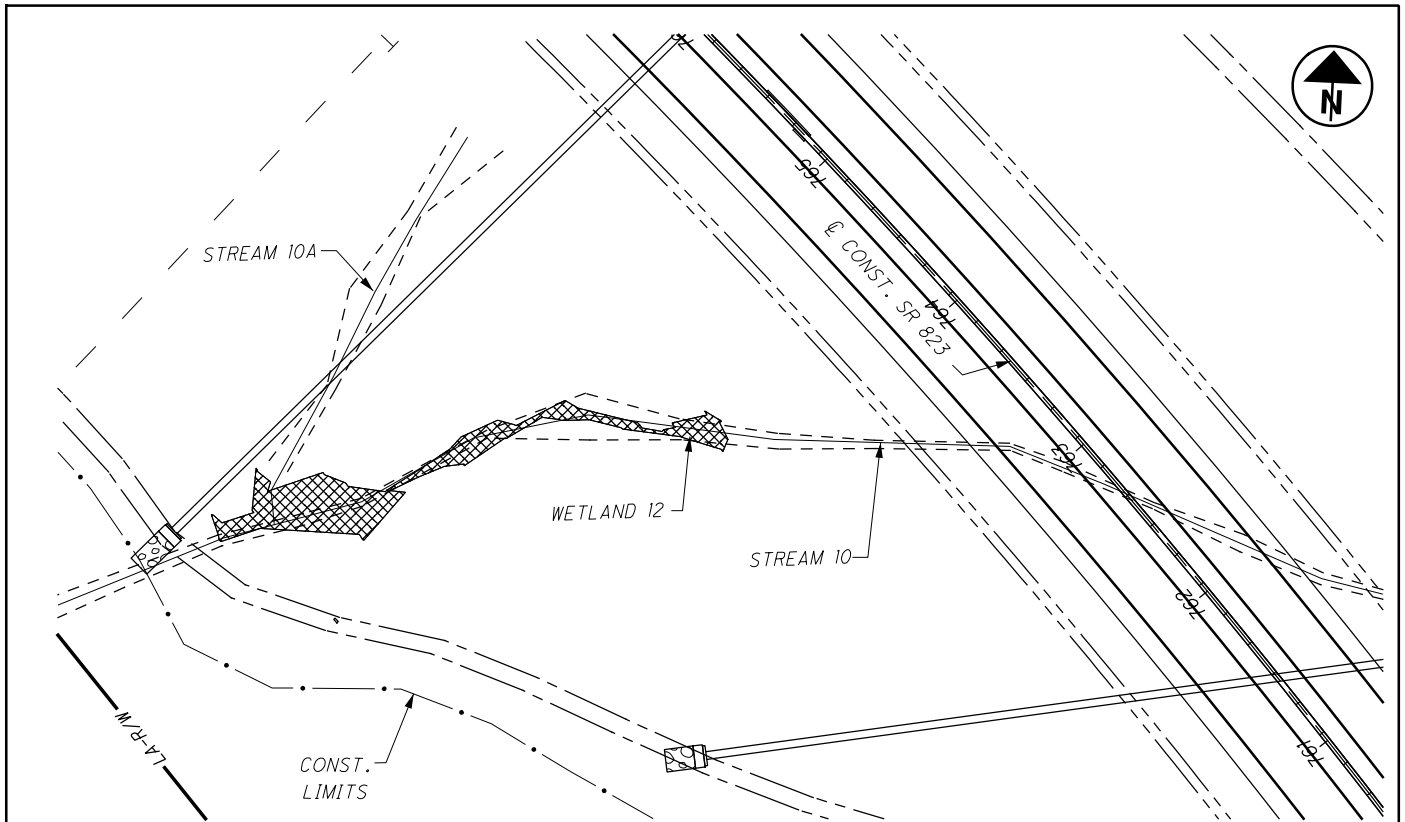
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013

**FIGURE  
 3-106**





# PLAN

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
SCOTT WEST AND RONNIE WEST

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.074 ACRES  
NET FILL BELOW OHW: 119 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 12

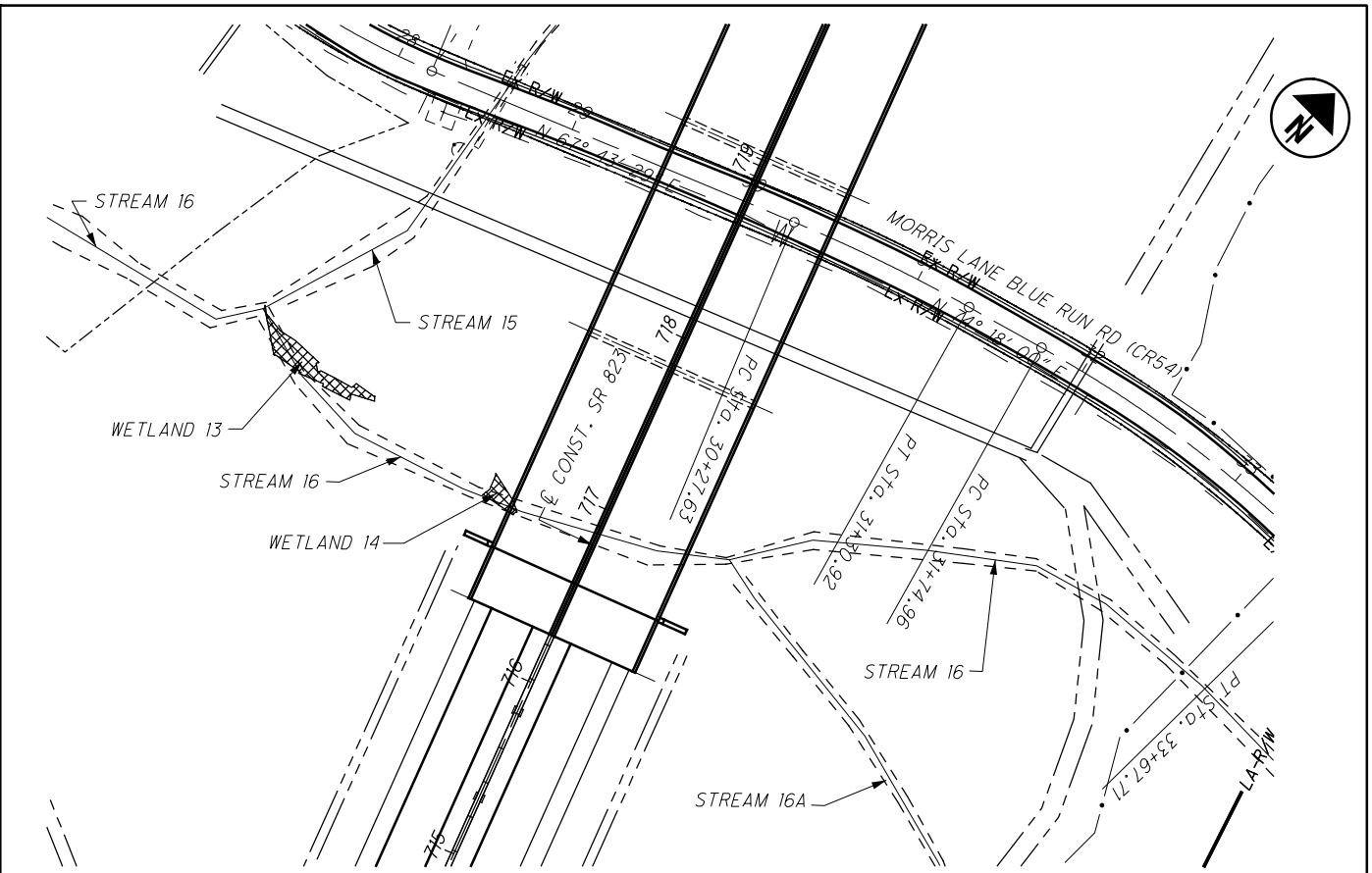
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-107



## PLAN

### LEGEND

 IMPACT AREA

#### PROPERTY OWNERS:

PHYLLIS J. WILLS AND LANETTE WAGNER

### WETLAND 13

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.013 ACRES
NET FILL BELOW OHW:	21 CY

### WETLAND 14

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.004 ACRES
NET FILL BELOW OHW:	6 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 13 WETLAND 14

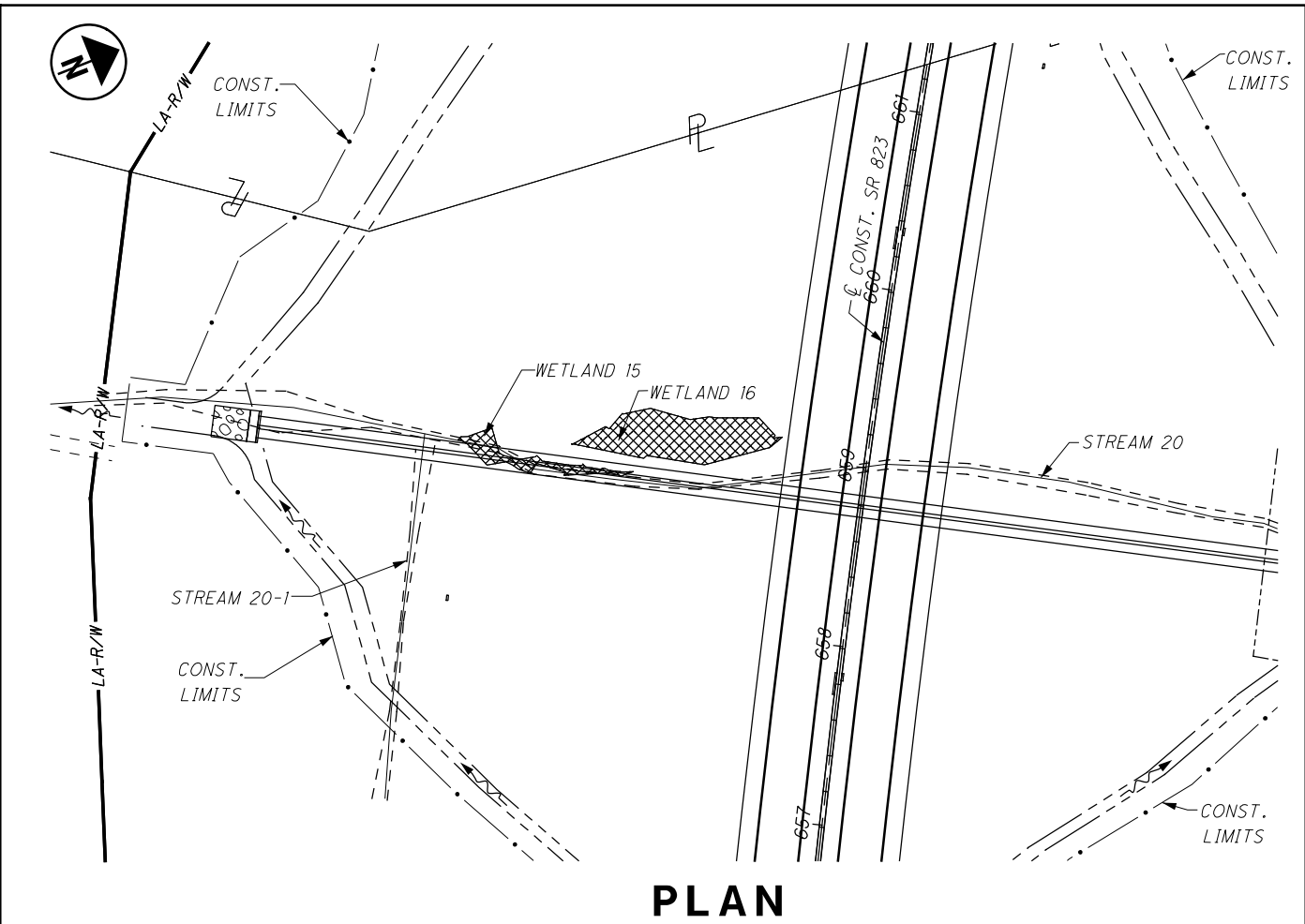
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-108



**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
JOSEPH RAMSEY

**WETLAND 15**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.012 ACRES
NET FILL BELOW OHW:	19 CY

**WETLAND 16**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.051 ACRES
NET FILL BELOW OHW:	82 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 15  
WETLAND 16**

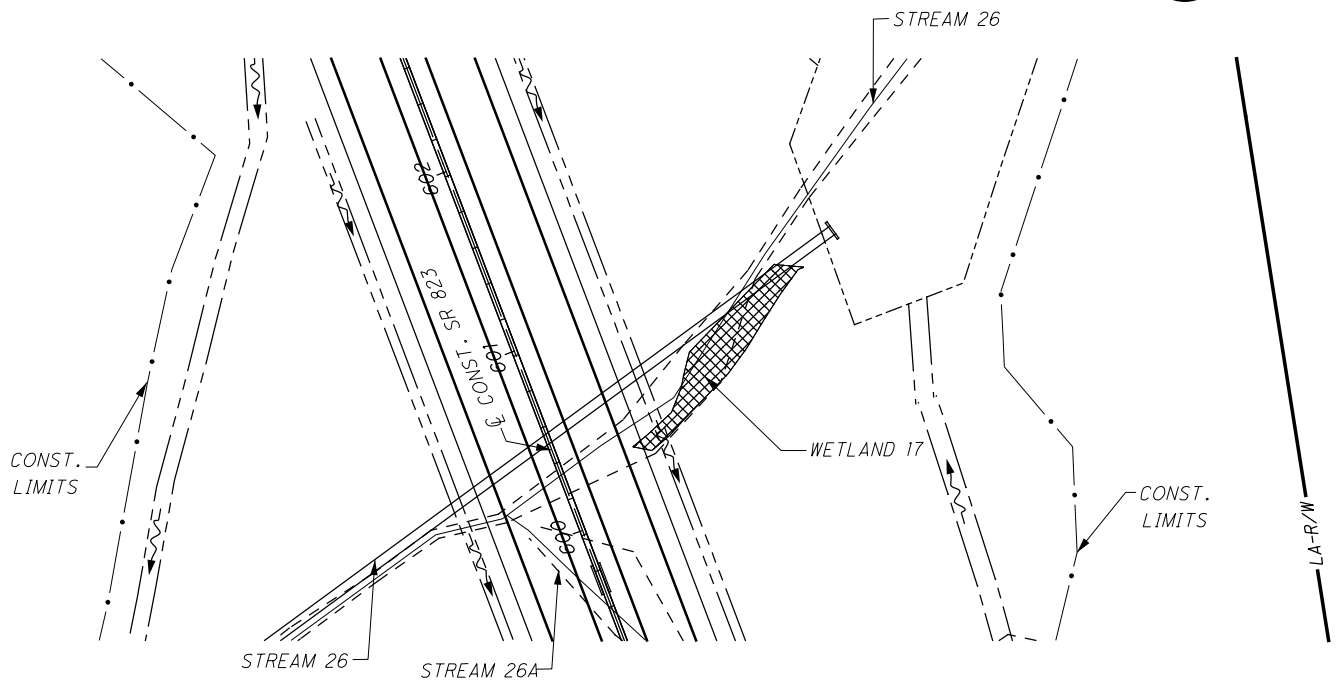
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-109**



# PLAN

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
 VIRGIL L. LAXTON AND  
 CHERYL A. LAXTON

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.041 ACRES
NET FILL BELOW OHW:	66 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 17

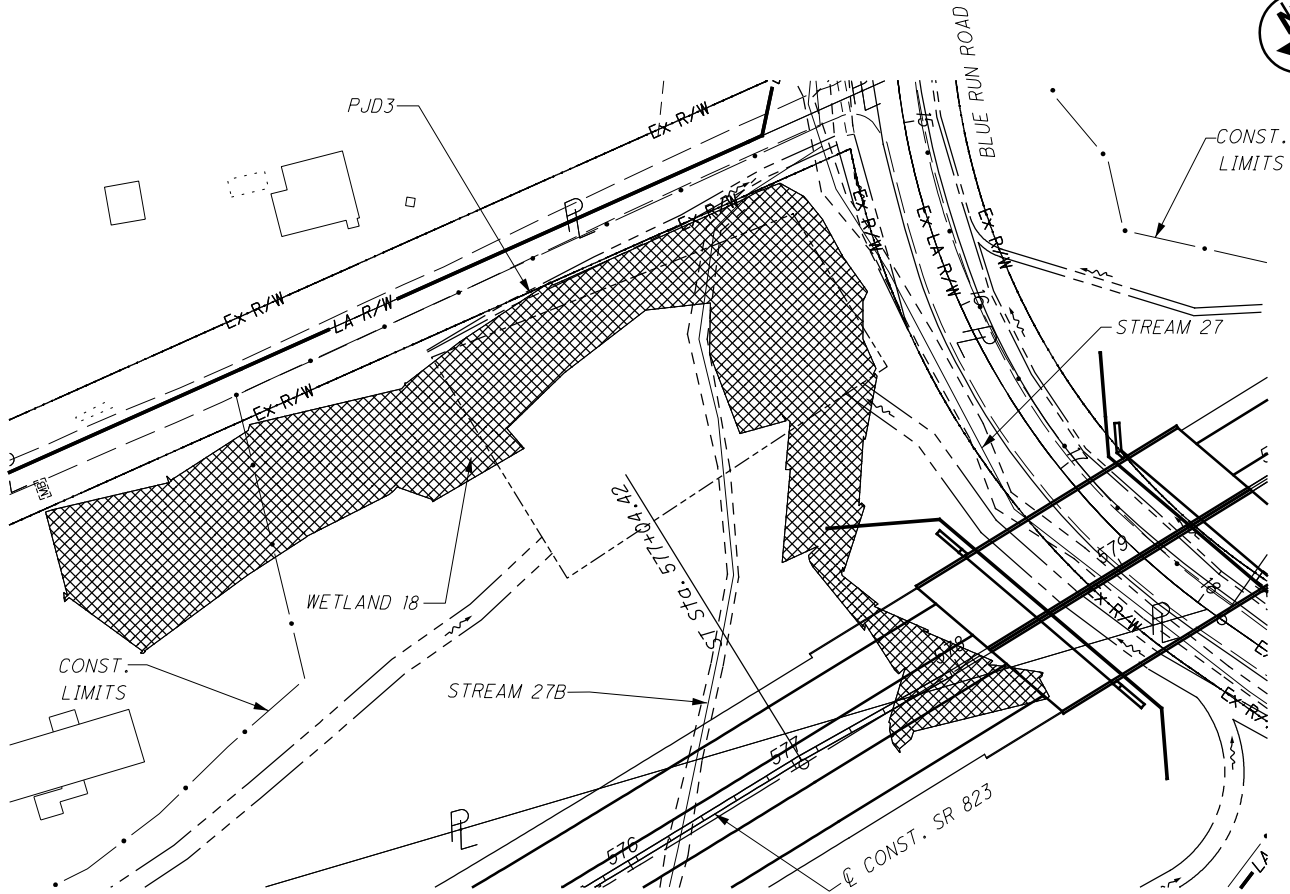
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-110



# PLAN

**LEGEND**

 IMPACT AREA

**PROPERTY OWNERS:**  
 LORENZO J. BENTLEY AND  
 AMANDA R. BENTLEY  
 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:	0.827 ACRES
NET FILL BELOW OHW:	1334 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 18

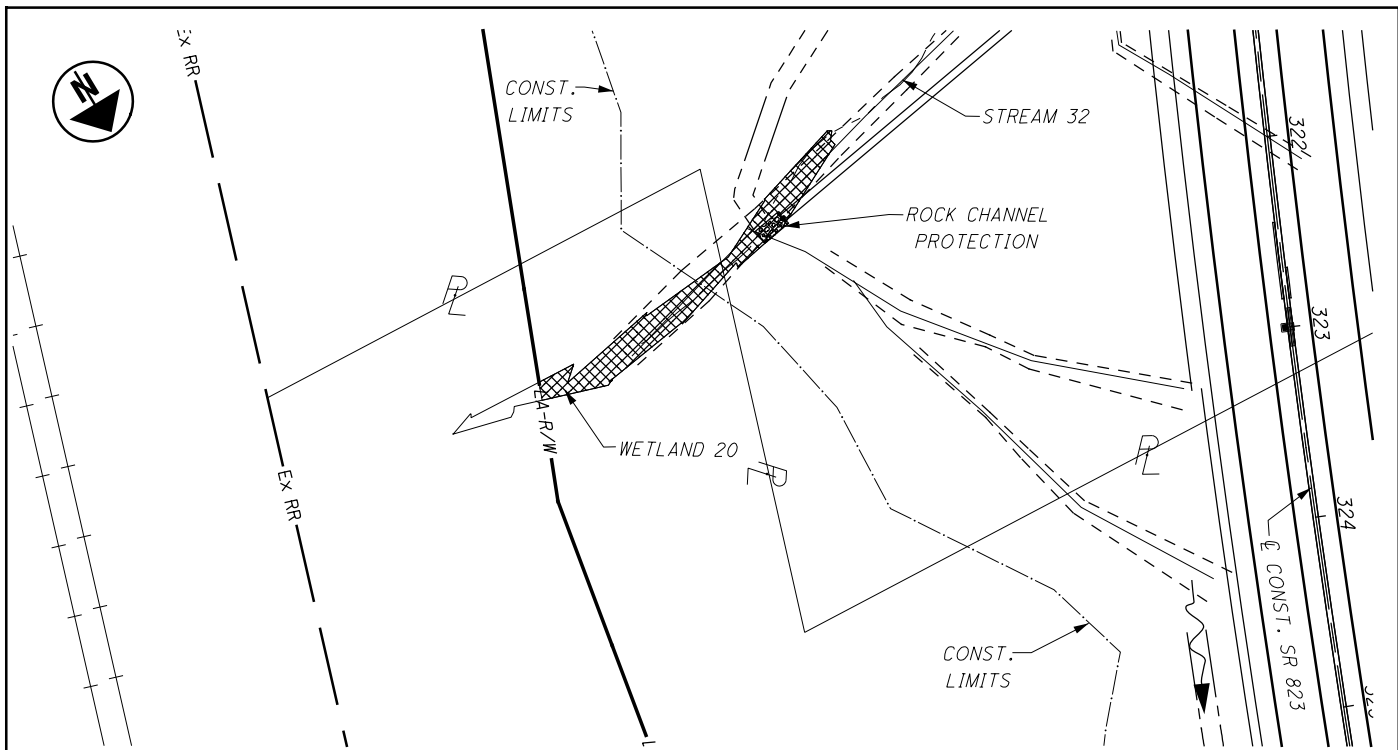
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'

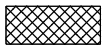
DATE: AUGUST 16, 2013

### FIGURE 3-111



## PLAN

### LEGEND



IMPACT AREA

PROPERTY OWNERS:  
HEER AND COMPANY  
CRAIG S. VEACH AND GAYLE M. VEACH

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.057 ACRES
NET FILL BELOW OHW:	92 CY



# PREFERRED ALTERNATIVE IMPACTS AT WETLAND 20

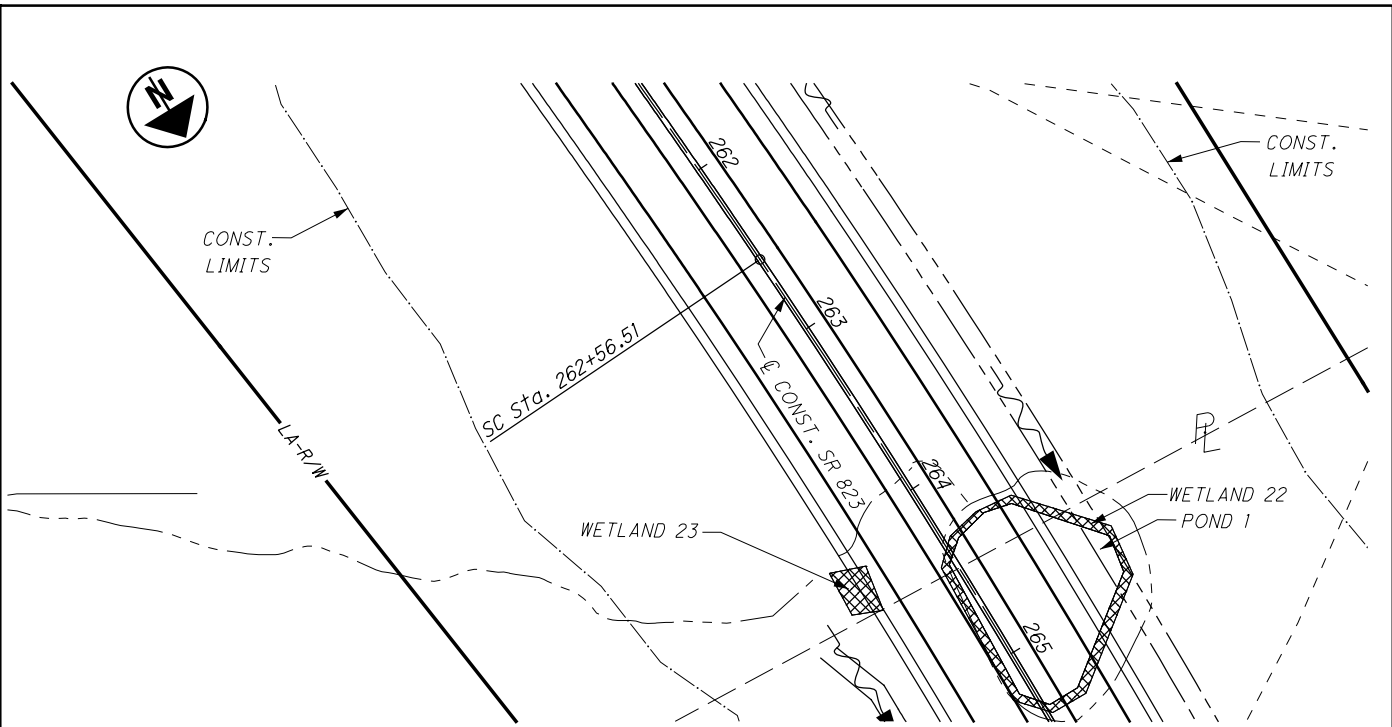
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'

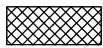
DATE: AUGUST 16, 2013

## FIGURE 3-112



## PLAN

### LEGEND



IMPACT AREA

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

### WETLAND 22

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.031 ACRES
NET FILL BELOW OHW:	50 CY

### WETLAND 23

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.010 ACRES
NET FILL BELOW OHW:	16 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 22 WETLAND 23

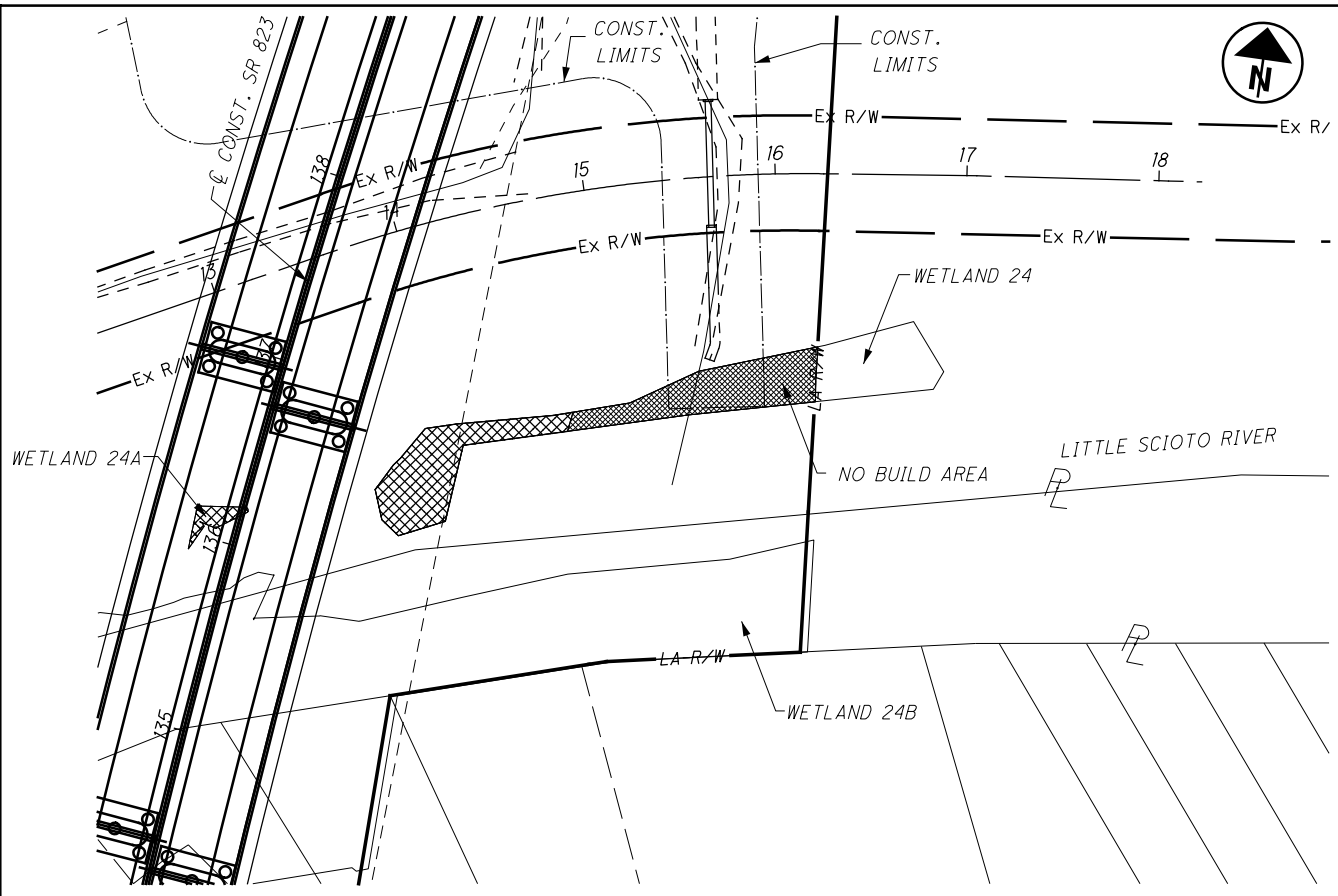
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-113



**PLAN**

LEGEND

-  IMPACT AREA
-  NO BUILD ZONE

PROPERTY OWNERS:  
DON HADSELL

**WETLAND 24**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.053 ACRES
NET FILL BELOW OHW:	86 CY

**WETLAND 24A**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.006 ACRES
NET FILL BELOW OHW:	10 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 24  
WETLAND 24A**

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

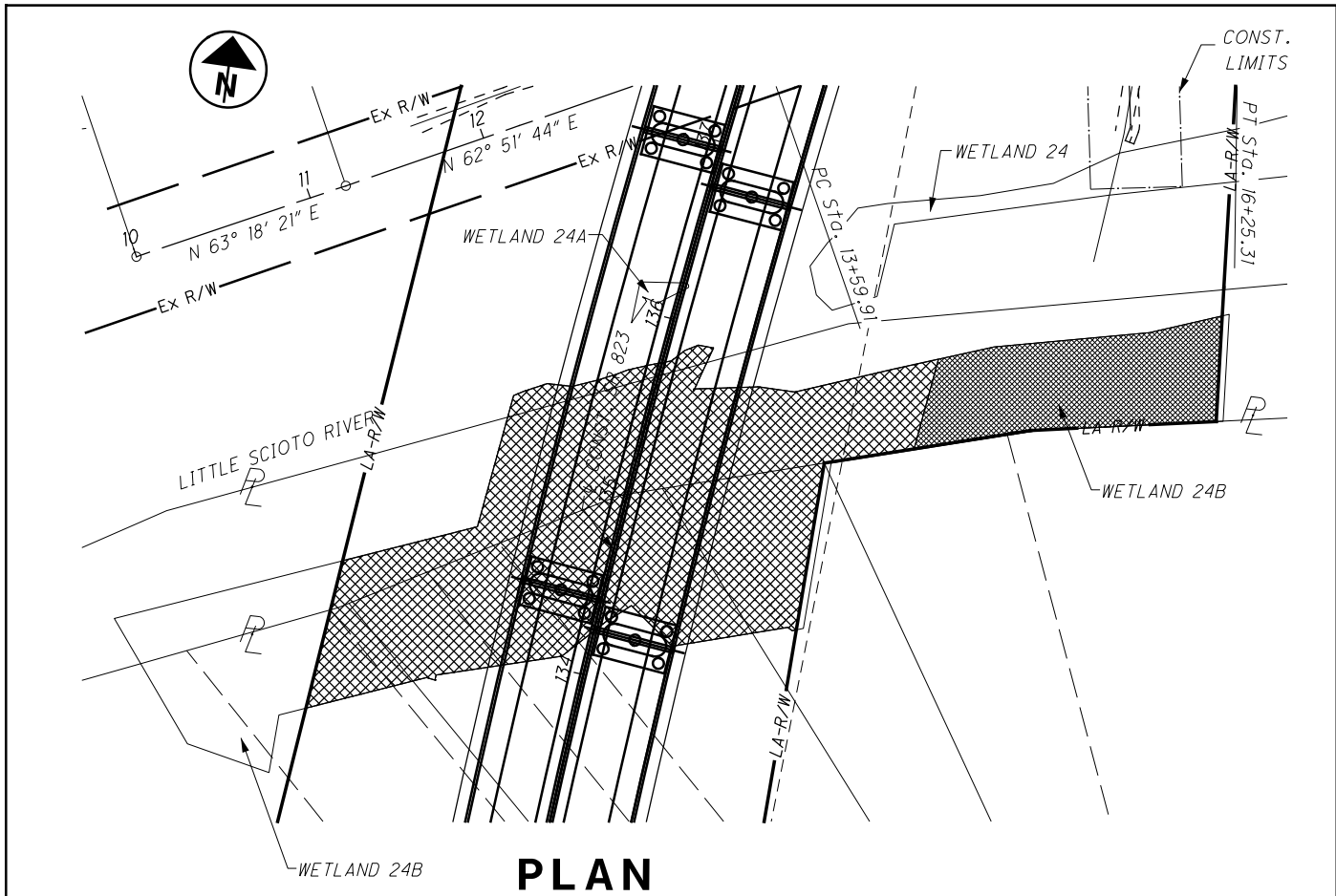
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013


**FIGURE  
3-114**





**PLAN**

**LEGEND**

-  IMPACT AREA
-  NO BUILD ZONE

PROPERTY OWNERS:  
 GARY LEE BENNETT, JR AND ANNETTE BENNETT  
 ANDREW L. ELDRIDGE  
 BLUEMOUNT CORPORATION

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.780 ACRES
NET FILL BELOW OHW:	1258 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 WETLAND 24B**

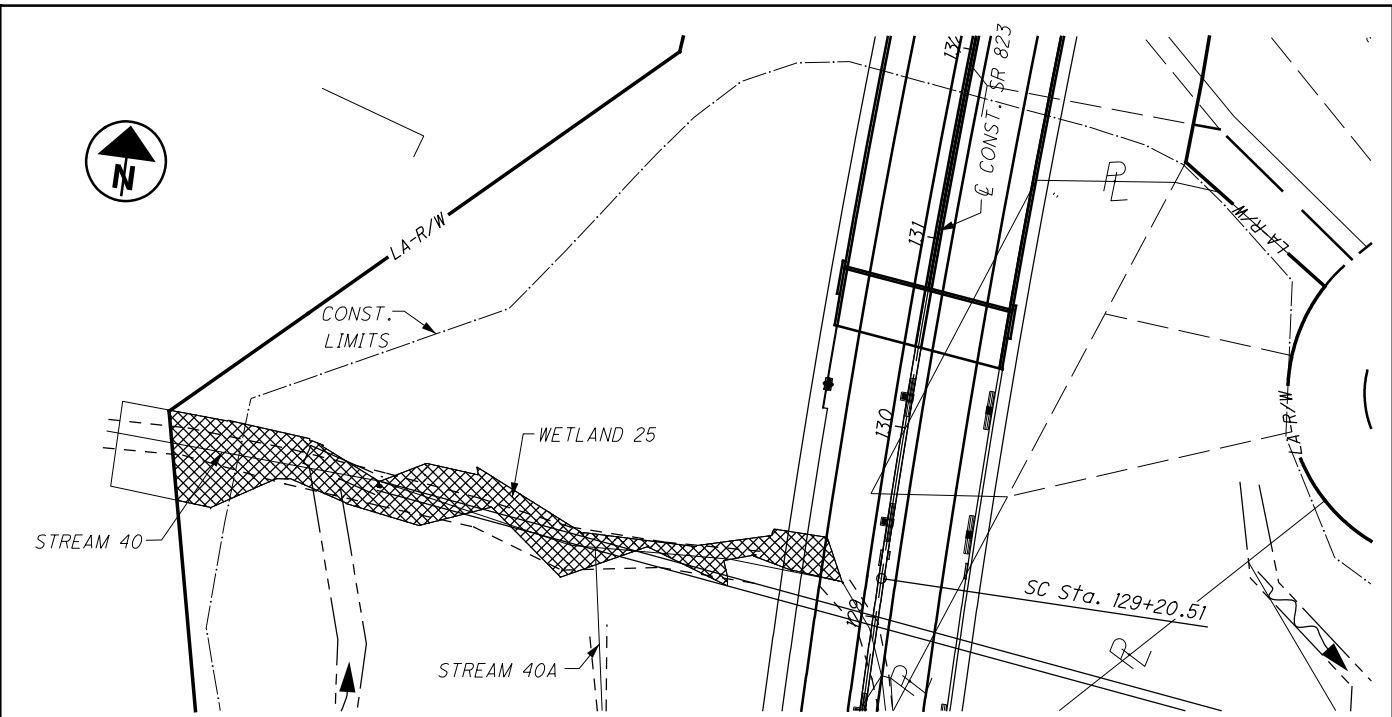
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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  
 3-115**



**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
GARY LEE BENNETT, JR AND ANNETTE BENNETT

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.175 ACRES  
NET FILL BELOW OHW: 282 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 25**

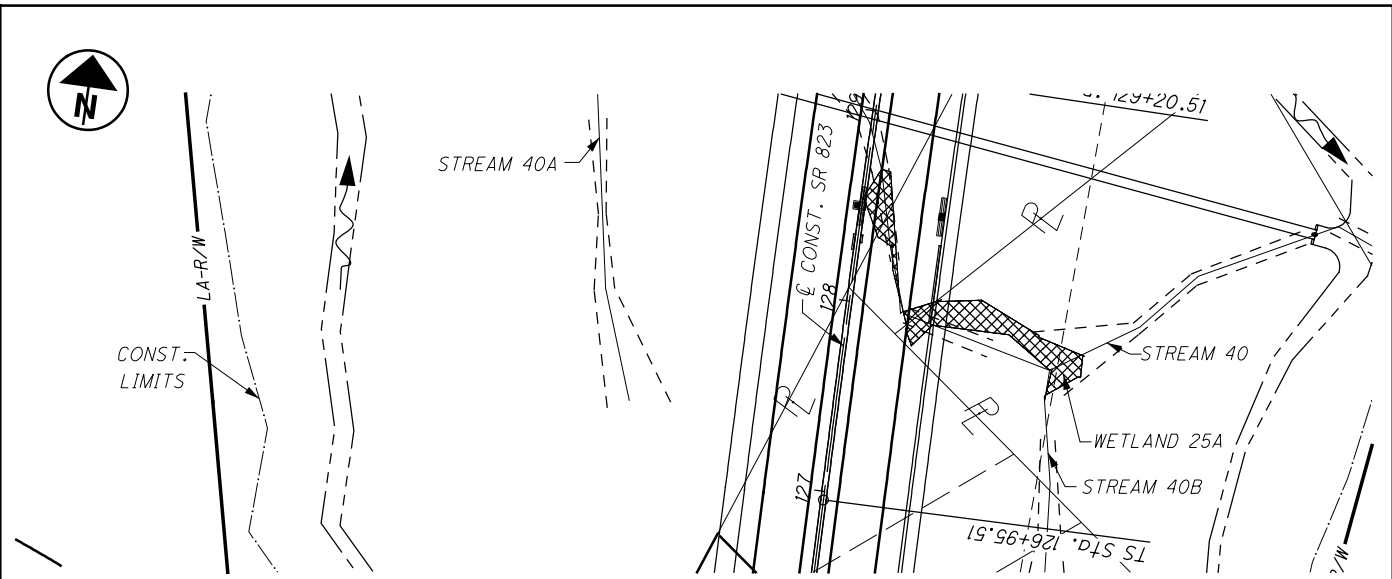
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-116**



# PLAN

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
 DENNIS JORDAN AND JOYCE JORDAN  
 GARY LEE BENNETT, JR. AND ANNETTE BENNETT  
 GARY LEE BENNETT, JR. AND HENRIETTA FAYE BENNETT

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0.041 ACRES  
 NET FILL BELOW OHW: 66 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 25A

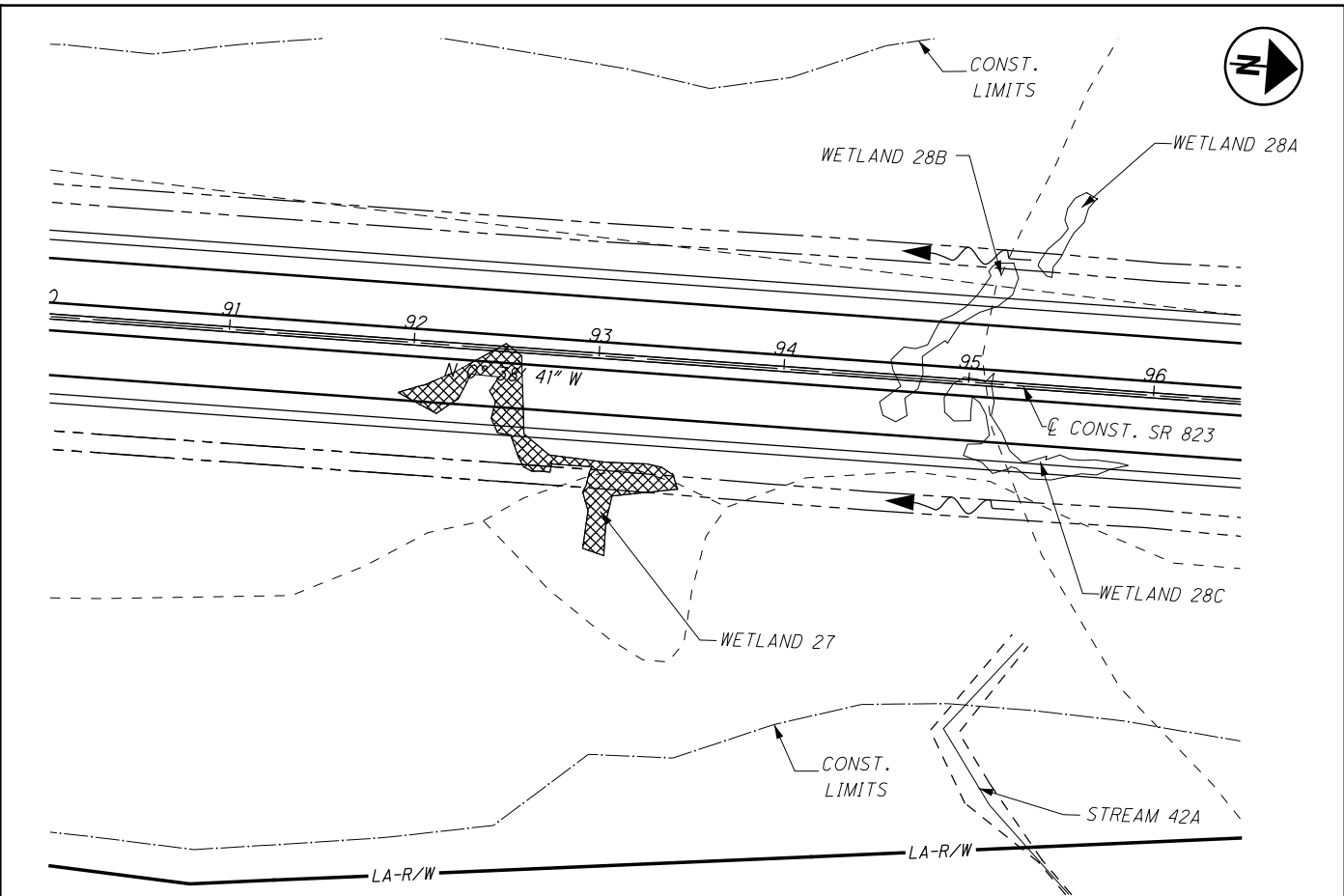
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-117



**PLAN**

LEGEND



IMPACT AREA

PROPERTY OWNERS:  
MARK FITZGERALD

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.063 ACRES  
NET FILL BELOW OHW: 102 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 27**

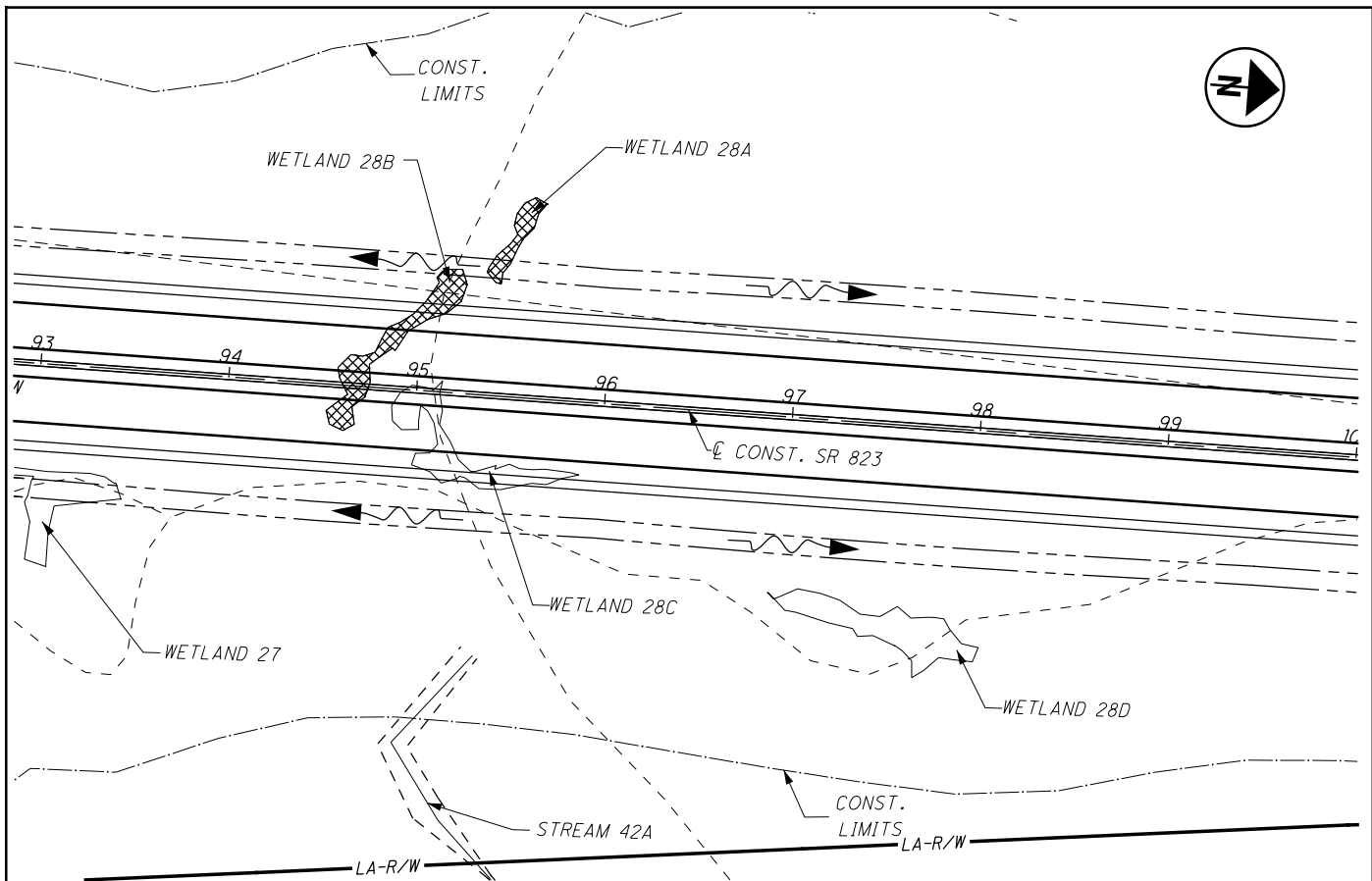
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-118**



**PLAN**

**LEGEND**



IMPACT AREA

PROPERTY OWNERS:  
MARK FITZGERALD

**WETLAND 28A**

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

**WETLAND 28B**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.027 ACRES
NET FILL BELOW OHW:	44 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 28A  
WETLAND 28B**

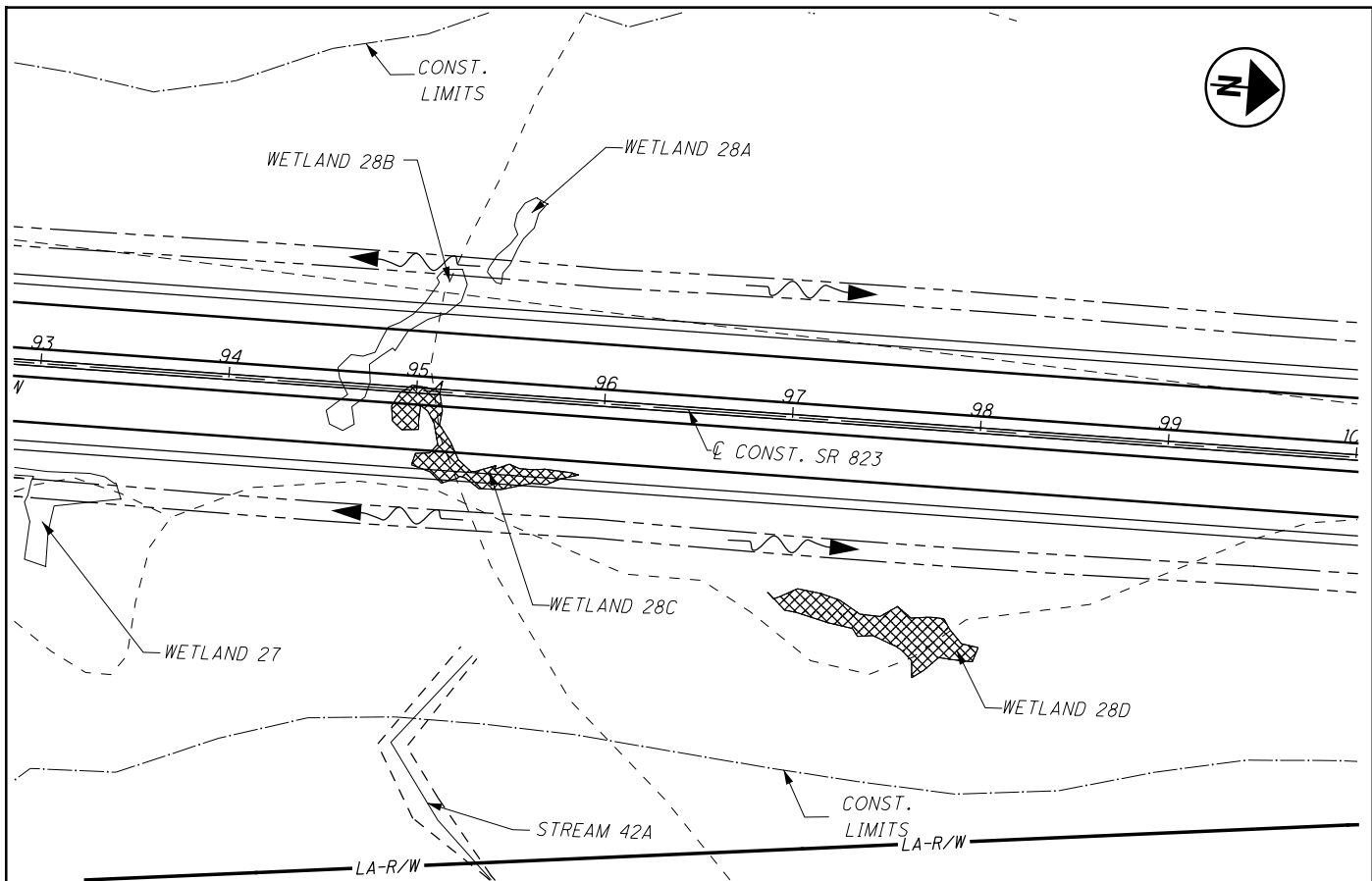
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-119**



**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
MARK FITZGERALD

**WETLAND 28C**

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.031 ACRES  
NET FILL BELOW OHW: 50 CY

**WETLAND 28D**

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.037 ACRES  
NET FILL BELOW OHW: 60 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 28C  
WETLAND 28D**

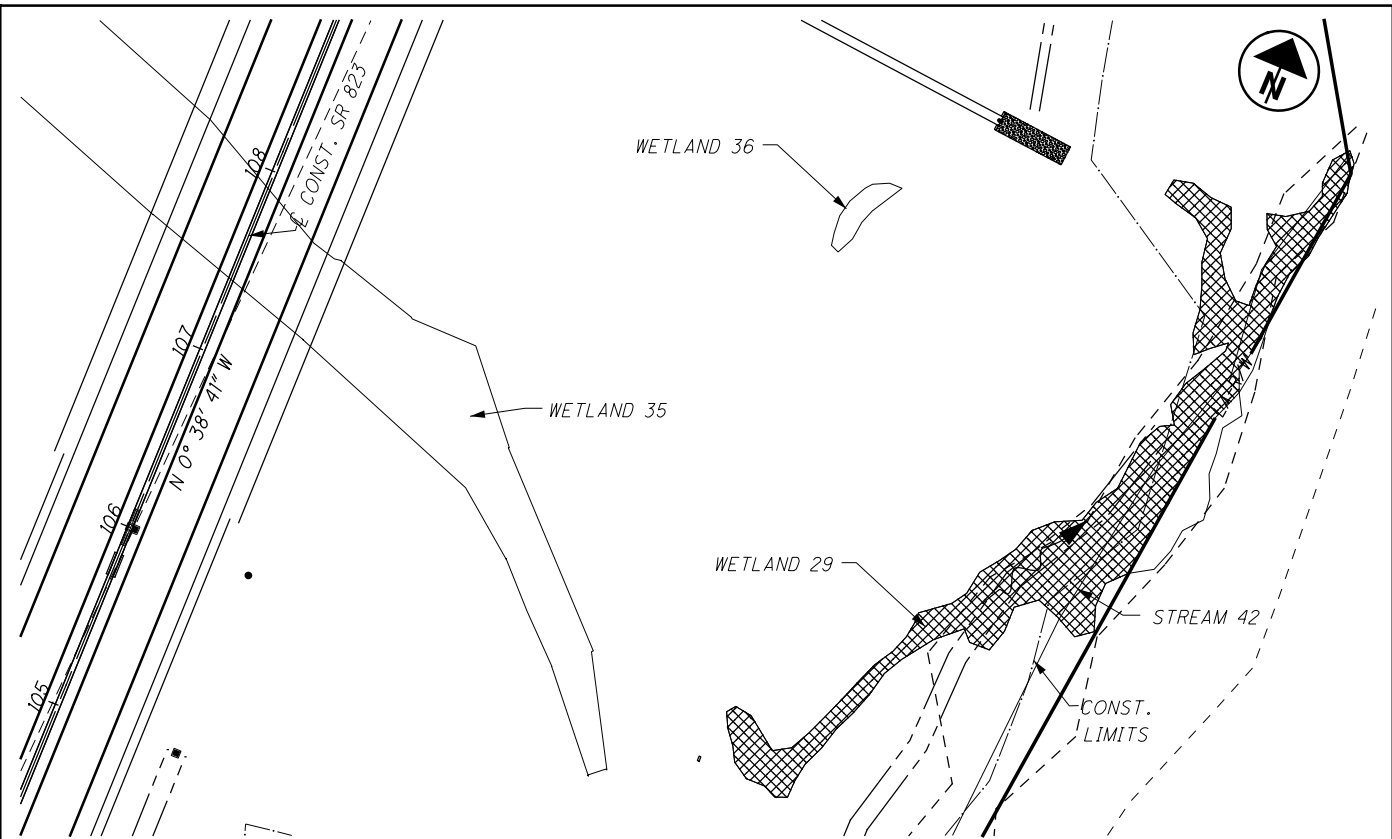
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-120**



# PLAN

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
MARK FITZGERALD

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.261 ACRES  
NET FILL BELOW OHW: 421 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 29

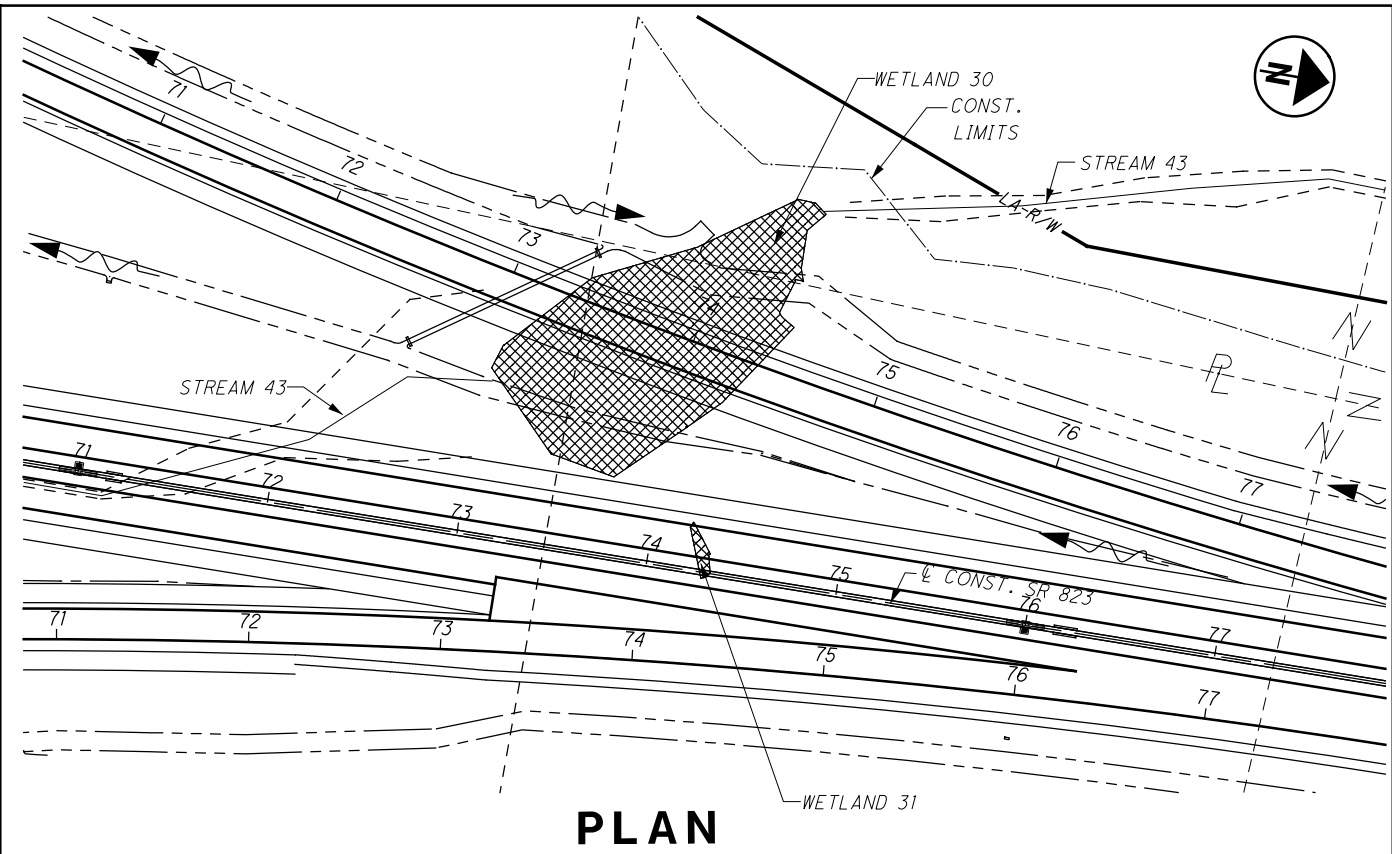
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'

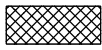
DATE: AUGUST 16, 2013

# FIGURE 3-121



**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
 MARK FITZGERALD  
 STATE OF OHIO

**WETLAND 30**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.294 ACRES
NET FILL BELOW OHW:	474 CY

**WETLAND 31**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.003 ACRES
NET FILL BELOW OHW:	5 CY



**PREFERRED  
 ALTERNATIVE  
 IMPACTS AT  
 WETLAND 30  
 WETLAND 31**

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

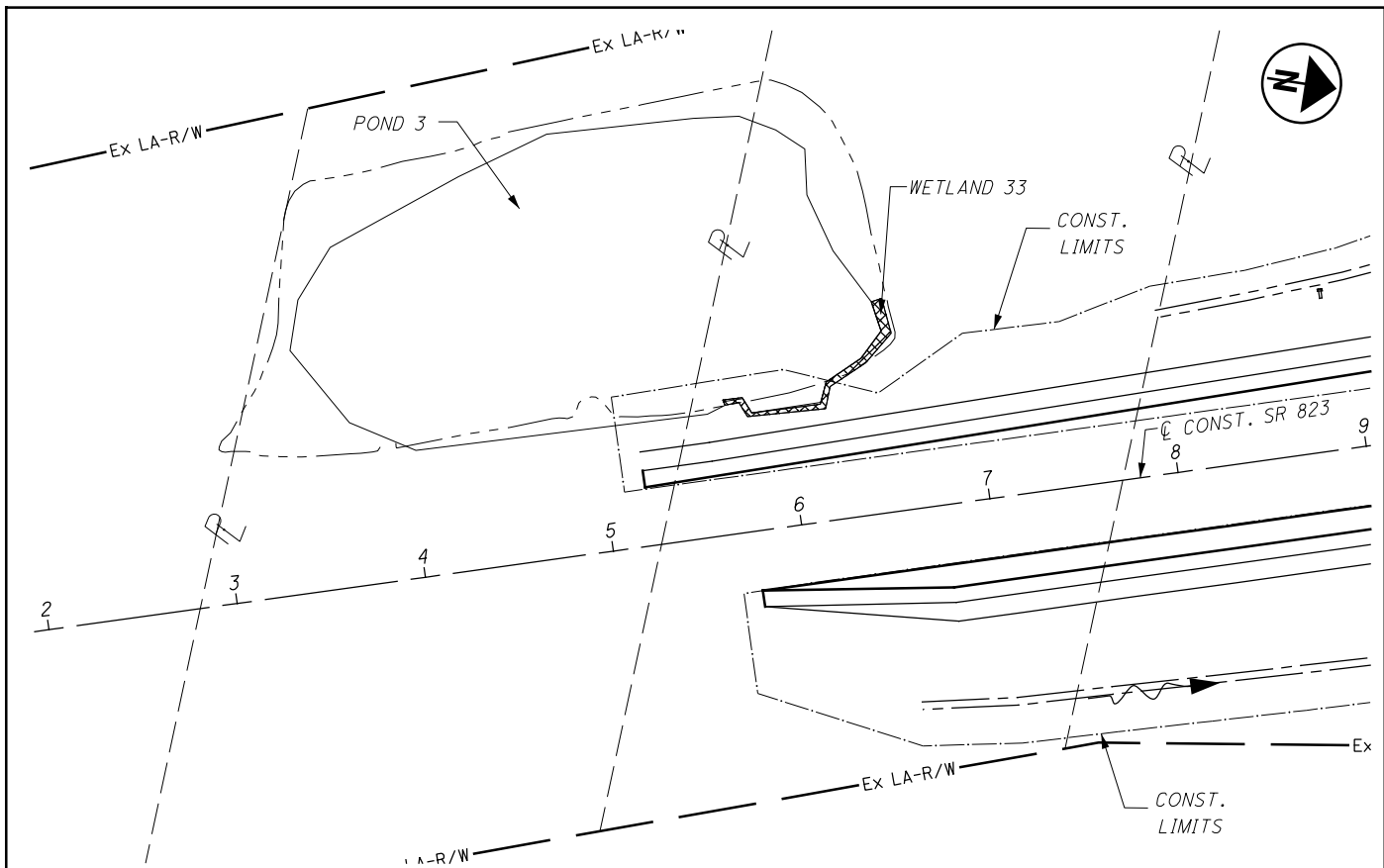
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013


**FIGURE  
 3-122**





**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
STATE OF OHIO

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



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 33**

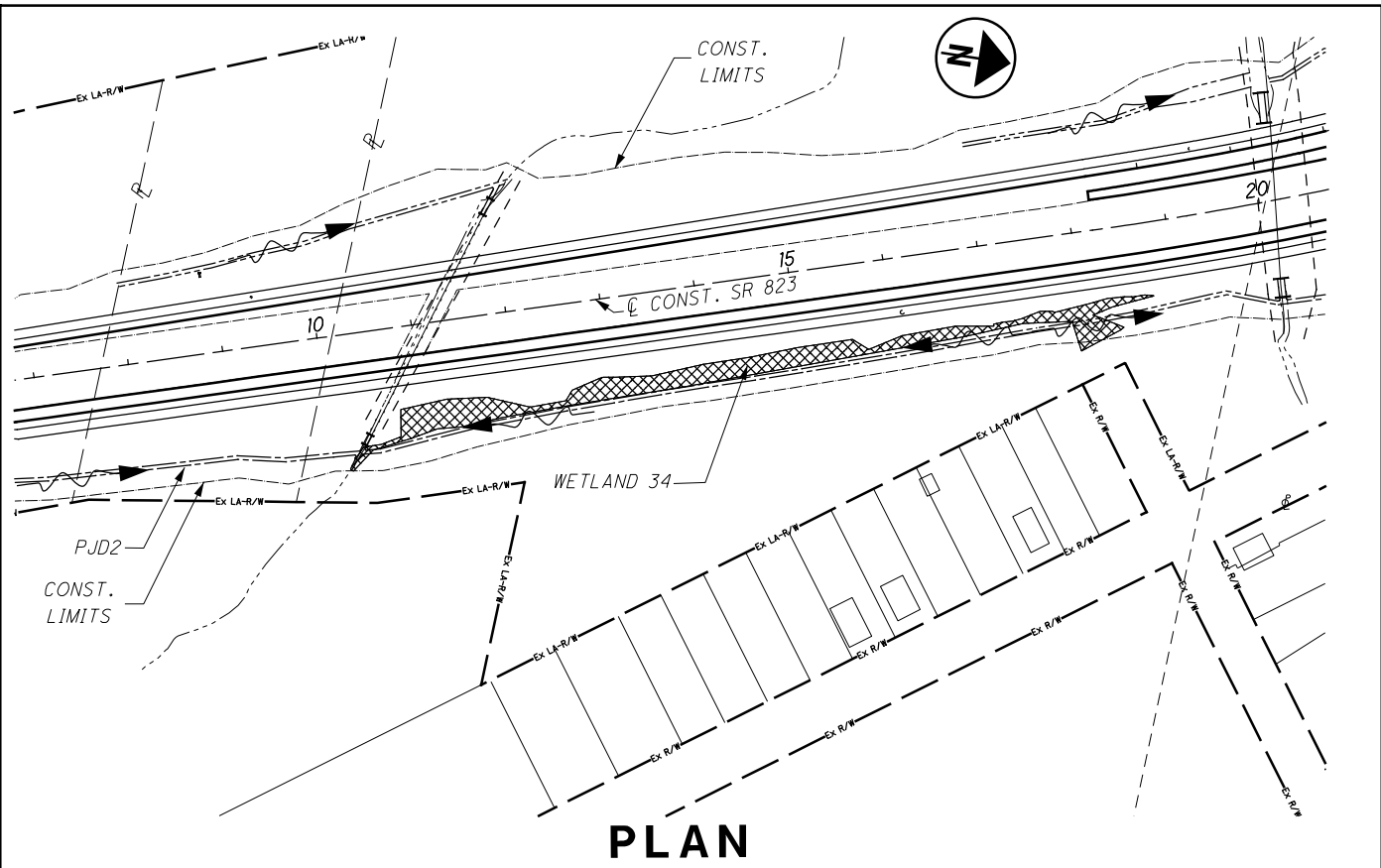
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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  
3-123**



**PLAN**

LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
STATE OF OHIO

LENGTH OF IMPACT: N/A  
DIRECT IMPACT AREA: 0.317 ACRES  
NET FILL BELOW OHW: 511 CY



**PREFERRED  
ALTERNATIVE  
IMPACTS AT  
WETLAND 34**

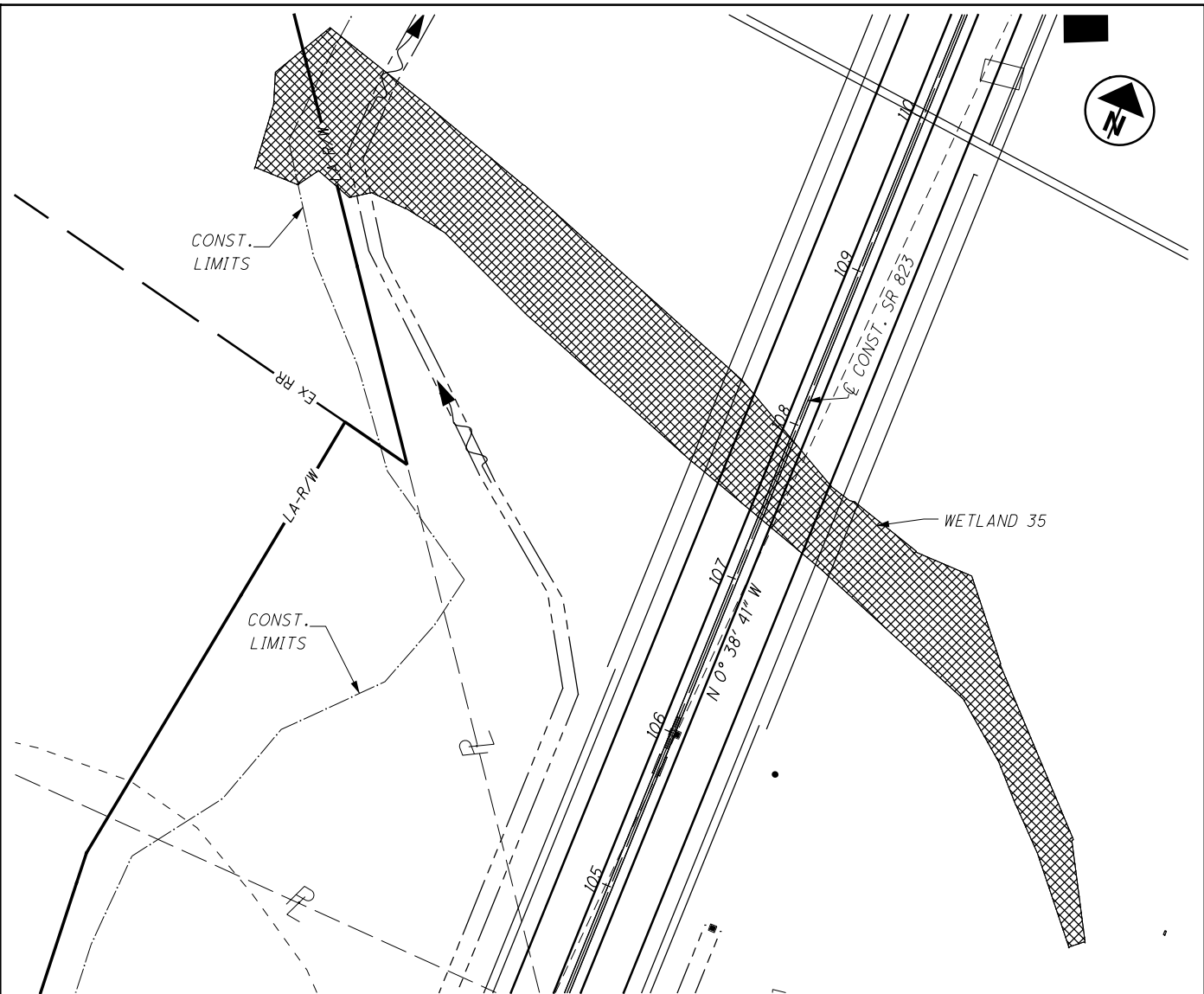
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'

DATE: AUGUST 16, 2013

**FIGURE  
3-124**



## PLAN

### LEGEND

 IMPACT AREA

PROPERTY OWNERS:  
MARK FITZGERALD

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0.794 ACRES
NET FILL BELOW OHW:	1281 CY



# PREFERRED ALTERNATIVE IMPACTS AT WETLAND 35

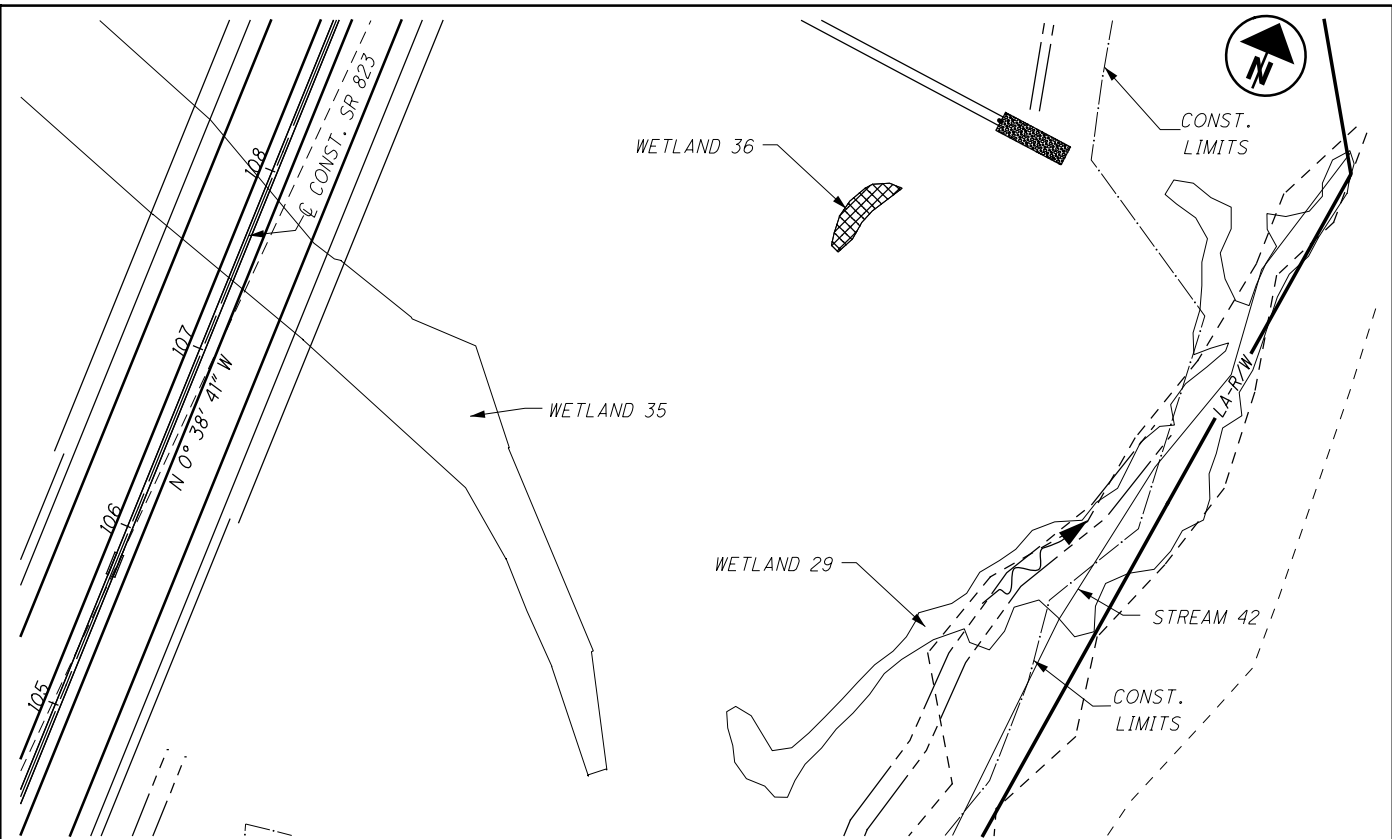
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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 3-125



# PLAN

**LEGEND**

 **IMPACT AREA**

**PROPERTY OWNERS:**  
MARK FITZGERALD

**LENGTH OF IMPACT:** N/A  
**DIRECT IMPACT AREA:** 0.011 ACRES  
**NET FILL BELOW OHW:** 18 CY



## PREFERRED ALTERNATIVE IMPACTS AT WETLAND 36

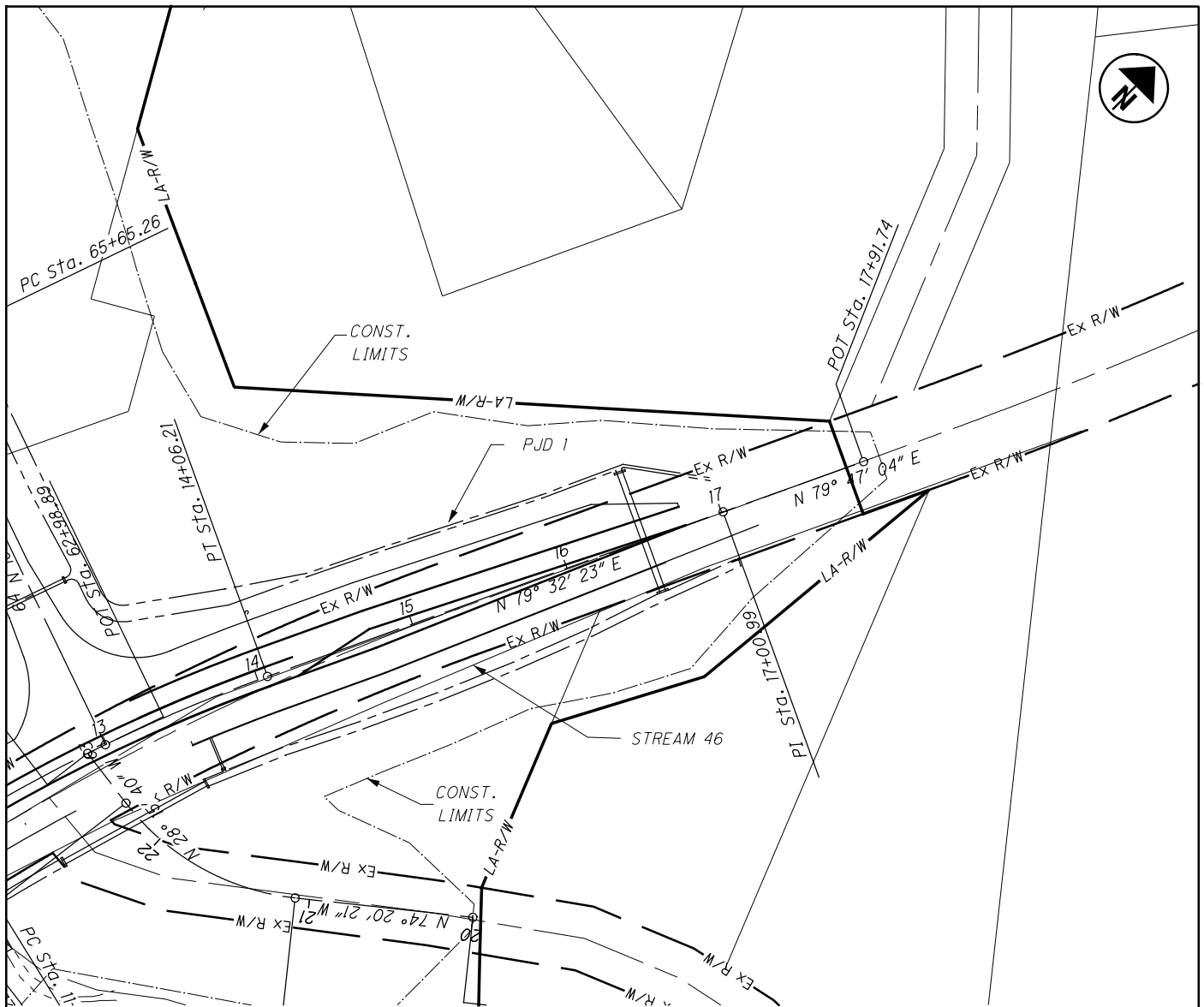
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-126



# PLAN

PROPERTY OWNERS:  
PAUL SOLTIS

LENGTH OF IMPACT: 254 LF  
 AREA EXCAVATED OR FILLED: 0.015 ACRE  
 FILL BELOW OHW: 29 CY

LEGEND  
 - - - - - PROPOSED DITCH



## PREFERRED ALTERNATIVE IMPACT AT PJD 1

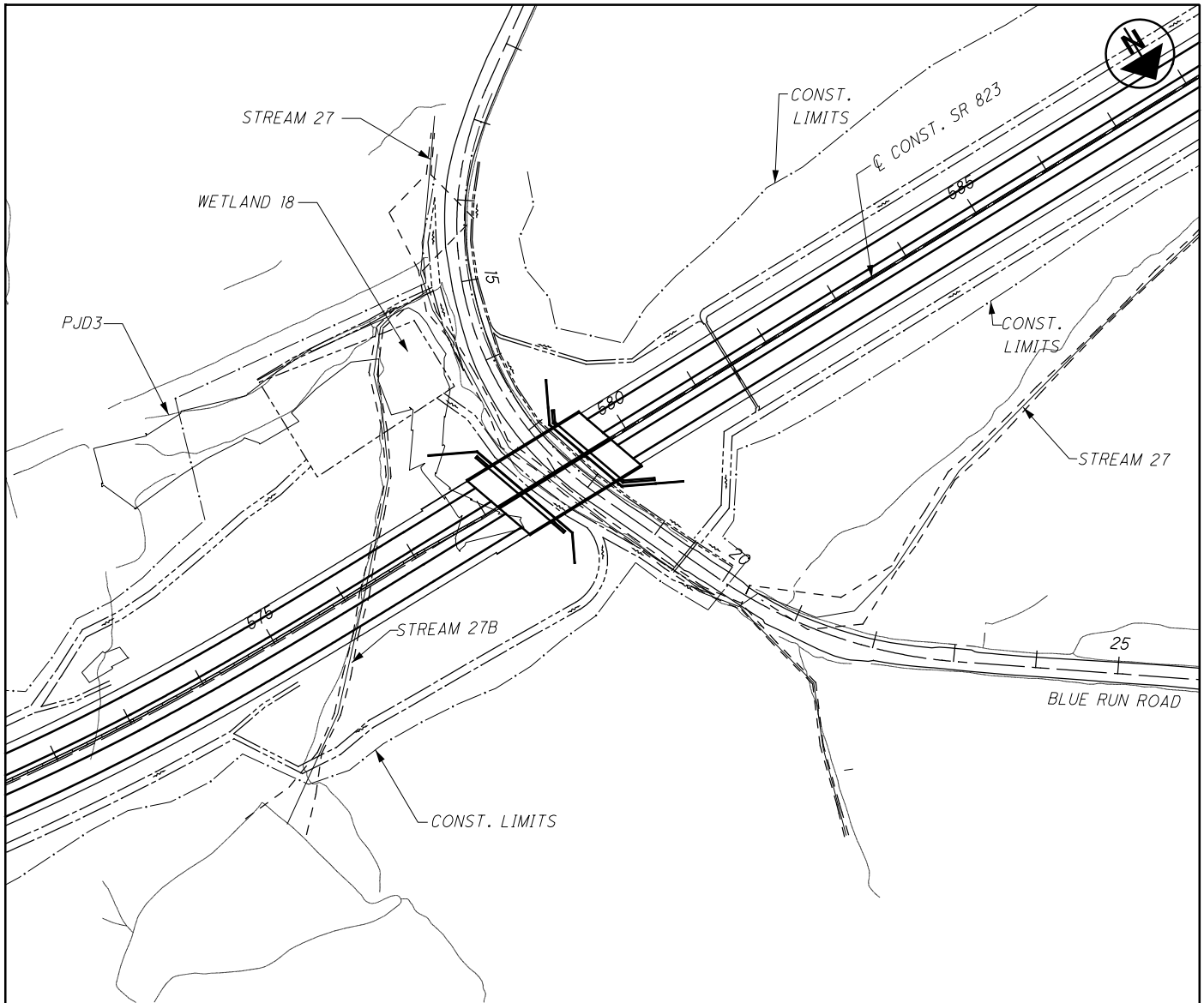
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-127



# PLAN

### LEGEND

-  PROPOSED DITCH
-  STREAM IMPACT LENGTH
-  OHWM

## PDJ 3

PROPERTY OWNERS:  
 LORENZO J. BENTLEY AND  
 AMANDA R. BENTLEY

LENGTH OF IMPACT:	405 LF
AREA EXCAVATED OR FILLED:	0.023 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	47 CY



# PREFERRED ALTERNATIVE IMPACTS AT PDJ 3

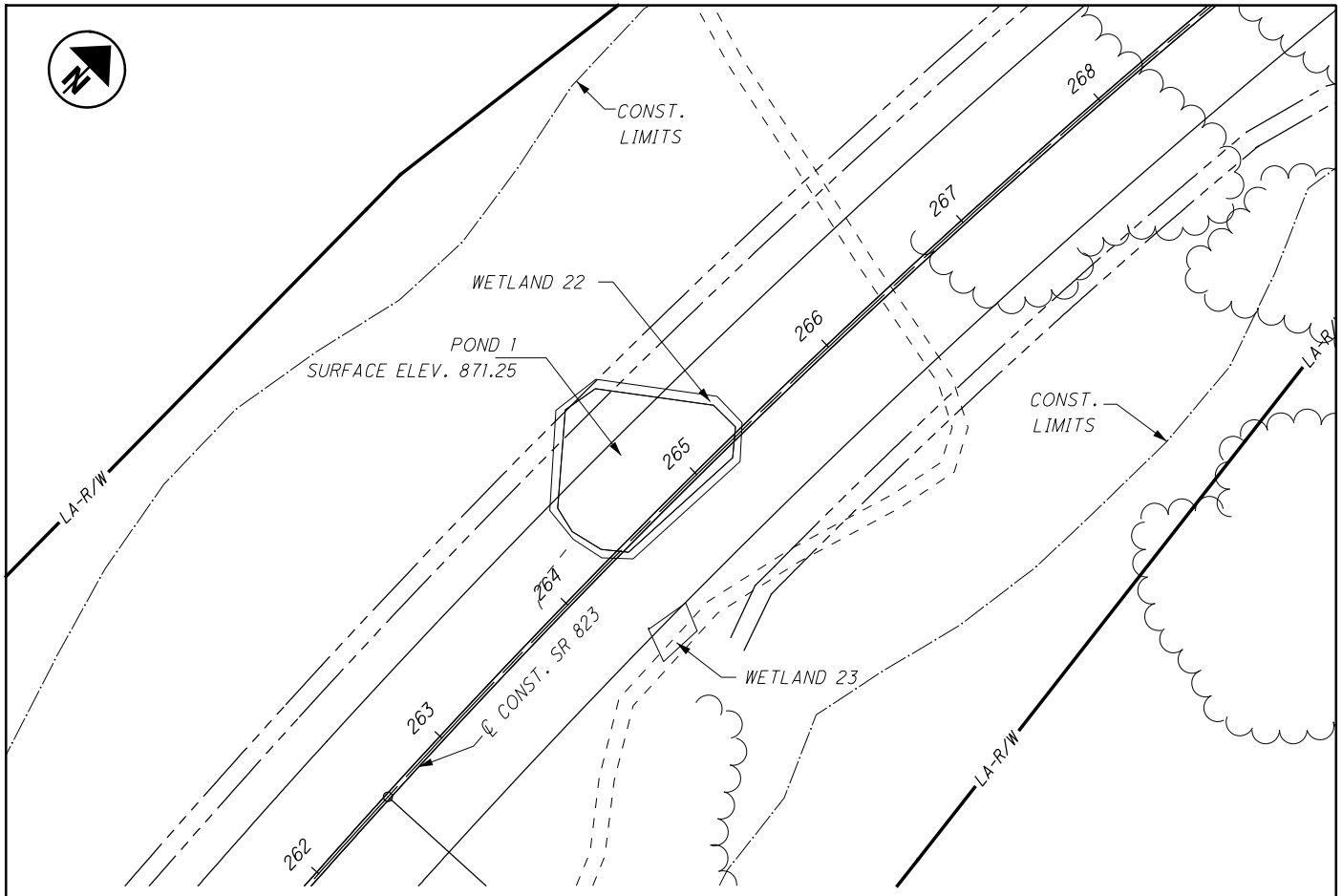
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 200'  
 CROSS SECTION: 1"=20'

DATE: AUGUST 15, 2013

## FIGURE 3-128



**PLAN**

PROPERTY OWNERS:  
 DAVID K. CORIELL  
 MARSHA K. CORIELL

LENGTH OF IMPACT: N/A  
 AREA EXCAVATED OR FILLED: .141 ACRE  
 FILL BELOW OHW: 1365 CY

LEGEND  
 - - - - - PROPOSED DITCH



**IMPACT AT POND 1**

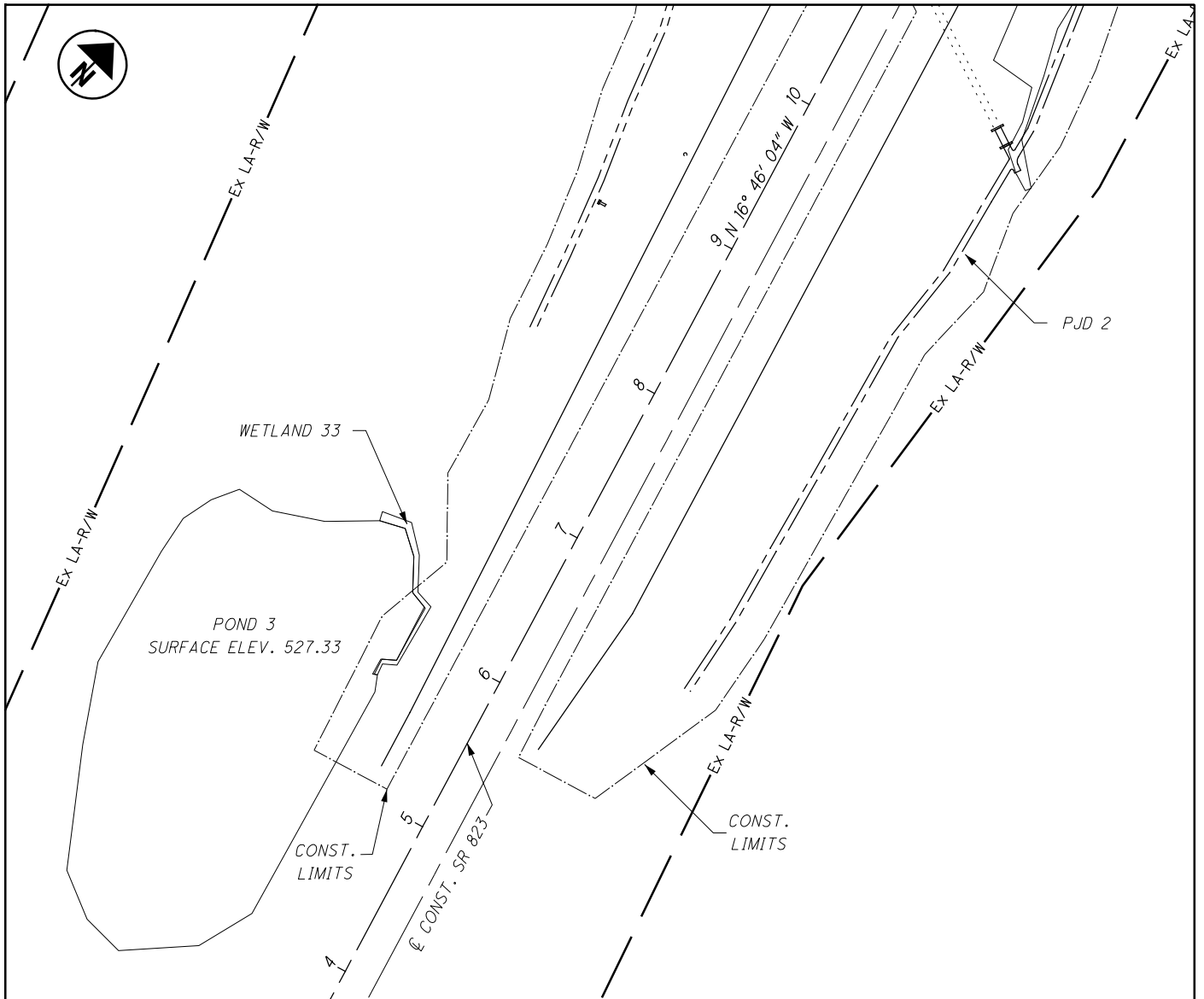
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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 3-129**



## PLAN POND 3

LENGTH OF IMPACT:	N/A
AREA EXCAVATED OR FILLED:	.900 ACRE
FILL BELOW OHW:	8712 CY

## PJD2

LENGTH OF IMPACT:	504 LF
AREA EXCAVATED OR FILLED:	0.029 ACRE
FILL BELOW OHW:	58 CY

PROPERTY OWNERS:
STATE OF OHIO

LEGEND  
 PROPOSED DITCH



## IMPACT AT POND 3 PJD 2

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

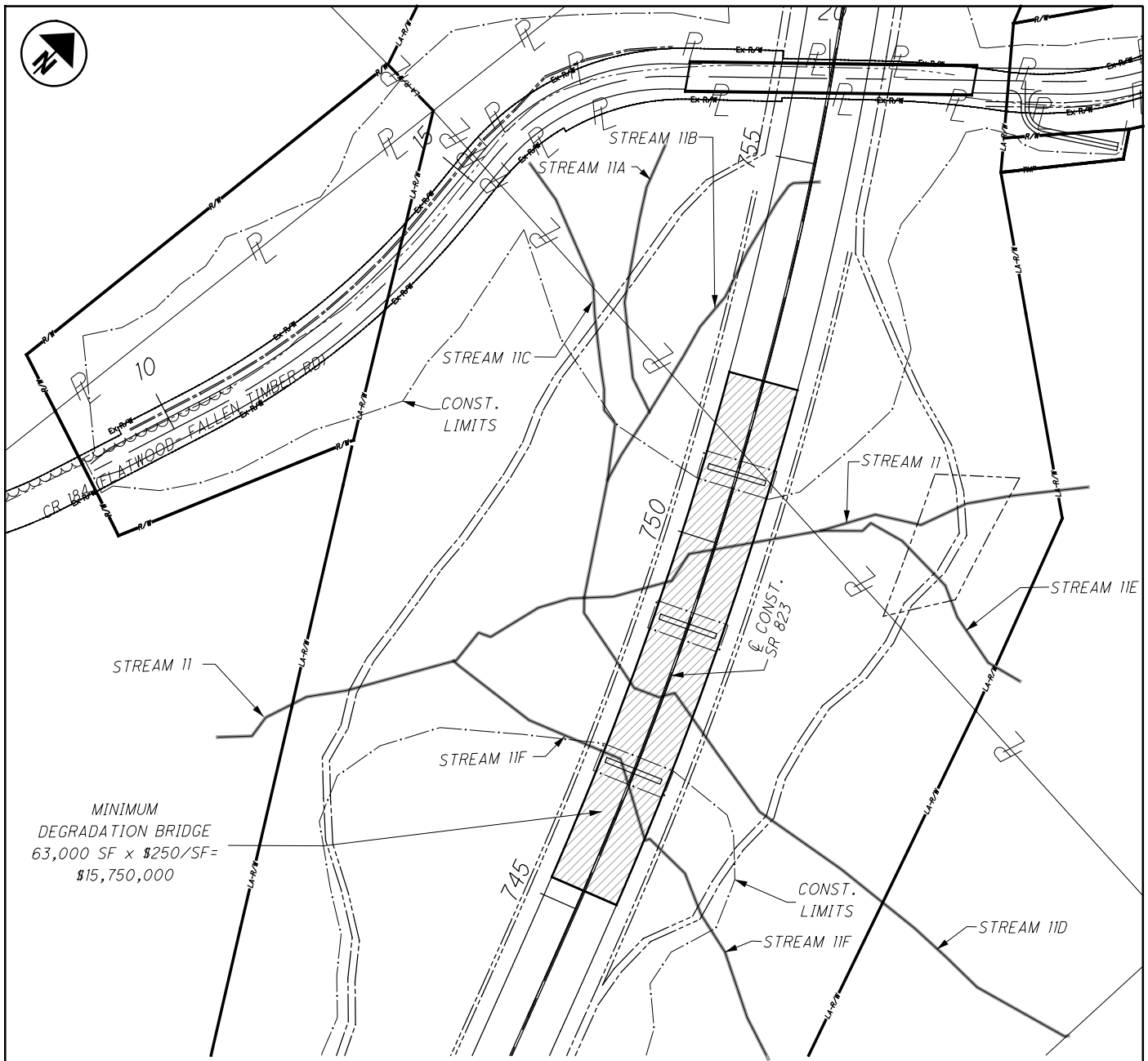
PLAN SCALE: 1" = 100'

DATE: AUGUST 16, 2013

## FIGURE 3-130



**FIGURE 4: MINIMAL DEGRADATION ALTERNATIVE  
(SHEETS 4-1 THROUGH 4-25)**



**PLAN**

MINIMUM DEGRADATION BRIDGE  
 63,000 SF x \$250/SF =  
 \$15,750,000

PROPERTY OWNERS:  
 STEVEN R. REINHARDT, MARK B. REINHART  
 AND MICHAEL J. REINHART  
 FORREST S. BAUER AND EVELENA J. BAUER

LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION**

- STREAM 11**
- STREAM 11A**
- STREAM 11B**
- STREAM 11C**
- STREAM 11D**
- STREAM 11E**
- STREAM 11F**

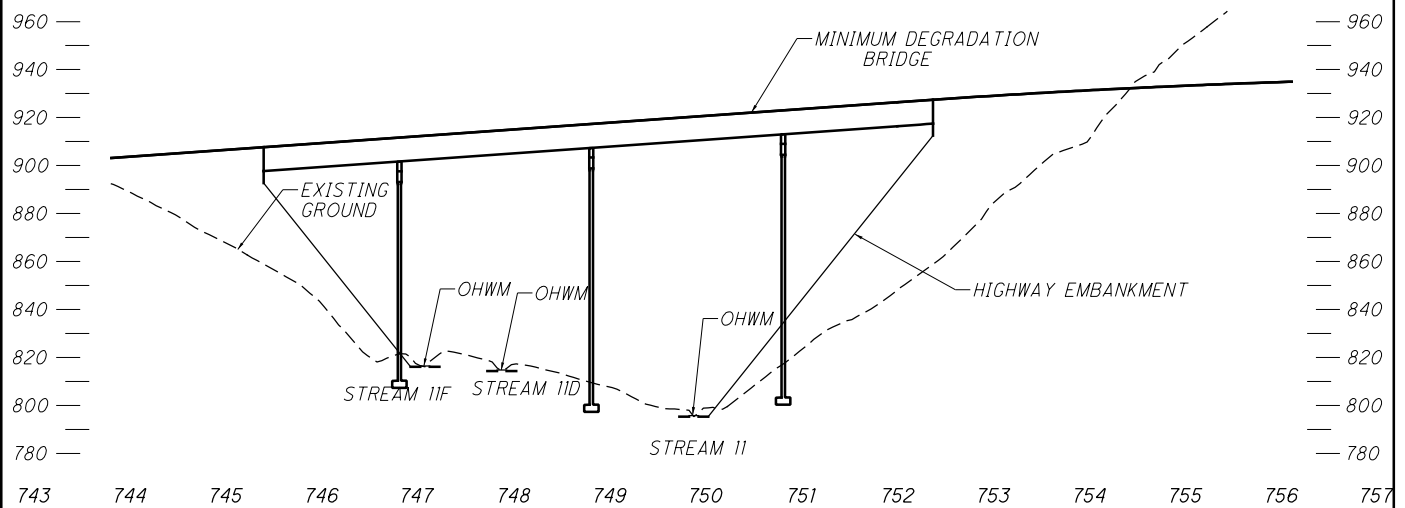
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'

DATE: JUNE 25, 2013

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

**FIGURE 4-1**



## SR823 BRIDGE PROFILE

### STREAM 11

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 11A

LENGTH OF IMPACT:	390 LF
AREA EXCAVATED OR FILLED:	.036 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	29 CY

### STREAM 11B

LENGTH OF IMPACT:	379 LF
AREA EXCAVATED OR FILLED:	.026 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	21 CY

### STREAM 11C

LENGTH OF IMPACT:	330 LF
AREA EXCAVATED OR FILLED:	.023 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	13 CY

### STREAM 11D

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 11E

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 11F

LENGTH OF IMPACT:	318 LF
AREA EXCAVATED OR FILLED:	.022 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	18 CY



#### MINIMUM DEGRADATION

- STREAM 11**
- STREAM 11A**
- STREAM 11B**
- STREAM 11C**
- STREAM 11D**
- STREAM 11E**
- STREAM 11F**

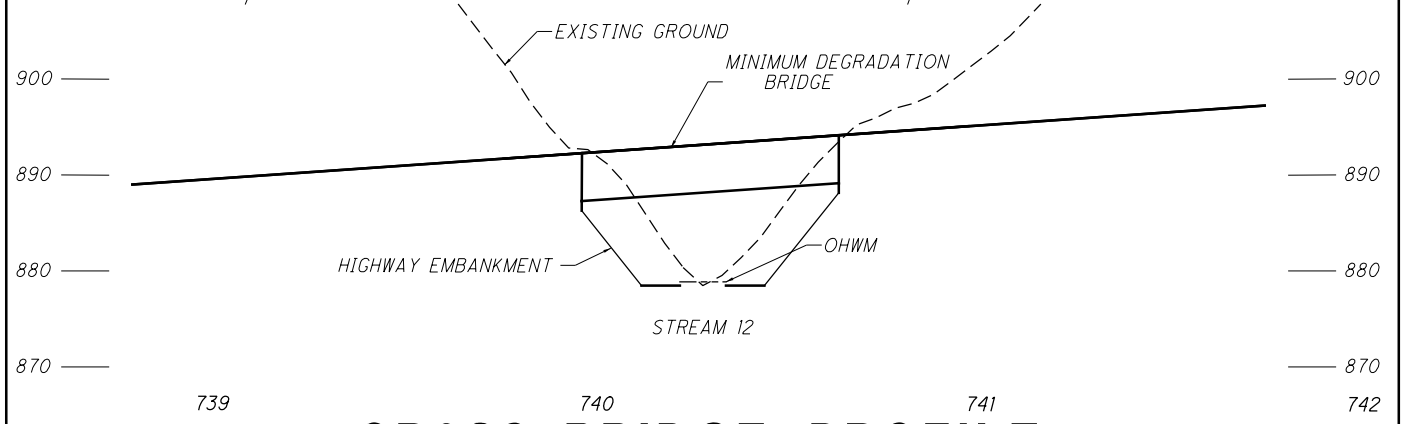
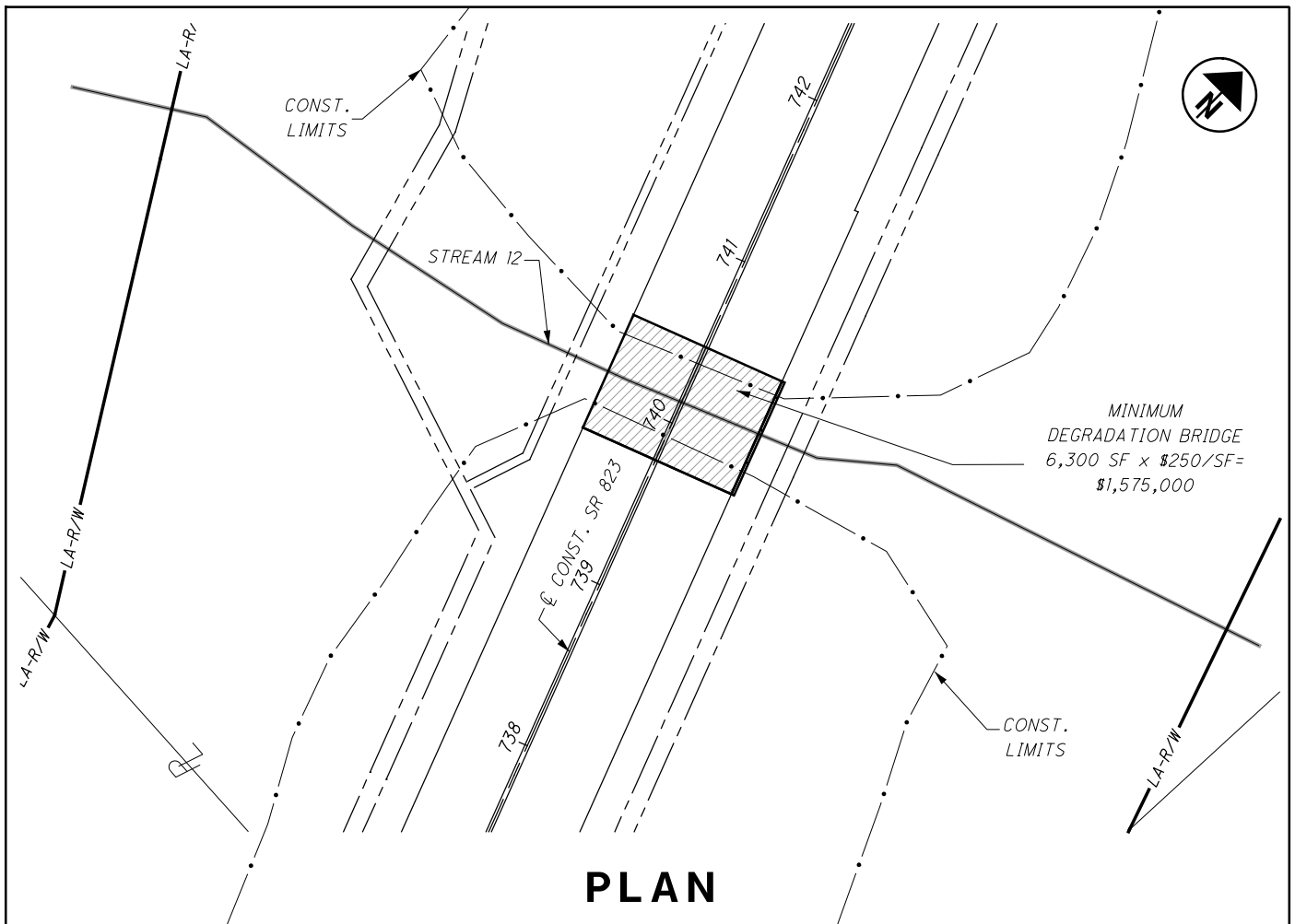
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

BRIDGE PROFILE : H 1" = 200'  
V 1" = 80'

DATE: JUNE 25, 2013

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

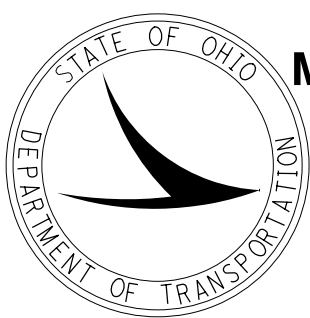
## FIGURE 4-1A



PROPERTY OWNERS:  
FORREST S. BAUER AND EVELENA J. BAUER

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRES  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

LEGEND  
 - - - - - PROPOSED DITCH  
 [Hatched Box] PROPOSED BRIDGE



**MINIMUM DEGRADATION  
STREAM 12**

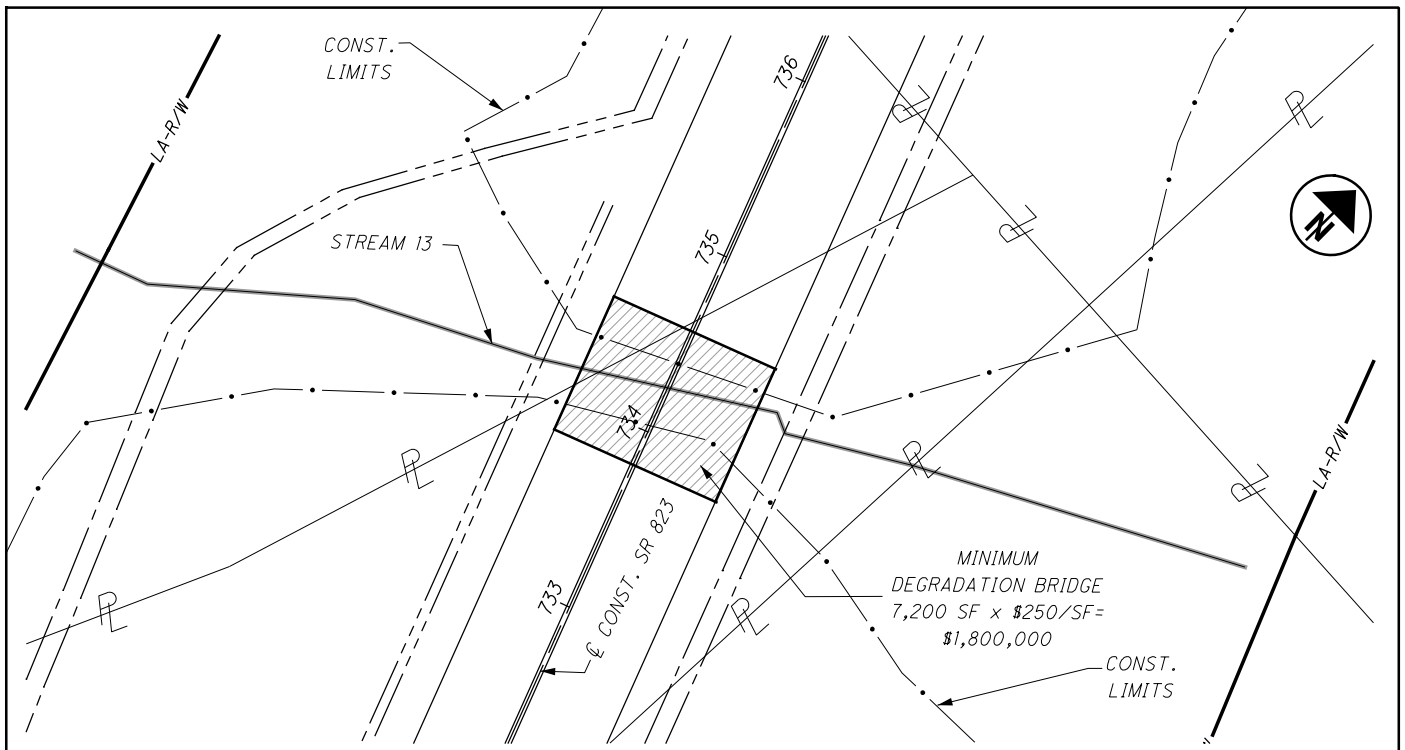
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 BRIDGE PROFILE: H 1" = 50'  
 V 1" = 20'

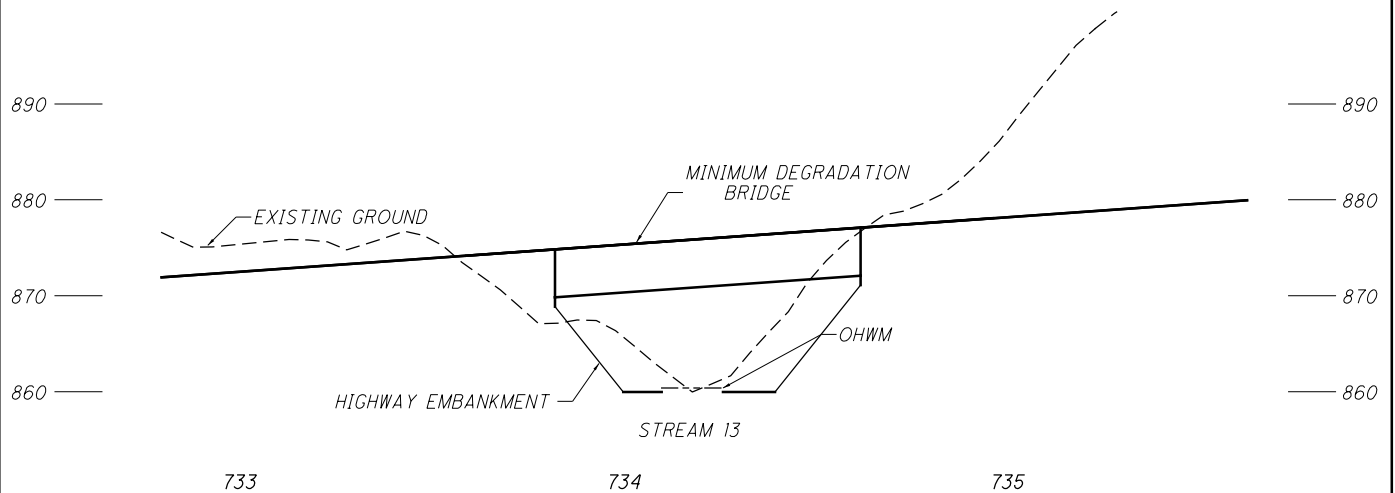
DATE: JUNE 25, 2013

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

**FIGURE 4-2**



## PLAN




## SR823 BRIDGE PROFILE

**PROPERTY OWNERS:**

DDONALD E. STAMBAUGH  
 PHYLLIS J. WILLS AND LANETTE WAGNER

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

**LEGEND**

----- PROPOSED DITCH  
 PROPOSED BRIDGE



# MINIMUM DEGRADATION STREAM 13

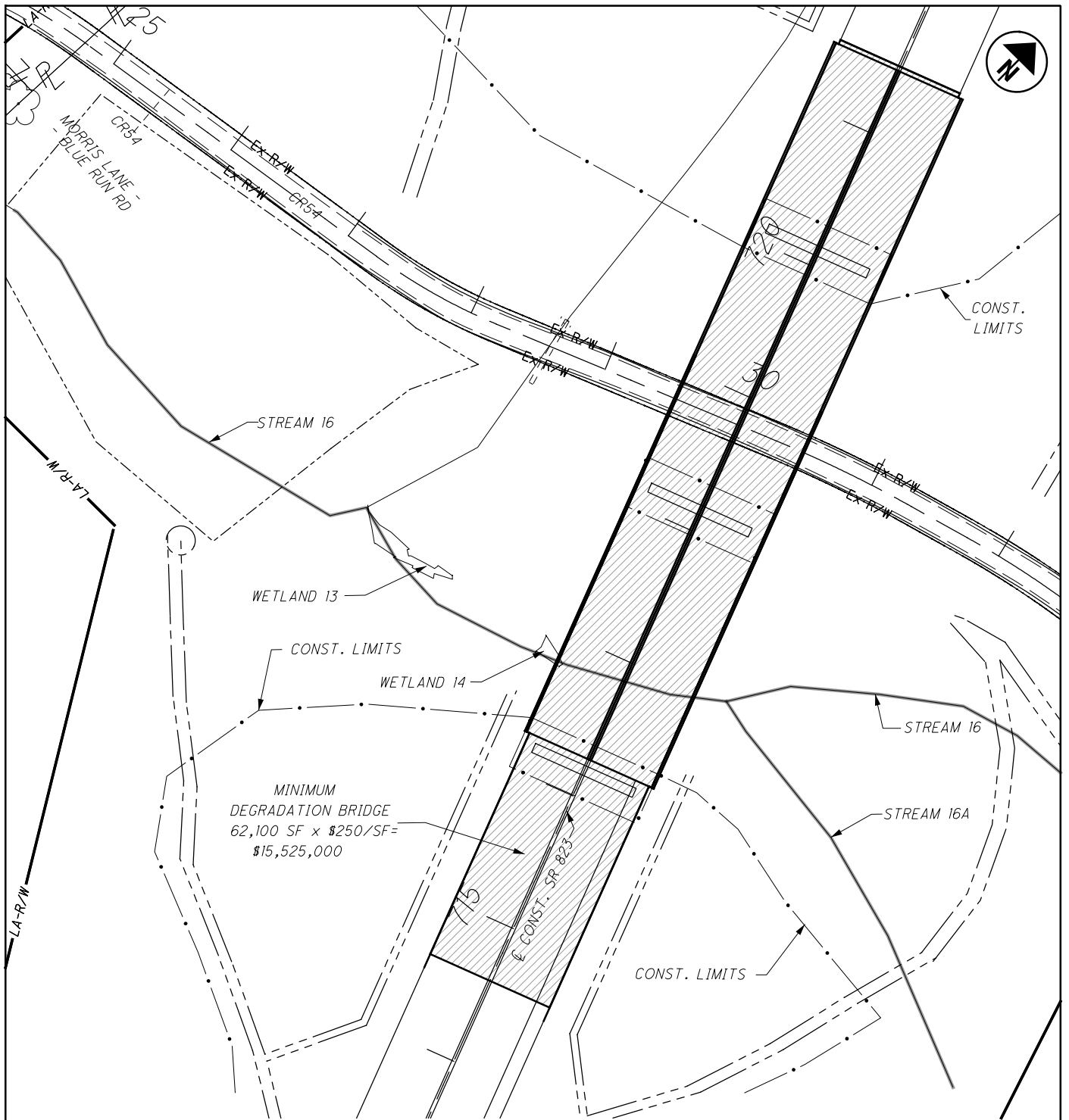
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

PLAN SCALE: 1" = 100'  
 BRIDGE PROFILE: H 1" = 50'  
 V 1" = 20'

DATE: JUNE 25, 2013

## FIGURE 4-3



PROPERTY OWNERS:  
 PHYLLIS J. WILLS AND LANETTE WAGNER  
 ROBERT R. ADKINS AND DONNA M. ADKINS

LEGEND  
 - - - - - PROPOSED DITCH  
 [Hatched Box] PROPOSED BRIDGE



**MINIMUM DEGRADATION  
 STREAM 16  
 STREAM 16A**

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: JUNE 25, 2013

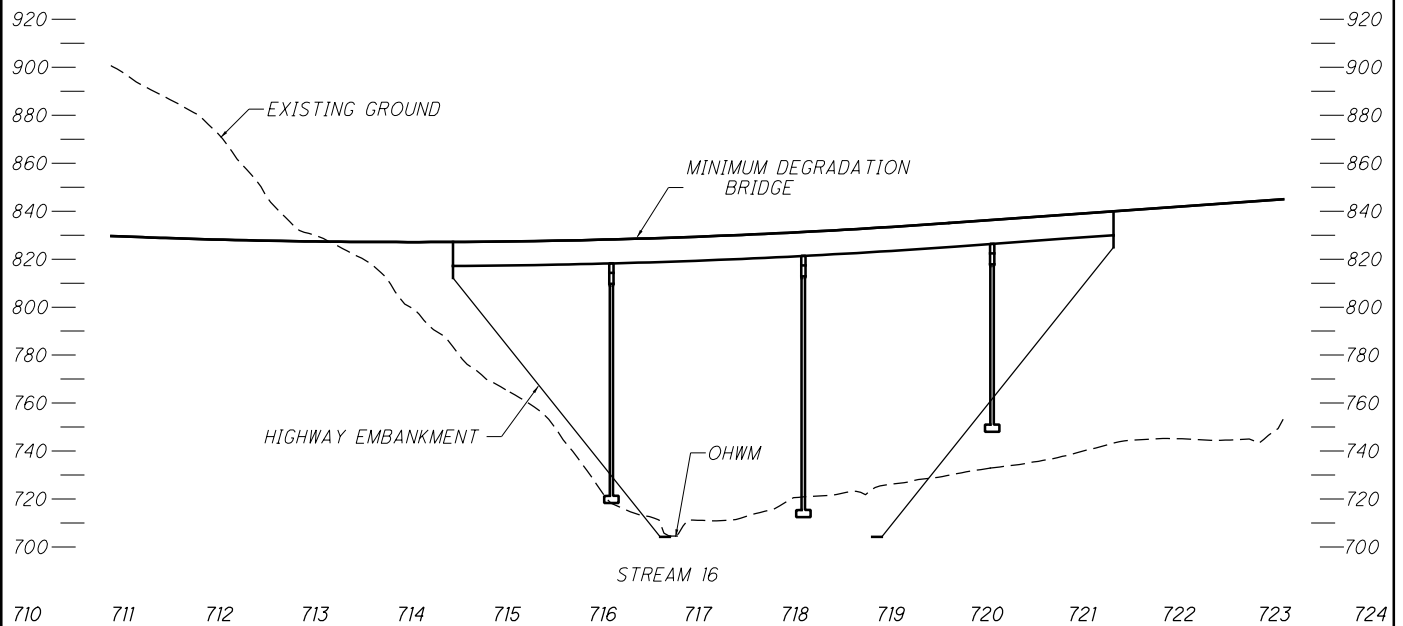
**FIGURE 4-4**

## STREAM 16

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

## STREAM 16A

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 16 STREAM 16A

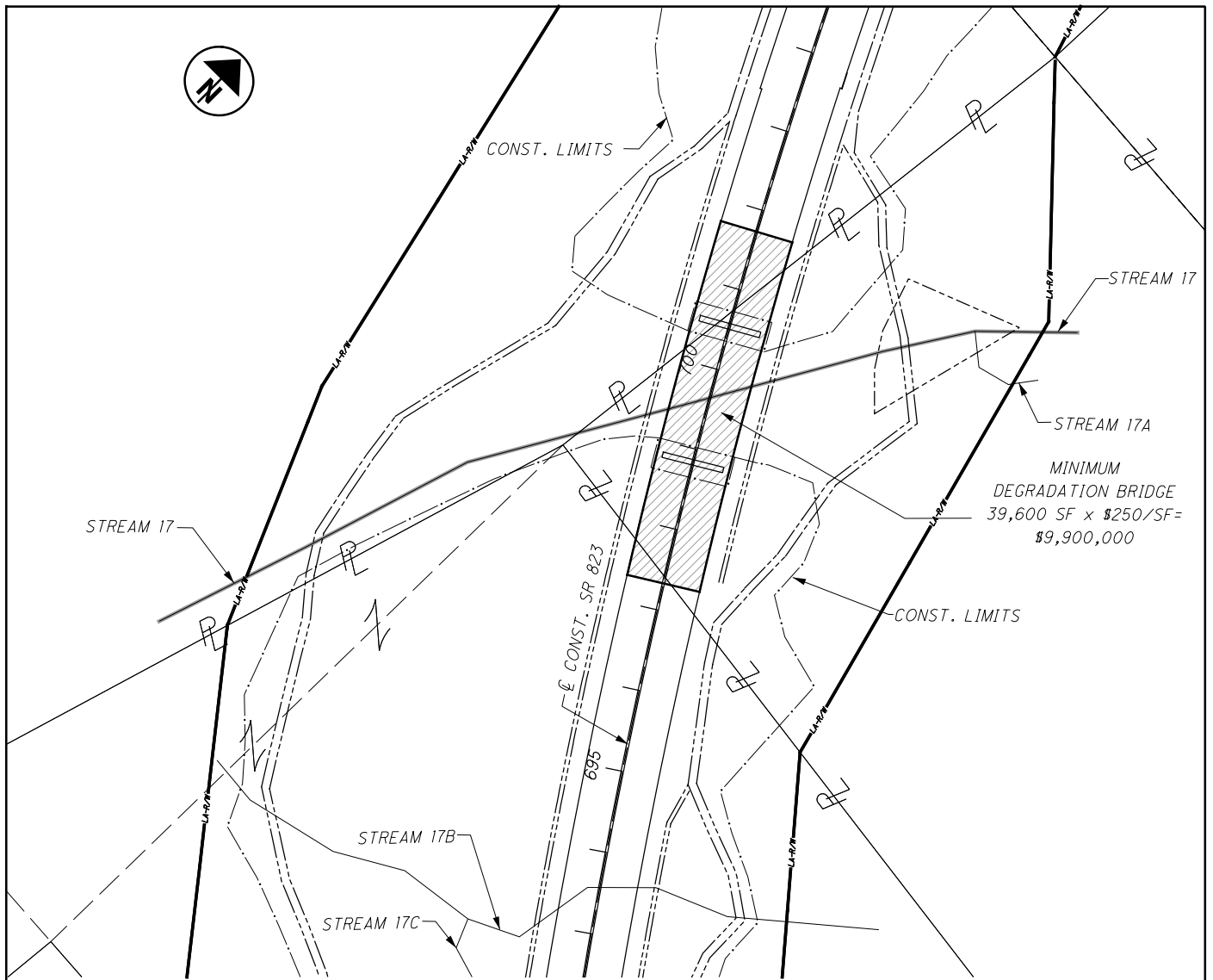
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 200'  
V 1" = 80'

DATE: JUNE 25, 2013

## FIGURE 4-4A



**PLAN**

MINIMUM  
DEGRADATION BRIDGE  
39,600 SF x \$250/SF=  
\$9,900,000

**STREAM 17**

**PROPERTY OWNERS:**  
J & J SHELTON FAMILY, LLC,  
AN OHIO LIMITED LIABILITY COMPANY  
MIKE BRADLEY, KIM BRADLEY,  
JOHN W. PICK AND SHARON L. PICK  
LEANNE M. FUHRMANN, INITIAL TRUSTEE  
OF THE LEANNE M. FUHRMANN REVOCABLE  
TRUST DATED MAY 31, 2007 (1/2 INTEREST)  
PAUL W. FUHRMANN, INITIAL TRUSTEE  
OF THE PAUL W. FUHRMANN REVOCABLE  
TRUST DATED MAY 31, 2007 (1/2 INTEREST)

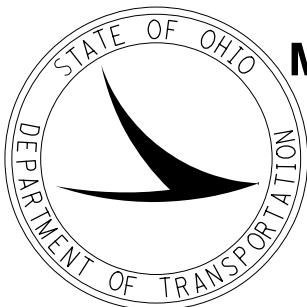
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

**STREAM 17A**

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

**LEGEND**

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION  
STREAM 17  
STREAM 17A**

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

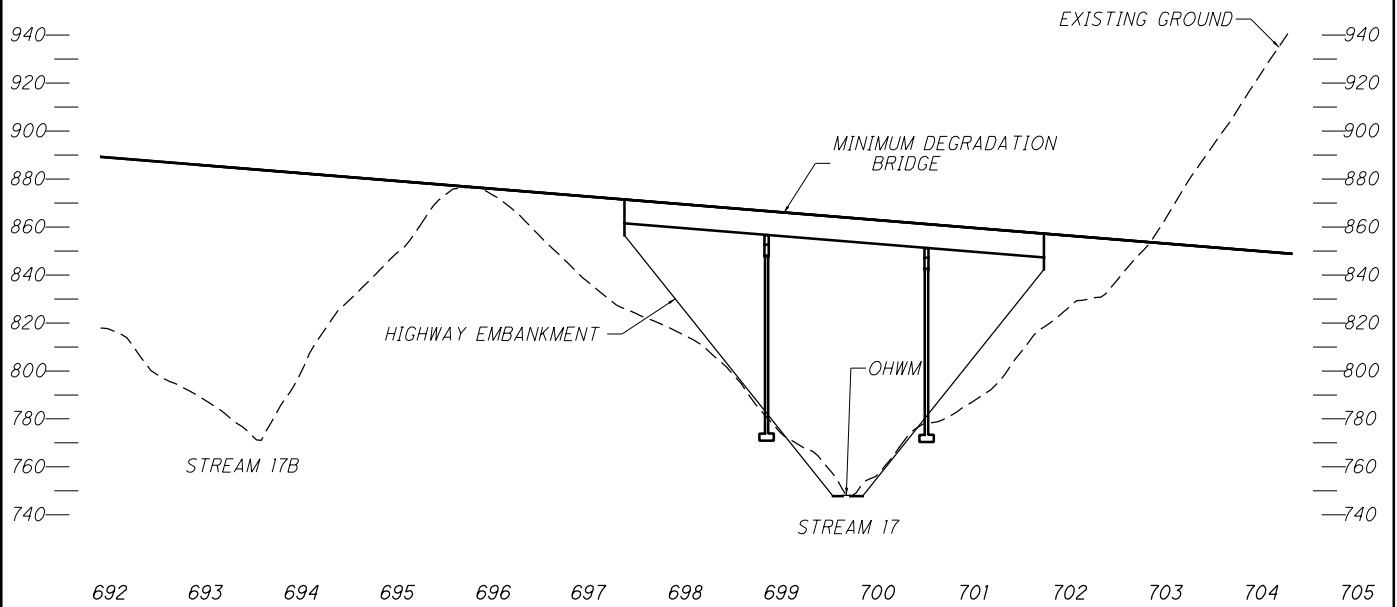
PLAN SCALE: 1" = 200'

DATE: JUNE 26, 2013

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


**FIGURE 4-5**

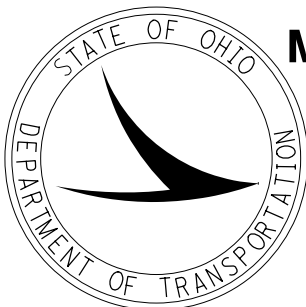




## SR823 BRIDGE PROFILE

### LEGEND

- PROPOSED DITCH
-  PROPOSED BRIDGE



## MINIMUM DEGRADATION STREAM 17 STREAM 17A

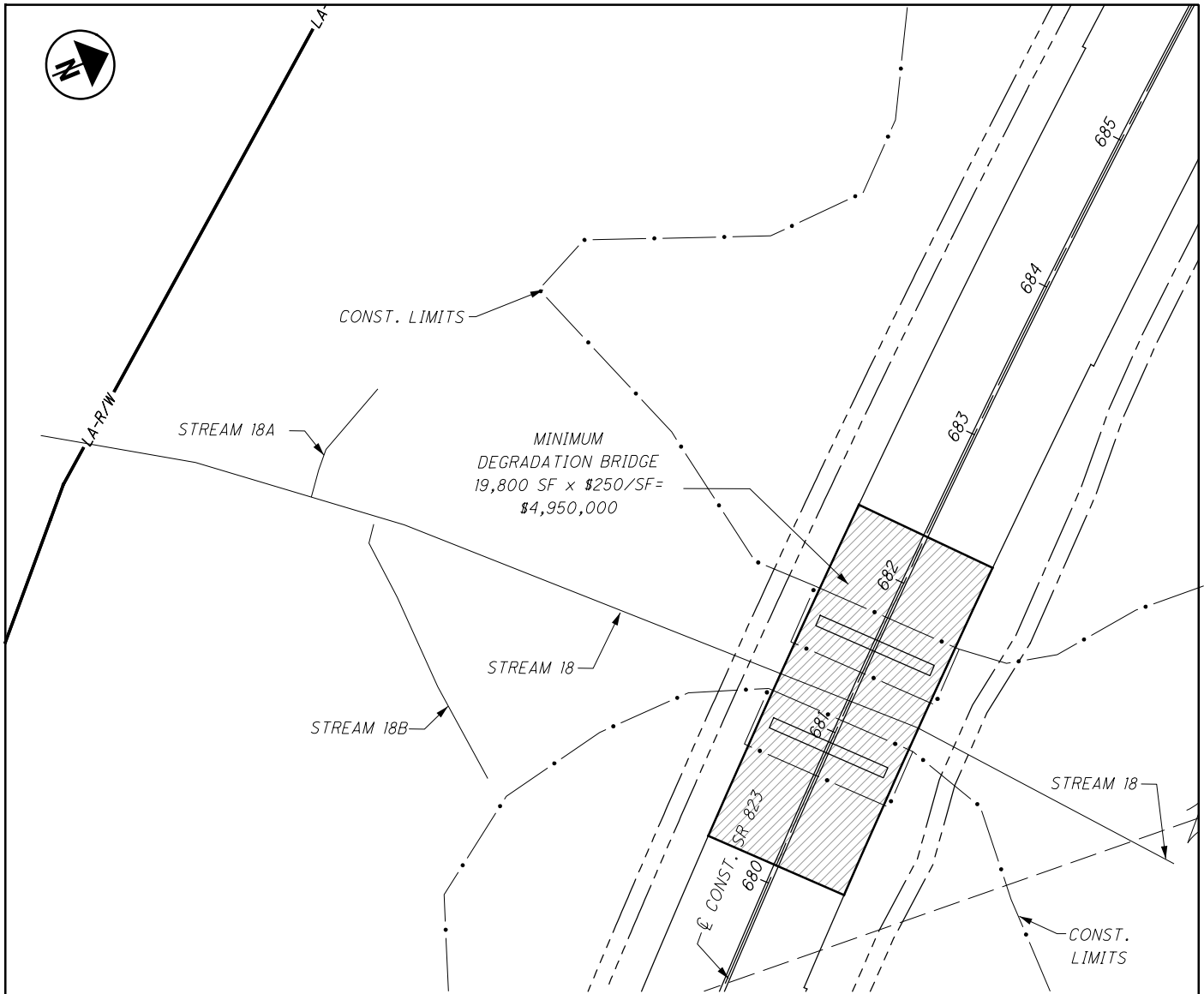
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 200'  
V 1" = 80'

DATE: JUNE 26, 2013

## FIGURE 4-5A



**PLAN**

**STREAM 18A**

PROPERTY OWNERS:  
 MARY JANE BURCHETT AND  
 STEPHEN E. BURCHETT

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

**STREAM 18**

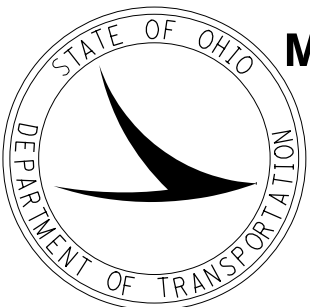
LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

**STREAM 18B**

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION  
 STREAM 18  
 STREAM 18A  
 STREAM 18B**

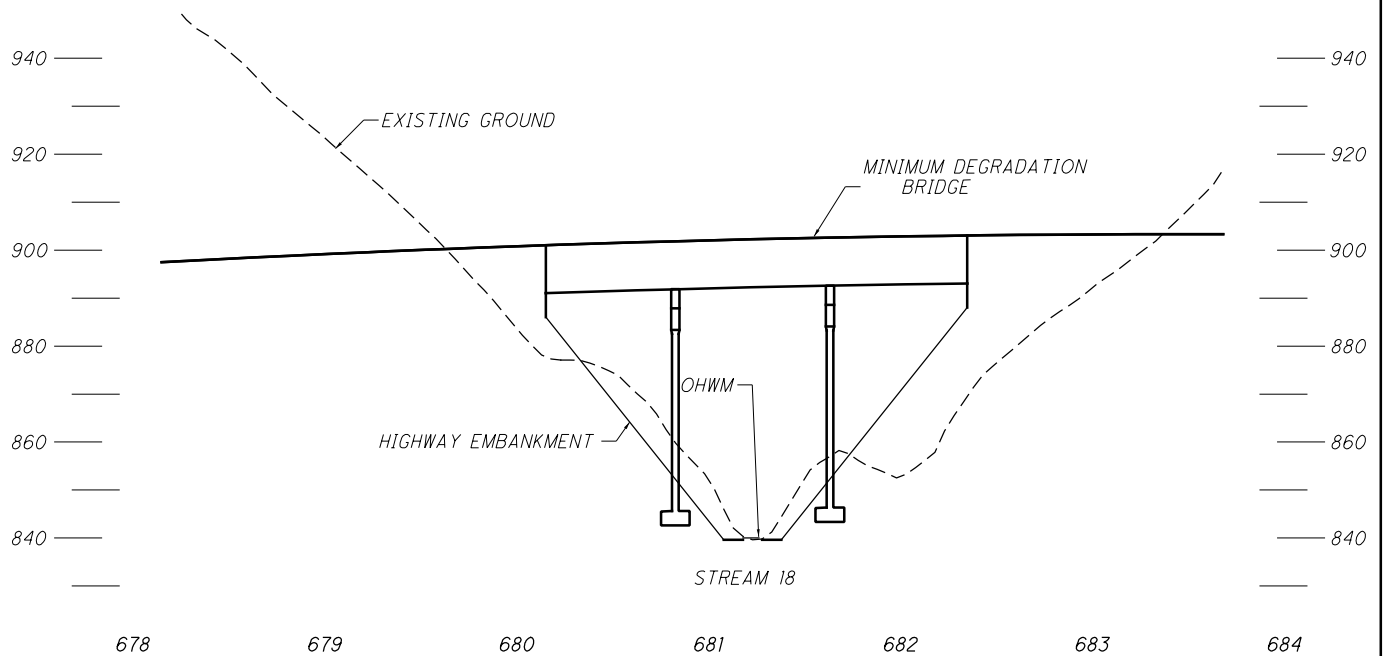
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

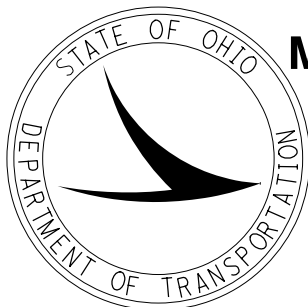
DATE: JUNE 26, 2013

**FIGURE 4-6**

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



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 18 STREAM 18A STREAM 18B

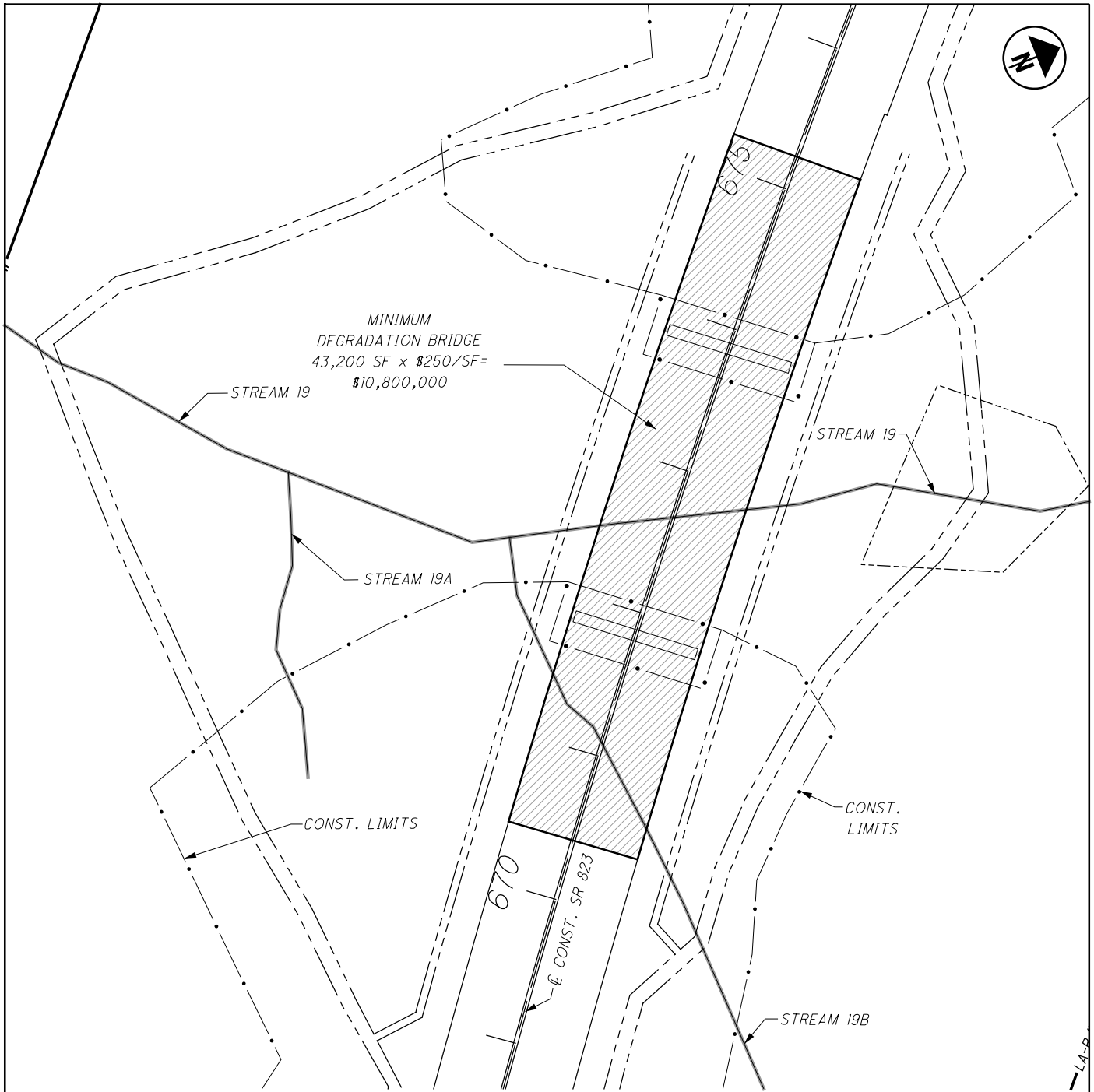
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 100'  
V 1" = 40'

DATE: JUNE 26, 2013

## FIGURE 4-6A

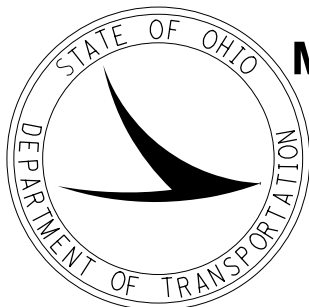


**PLAN**

PROPERTY OWNERS:  
MARY JANE BURCHETT AND  
STEPHEN E. BURCHETT

LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION  
STREAM 19  
STREAM 19A  
STREAM 19B**

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

PLAN SCALE: 1" = 100'

DATE: JUNE 26, 2013

**FIGURE 4-7**

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

# STREAM 19

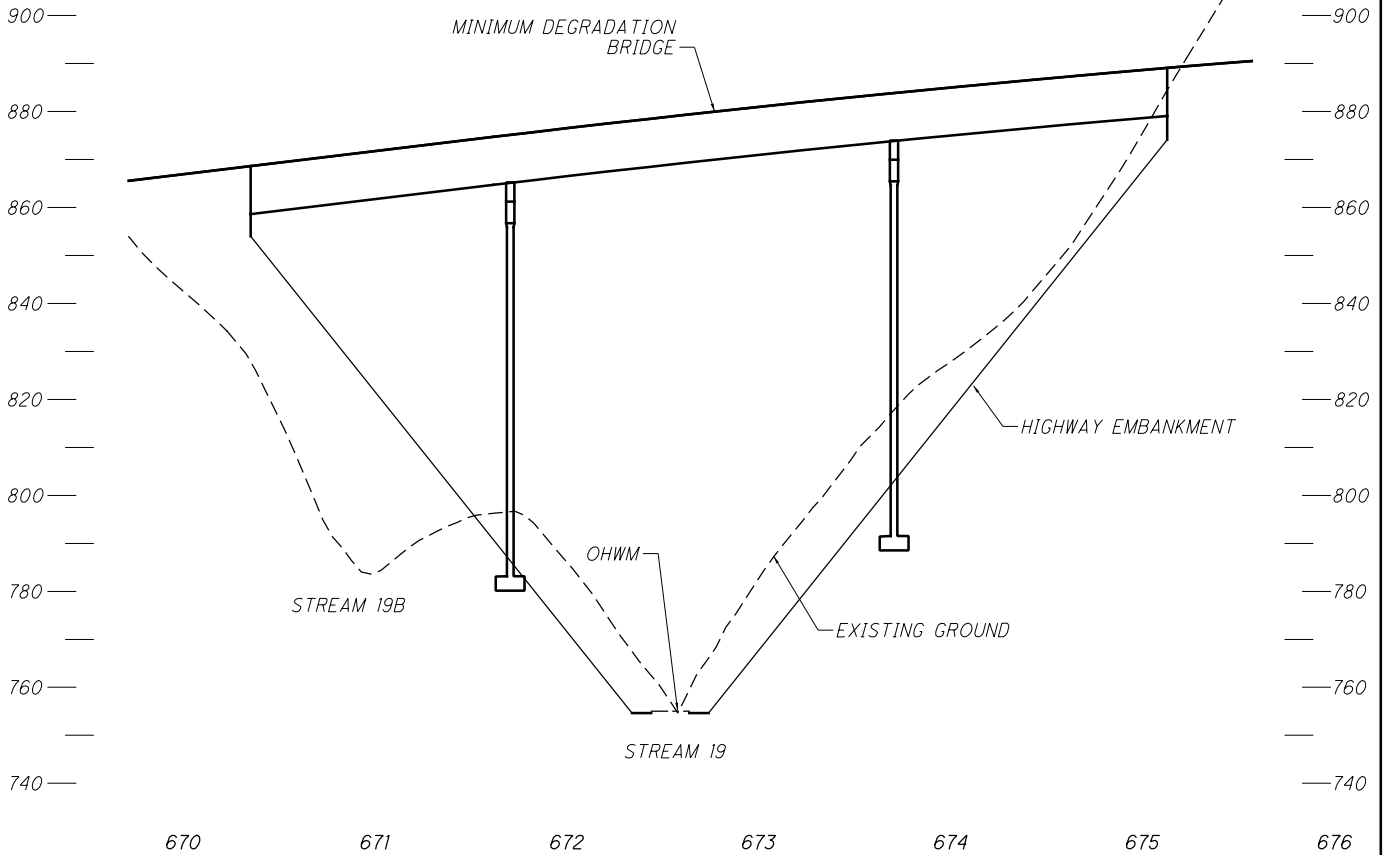
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

# STREAM 19A

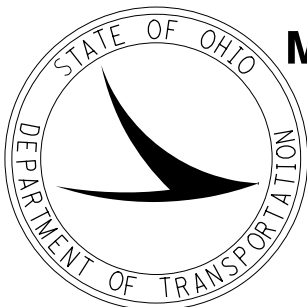
LENGTH OF IMPACT:	71 LF
AREA EXCAVATED OR FILLED:	0.003 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	3 CY

# STREAM 19B

LENGTH OF IMPACT:	601 LF
AREA EXCAVATED OR FILLED:	0.041 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	33 CY



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 19 STREAM 19A STREAM 19B

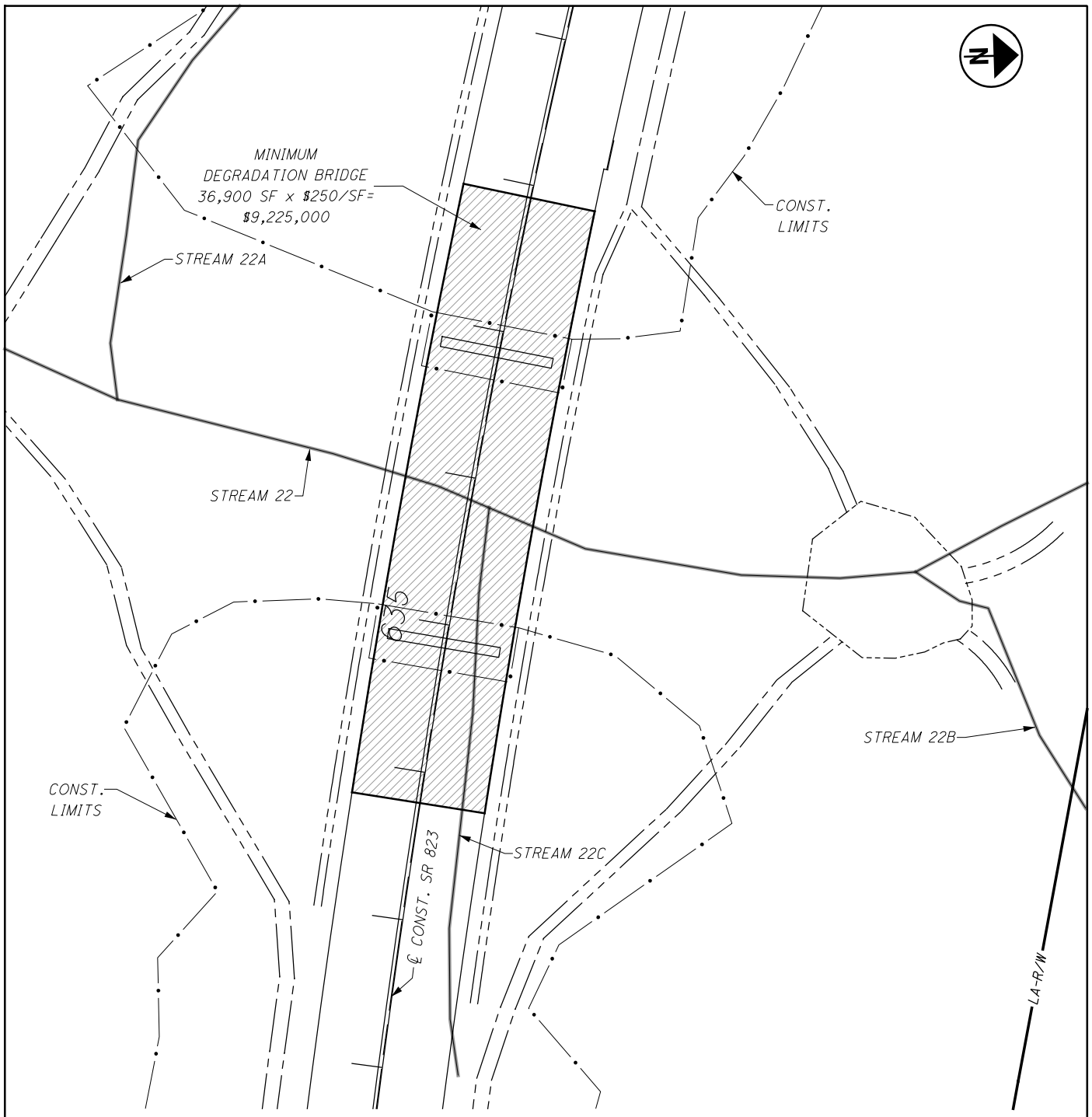
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

BRIDGE PROFILE: H 1" = 100'  
V 1" = 40'

DATE: JUNE 26, 2013

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

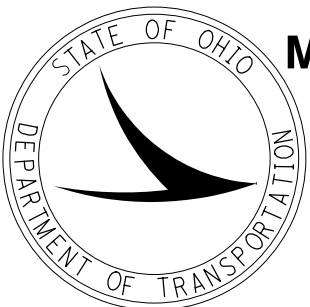
## FIGURE 4-7A



PROPERTY OWNERS:  
SHIRLEY P. DAILEY

LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION  
STREAM 22  
STREAM 22A  
STREAM 22B  
STREAM 22C**

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: JUNE 27, 2013

**FIGURE 4-8**

## STREAM 22

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

## STREAM 22A

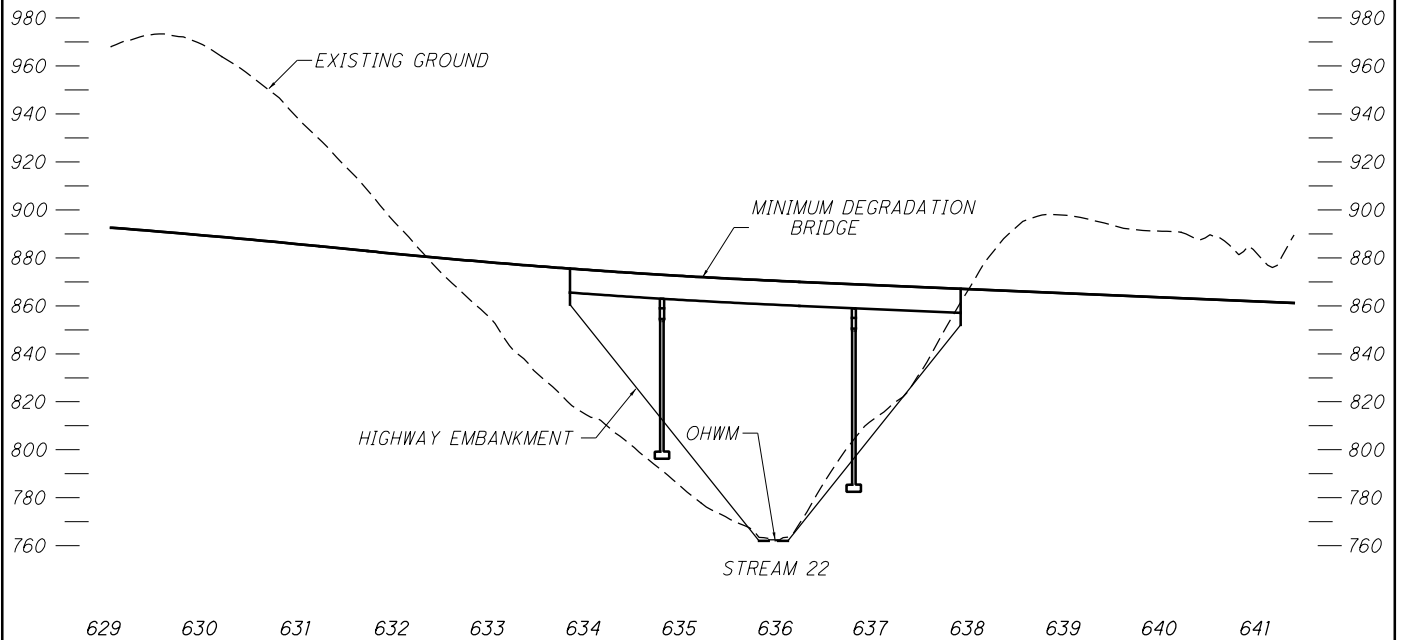
LENGTH OF IMPACT: 541 LF  
 AREA EXCAVATED OR FILLED: 0.05 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 40 CY

## STREAM 22B

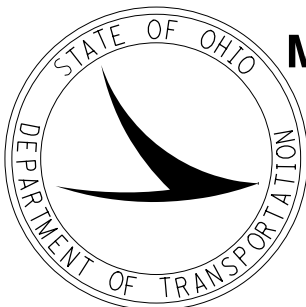
LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

## STREAM 22C

LENGTH OF IMPACT: 306 LF  
 AREA EXCAVATED OR FILLED: 0.021 ACRE  
 EXCAVATION BELOW OHW: 0 CY  
 FILL BELOW OHW: 17 CY



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 22 STREAM 22A STREAM 22B STREAM 22C

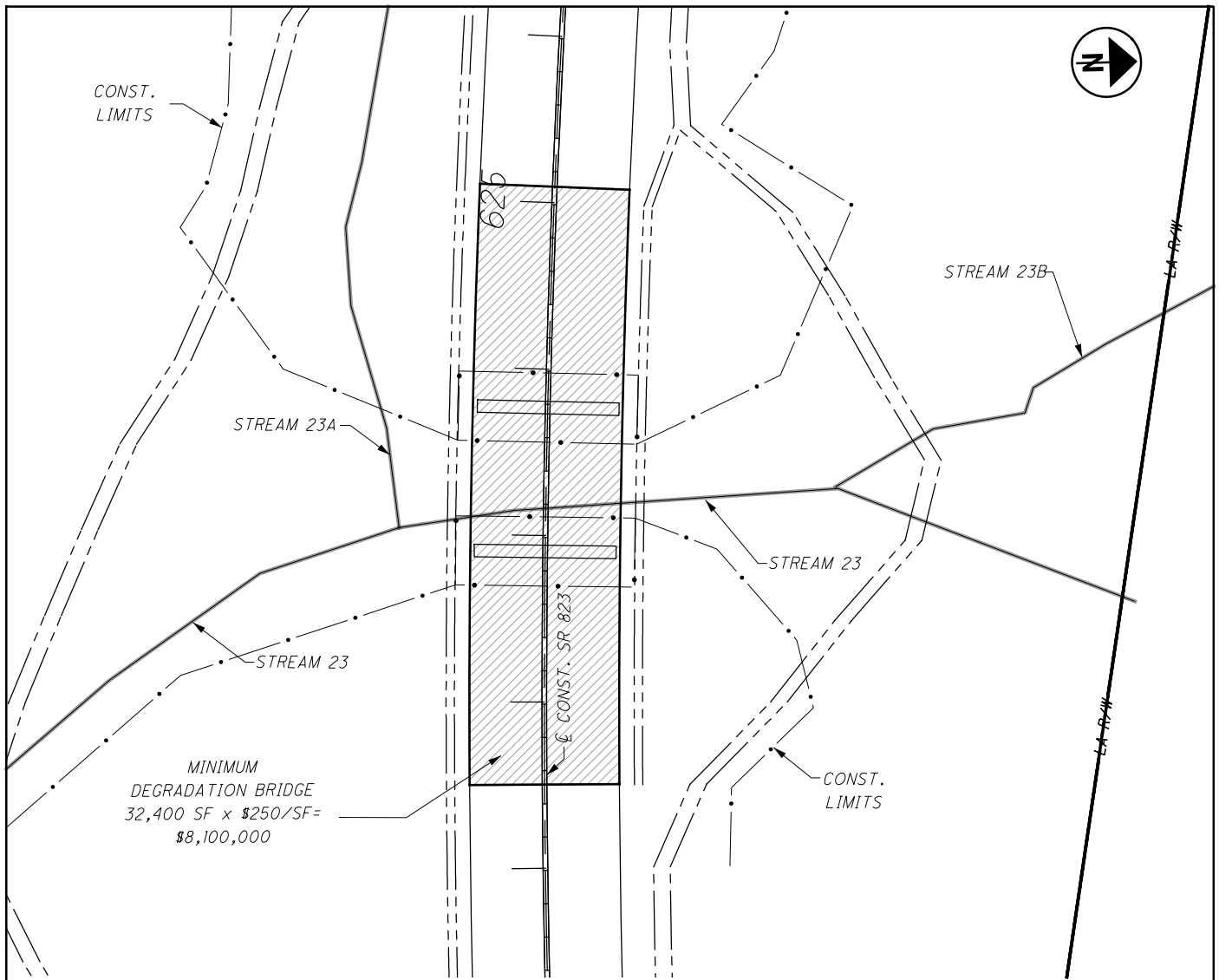
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'

DATE: JUNE 27, 2013

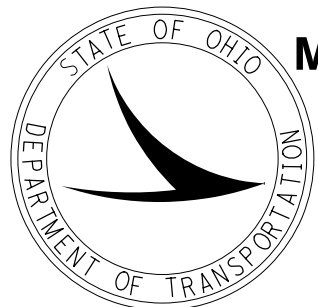
## FIGURE 4-8A



**PLAN**

**PROPERTY OWNERS:**  
 NORMAN A. MEADOWS, JR. (9/270 INTEREST) BARBARA MEADOWS JOHNSTON (10/270 INTEREST)  
 DENNIS LEE MEADOWS (9/270 INTEREST) ELBERT O. MEADOWS (10/270 INTEREST)  
 ANTHONY WAYNE MEADOWS (9/270 INTEREST) TIM COLDIRON (10/270 INTEREST)  
 KEVIN PAUL MEADOWS (9/270 INTEREST) JEANETTE WILDERMUTH (10/270 INTEREST)  
 KENNETH DEAN MEADOWS (9/270 INTEREST) LINDA G. COX, TRUSTEE OF  
 EMOGENE C. POLLARD (25/270 INTEREST) THE LINDA GRACE COX TRUST,  
 AUDREY ARTHUR (30/270 INTEREST) U/D/T DTD JULY 10, 2012  
 GLENN E. MEADOWS (30/270 INTEREST)  
 RALPH MEADOWS (30/270 INTEREST)  
 PAMELA ANN SMITH (30/270 INTEREST)  
 CURTIS MEADOWS (30/270 INTEREST)  
 LARRY MEADOWS (10/270 INTEREST)

**LEGEND**  
 - - - - - PROPOSED DITCH  
 [Hatched Box] PROPOSED BRIDGE



**MINIMUM DEGRADATION  
 STREAM 23  
 STREAM 23A  
 STREAM 23B**

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

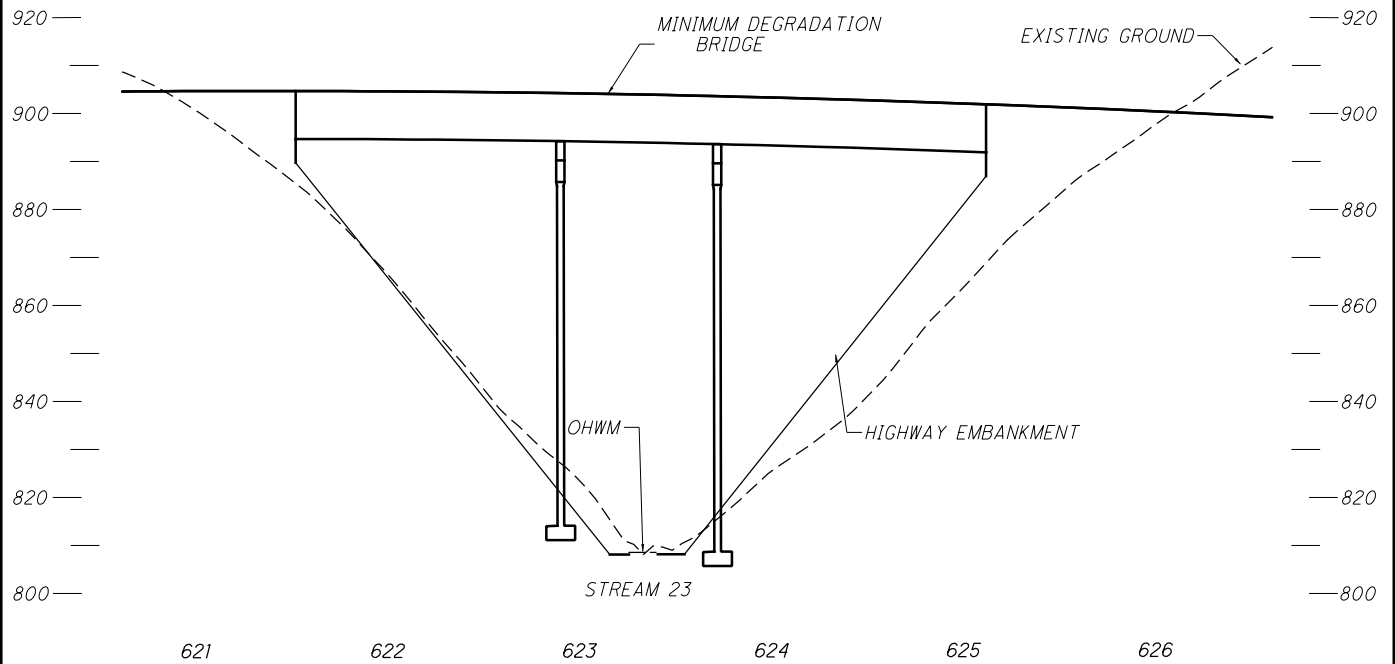
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

DATE: JUNE 27, 2013

**FIGURE 4-9**





## SR823 BRIDGE PROFILE

### STREAM 23

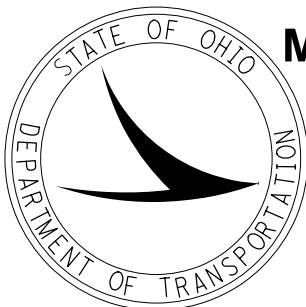
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 23A

LENGTH OF IMPACT:	395 LF
AREA EXCAVATED OR FILLED:	0.036 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	29 CY

### STREAM 23B

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY



## MINIMUM DEGRADATION STREAM 23 STREAM 23A STREAM 23B

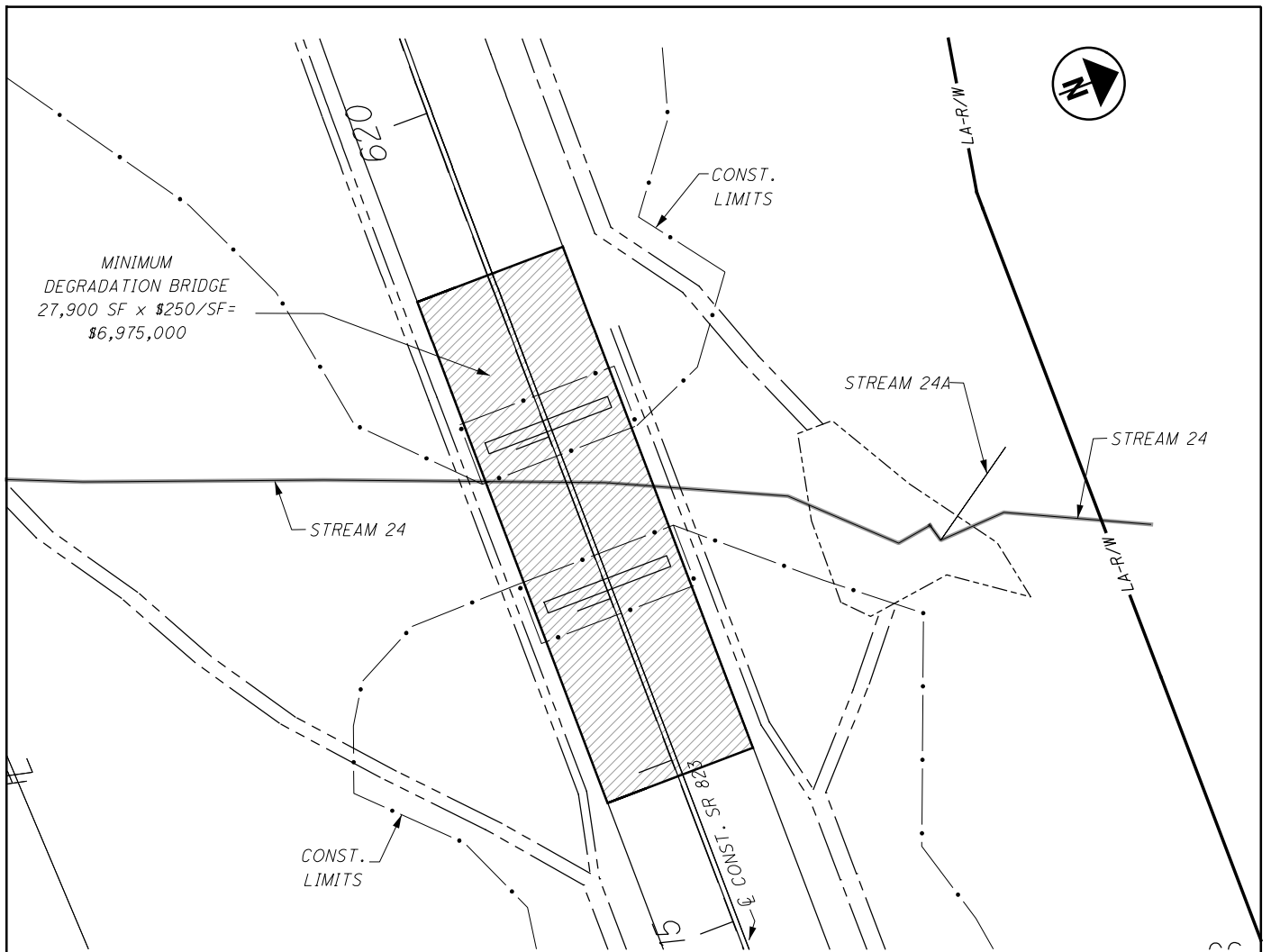
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 100'  
V 1" = 40'

DATE: JUNE 27, 2013

## FIGURE 4-9A



## STREAM 24

## STREAM 24A

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

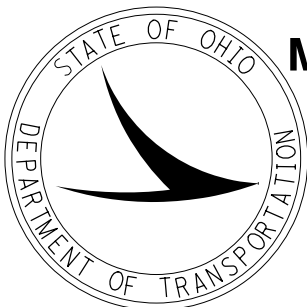
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

**PROPERTY OWNERS:**

NORMAN A. MEADOWS, JR. (9/270 INTEREST)	BARBARA MEADOWS JOHNSTON (10/270 INTEREST)
DENNIS LEE MEADOWS (9/270 INTEREST)	ELBERT O. MEADOWS (10/270 INTEREST)
ANTHONY WAYNE MEADOWS (9/270 INTEREST)	TIM COLDIRON (10/270 INTEREST)
KEVIN PAUL MEADOWS (9/270 INTEREST)	JEANETTE WILDERMUTH (10/270 INTEREST)
KENNETH DEAN MEADOWS (9/270 INTEREST)	LINDA G. COX, TRUSTEE OF
EMOGENE C. POLLARD (25/270 INTEREST)	THE LINDA GRACE COX TRUST,
AUDREY ARTHUR (30/270 INTEREST)	U/D/T DTD JULY 10, 2012
GLENN E. MEADOWS (30/270 INTEREST)	
RALPH MEADOWS (30/270 INTEREST)	
PAMELA ANN SMITH (30/270 INTEREST)	
CURTIS MEADOWS (30/270 INTEREST)	
LARRY MEADOWS (10/270 INTEREST)	

**LEGEND**

- PROPOSED DITCH
- PROPOSED BRIDGE



# MINIMUM DEGRADATION STREAM 24 STREAM 24A

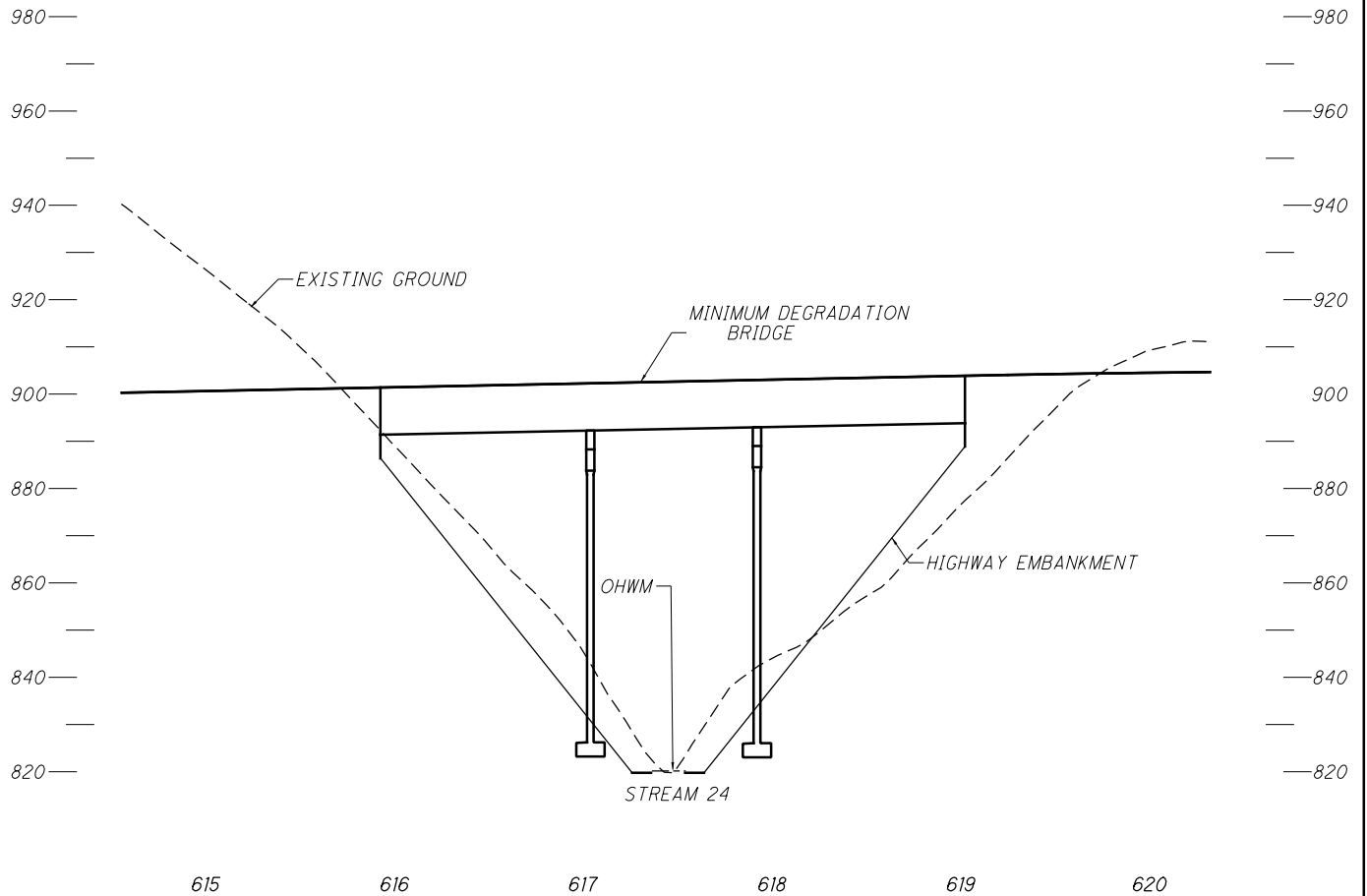
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'

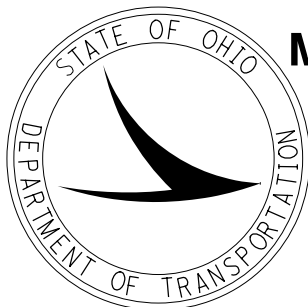
DATE: JUNE 27, 2013

## FIGURE 4-10

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



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 24 STREAM 24A

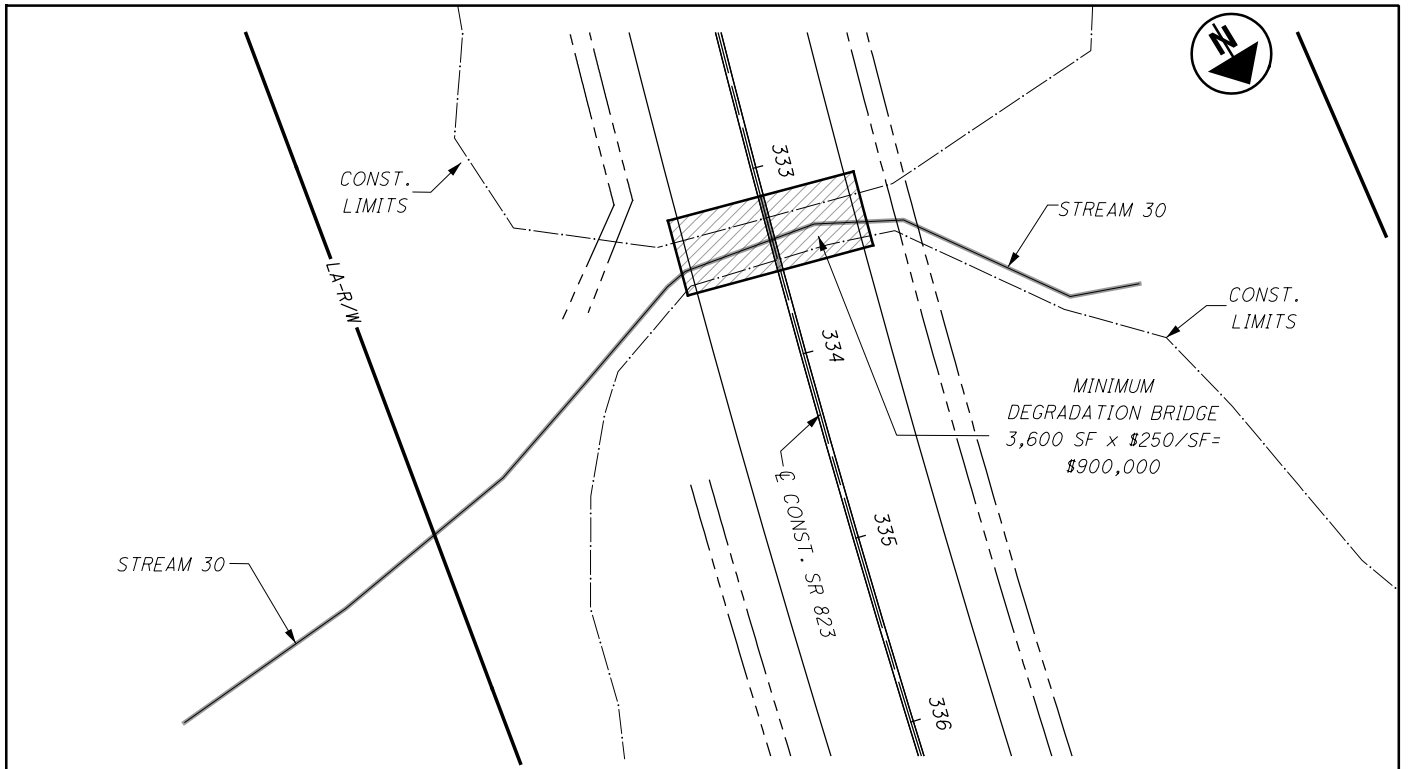
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

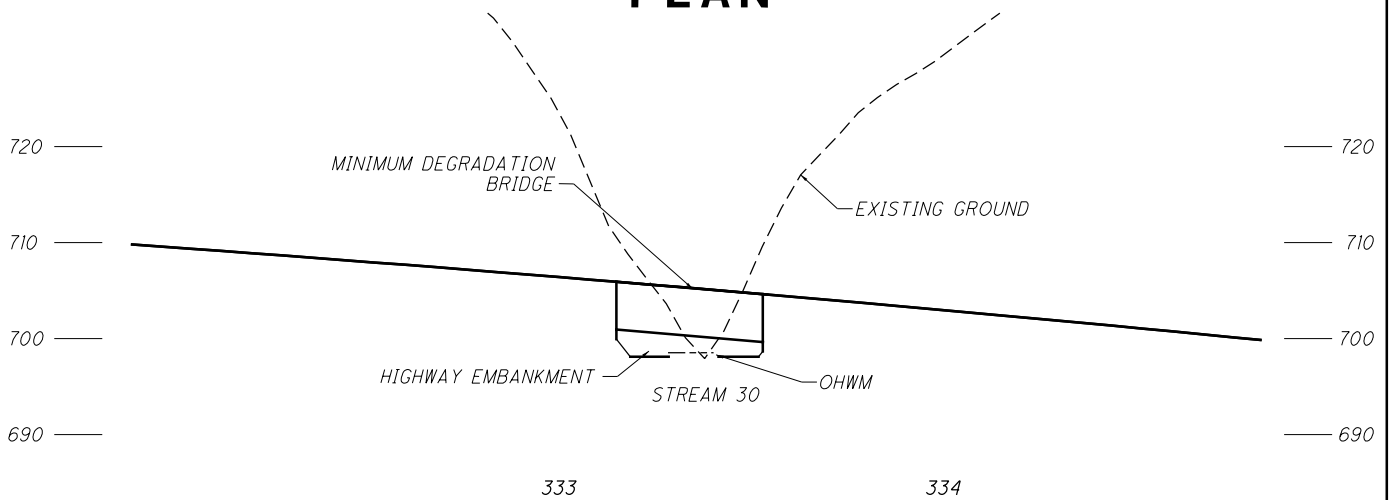
BRIDGE PROFILE: H 1" = 100'  
V 1" = 40'

DATE: JUNE 27, 2013

## FIGURE 4-10A



**PLAN**



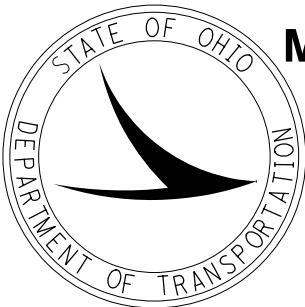
LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE

**SR823 BRIDGE PROFILE**

PROPERTY OWNERS:  
CRAIG S. VEACH AND GAYLE M. VEACH

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATION BELOW OHW: 0 CY



**MINIMUM DEGRADATION  
STREAM 30**

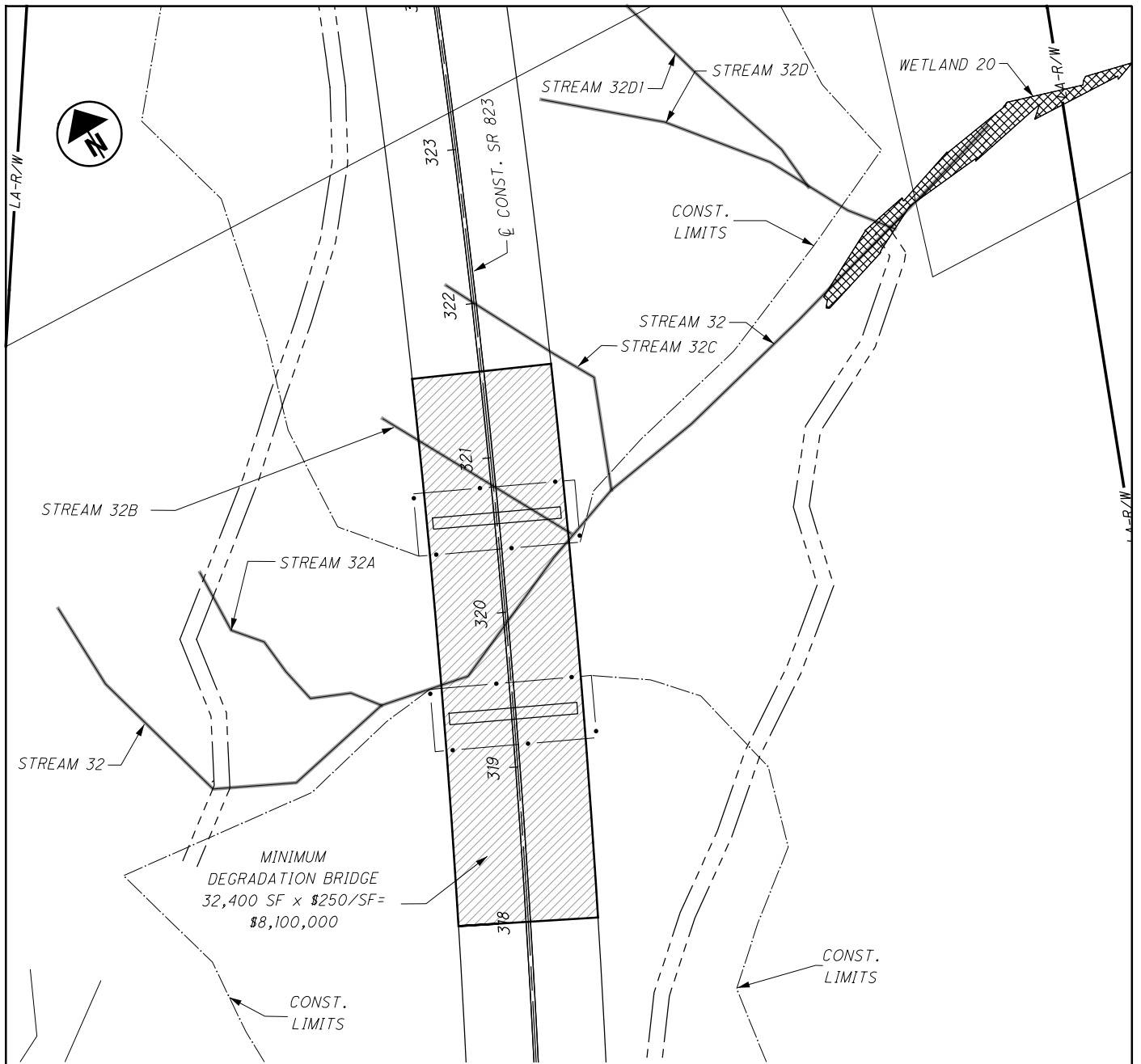
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 100'  
 BRIDGE PROFILE: H 1" = 50'  
 V 1" = 20'

DATE: JUNE 28, 2013




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

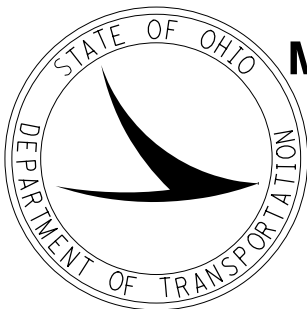
**FIGURE 4-11**



**PLAN**

PROPERTY OWNERS:  
 HEER AND COMPANY  
 (MERGER - BLUEMONT CORPORATION)  
 CRAIG S. VEACH AND GAYLE M. VEACH

- LEGEND**
-  DIRECT AREA
  -  PROPOSED DITCH
  -  PROPOSED BRIDGE



**MINIMUM DEGRADATION  
 STREAM 32 COMPLEX  
 WETLAND 20**

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

PLAN SCALE: 1" = 100'

DATE: JUNE 28, 2013

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

**FIGURE 4-12**

### STREAM 32

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

### STREAM 32A

LENGTH OF IMPACT: 0 LF  
 AREA EXCAVATED OR FILLED: 0 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 0 CY

### STREAM 32B

LENGTH OF IMPACT: 142 LF  
 AREA EXCAVATED OR FILLED: 0.007 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 5 CY

### STREAM 32C

LENGTH OF IMPACT: 176 LF  
 AREA EXCAVATED OR FILLED: 0.012 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 10 CY

### STREAM 32D

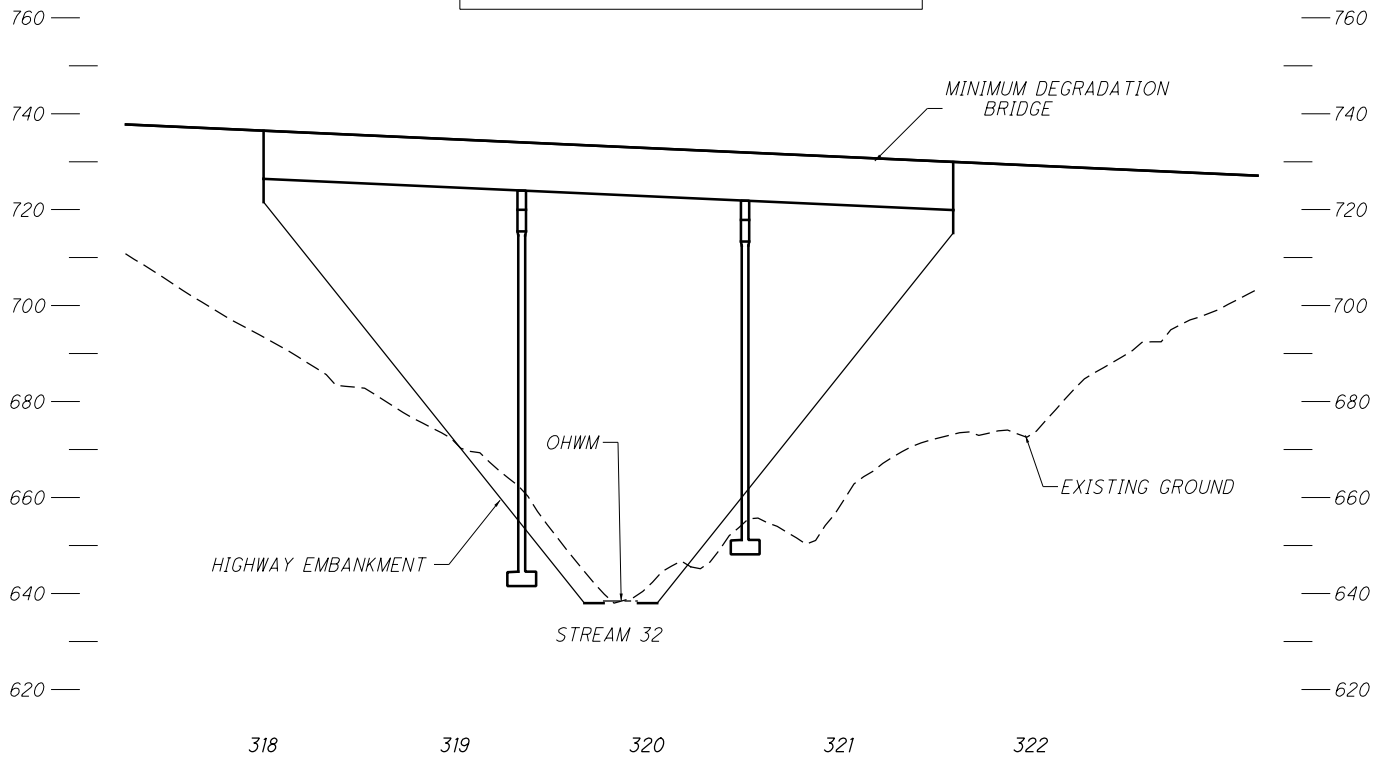
LENGTH OF IMPACT: 211 LF  
 AREA EXCAVATED OR FILLED: 0.01 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 8 CY

### STREAM 32D1

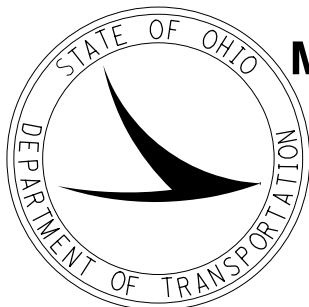
LENGTH OF IMPACT: 245 LF  
 AREA EXCAVATED OR FILLED: 0.011 ACRE  
 EXCAVATED BELOW OHW: 0 CY  
 FILL BELOW OHW: 9 CY

### WETLAND 20

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRES  
 FILL BELOW OHW: 0 CY



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION STREAM 32 COMPLEX WETLAND 20

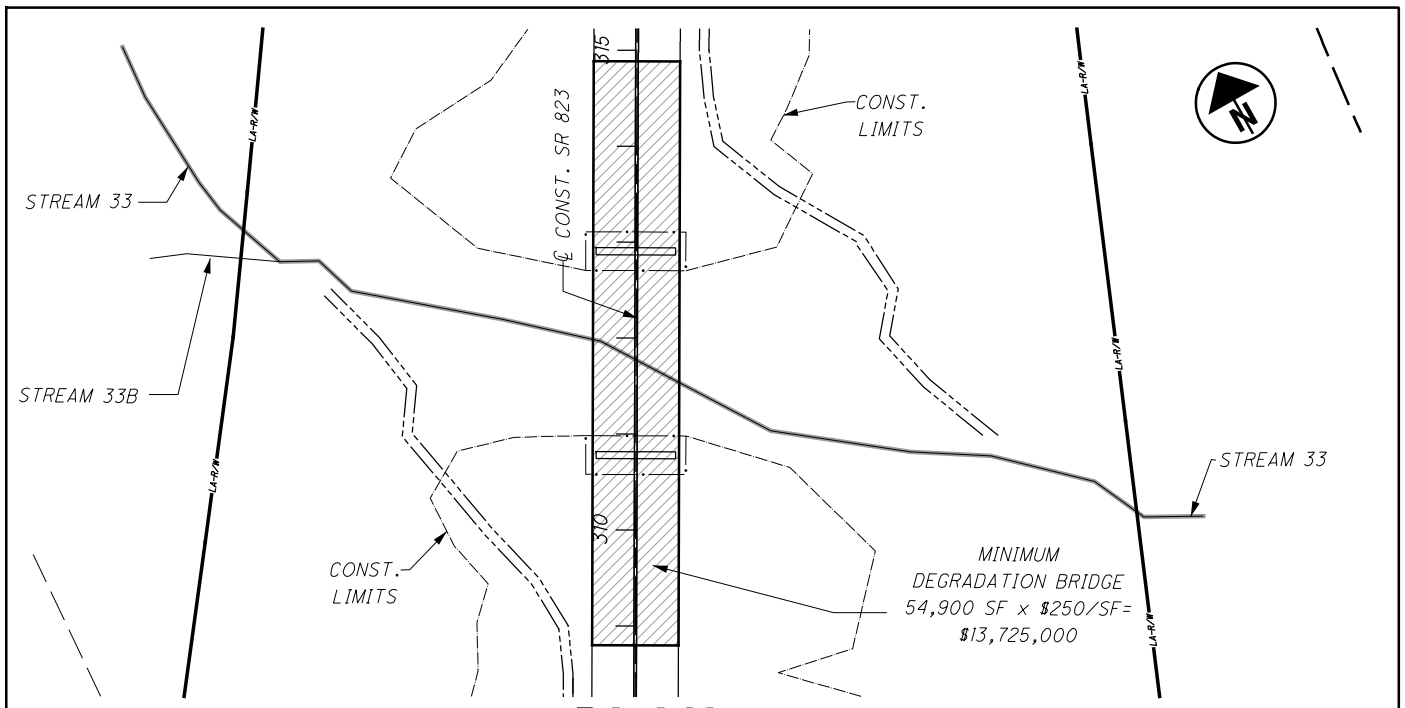
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

BRIDGE PROFILE: H 1" = 100'  
 V 1" = 40'

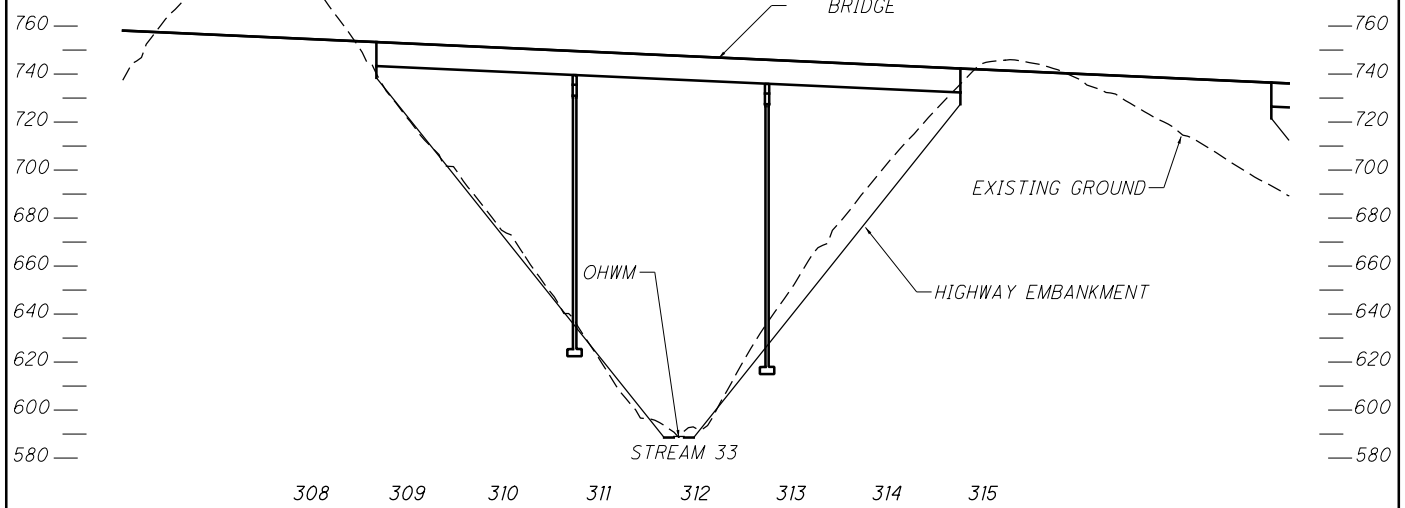
DATE: JUNE 28, 2013

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

## FIGURE 4-12A



**PLAN**



**SR823 BRIDGE PROFILE**

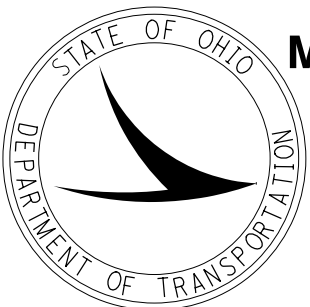
PROPERTY OWNERS:  
HEER AND COMPANY  
(MERGER - BLUEMONT CORPORATION)

<b>STREAM 33</b>	
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

<b>STREAM 33B</b>	
LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

LEGEND

-----	PROPOSED DITCH
	PROPOSED BRIDGE



**MINIMUM DEGRADATION  
STREAM 33  
STREAM 33B**

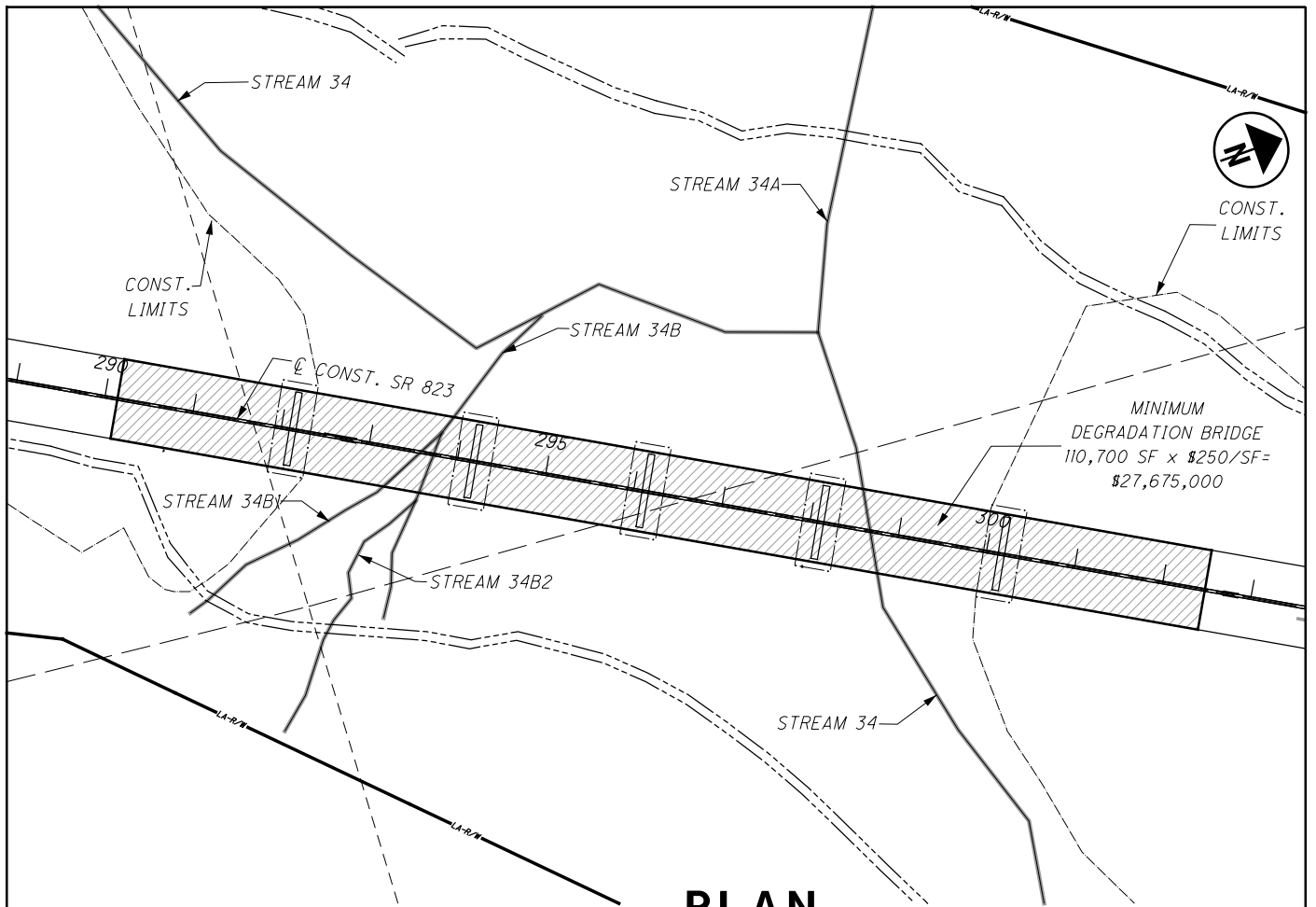
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
BRIDGE SCALE: H 1" = 200'  
V 1" = 80'

DATE: JULY 1, 2013

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

**FIGURE 4-13**



**PLAN**

**STREAM 34**

PROPERTY OWNERS:  
HEER AND COMPANY  
(MERGER - BLUEMONT CORPORATION)

LENGTH OF IMPACT: 0 LF  
AREA EXCAVATED OR FILLED: 0 ACRE  
EXCAVATION BELOW OHW: 0 CY  
FILL BELOW OHW: 0 CY

**STREAM 34A**

LENGTH OF IMPACT: 0 LF  
AREA EXCAVATED OR FILLED: 0 ACRE  
EXCAVATION BELOW OHW: 0 CY  
FILL BELOW OHW: 0 CY

**STREAM 34B**

LENGTH OF IMPACT: 0 LF  
AREA EXCAVATED OR FILLED: 0 ACRE  
EXCAVATION BELOW OHW: 0 CY  
FILL BELOW OHW: 0 CY

**STREAM 34B1**

LENGTH OF IMPACT: 0 LF  
AREA EXCAVATED OR FILLED: 0 ACRE  
EXCAVATION BELOW OHW: 0 CY  
FILL BELOW OHW: 0 CY

**STREAM 34B2**

LENGTH OF IMPACT: 0 LF  
AREA EXCAVATED OR FILLED: 0 ACRE  
EXCAVATION BELOW OHW: 0 CY  
FILL BELOW OHW: 0 CY

LEGEND

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION**

**STREAM 34**  
**STREAM 34A**  
**STREAM 34B**  
**STREAM 34B1**  
**STREAM 34B2**

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

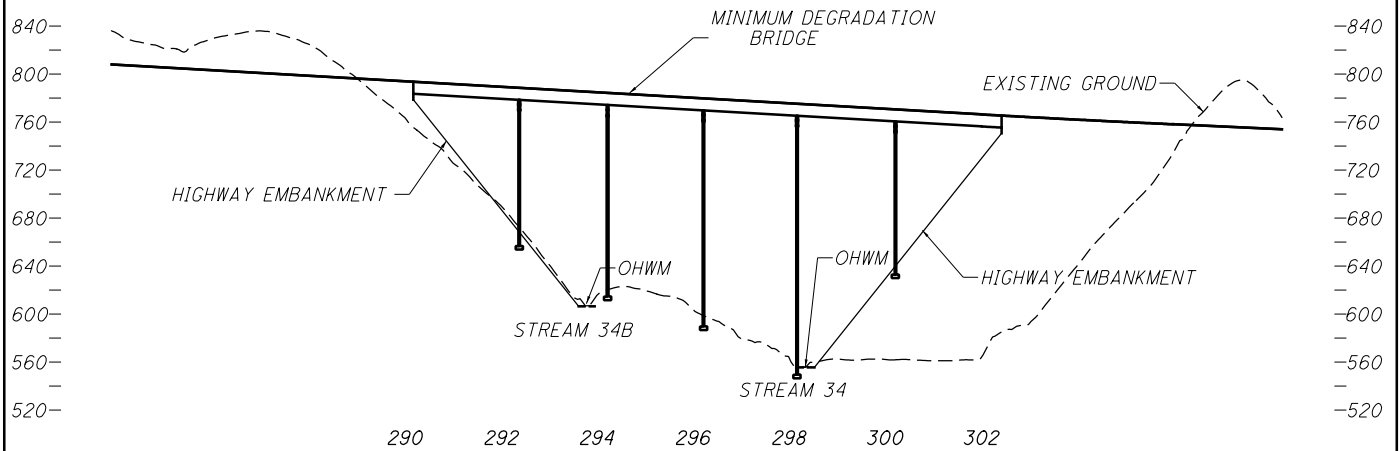
PLAN SCALE: 1" = 200'

DATE: JULY 1, 2013

**FIGURE 4-14**

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





## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION

**STREAM 34**  
**STREAM 34A**  
**STREAM 34B**  
**STREAM 34B1**  
**STREAM 34B2**

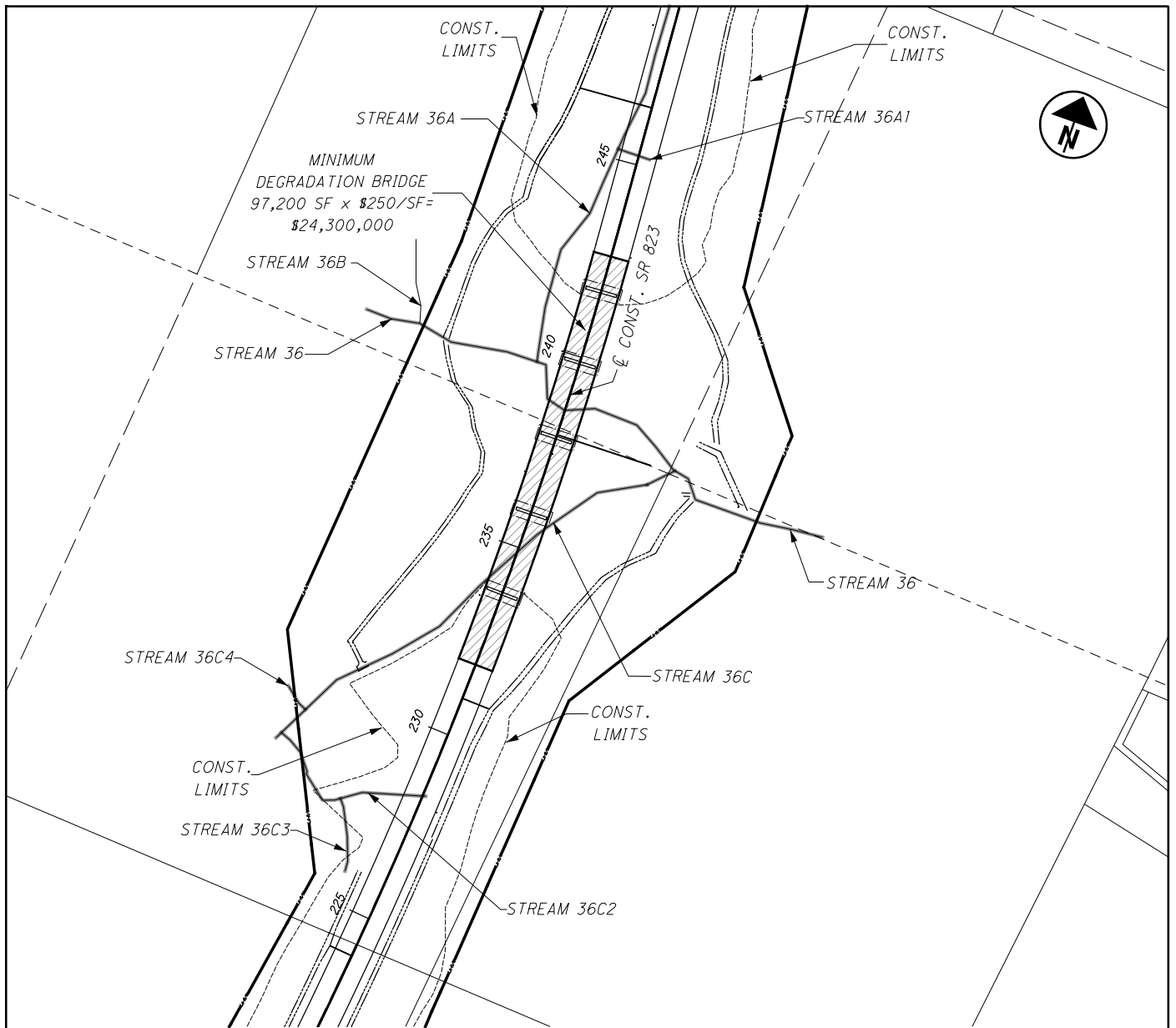
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

BRIDGE PROFILE: H 1" = 400'  
 V 1" = 160'

DATE: JULY 1, 2013

**FIGURE 4-14A**



# PLAN

**PROPERTY OWNERS:**

LINDA JEAN CORIELL WESSEL AND LYNN R. WESSEL  
 ROGER CLIFFORD CORIELL, JR., RAYMOND FRANCIS CORIELL,  
 RANDALL JOSEPH CORIELL, AND ROBERT BENNETT CORIELL  
 AND KENNETH R. CORIELL, TRUSTEE, KENNETH R. CORIELL  
 REVOCABLE TRUST U/A JUNE 11, 2004  
 DOUG MCLAUGHLIN AND ERIN MCLAUGHLIN

**LEGEND**

- PROPOSED DITCH
- PROPOSED BRIDGE



**MINIMUM DEGRADATION**

- STREAM 36**
- STREAM 36A**
- STREAM 36A1**
- STREAM 36C**
- STREAM 36C2**
- STREAM 36C3**
- STREAM 36C4**

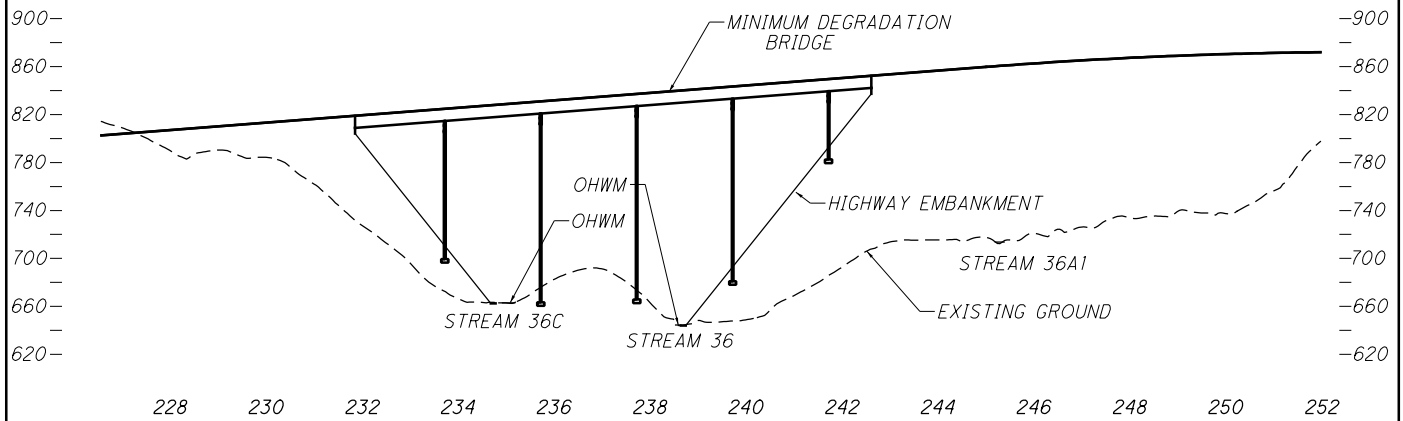
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 400'

DATE: JUNE 28, 2013

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

**FIGURE 4-15**



## SR823 BRIDGE PROFILE

### STREAM 36

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 36A

LENGTH OF IMPACT:	1033 LF
AREA EXCAVATED OR FILLED:	.095 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	77 CY

### STREAM 36A1

LENGTH OF IMPACT:	86 LF
AREA EXCAVATED OR FILLED:	.002 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	2 CY

### STREAM 36C

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

### STREAM 36C2

LENGTH OF IMPACT:	386 LF
AREA EXCAVATED OR FILLED:	.044 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	36 CY

### STREAM 36C3

LENGTH OF IMPACT:	184 LF
AREA EXCAVATED OR FILLED:	.021 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	17 CY

### STREAM 36C4

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY



#### MINIMUM DEGRADATION

**STREAM 36**  
**STREAM 36A**  
**STREAM 36A1**  
**STREAM 36C**  
**STREAM 36C2**  
**STREAM 36C3**  
**STREAM 36C4**

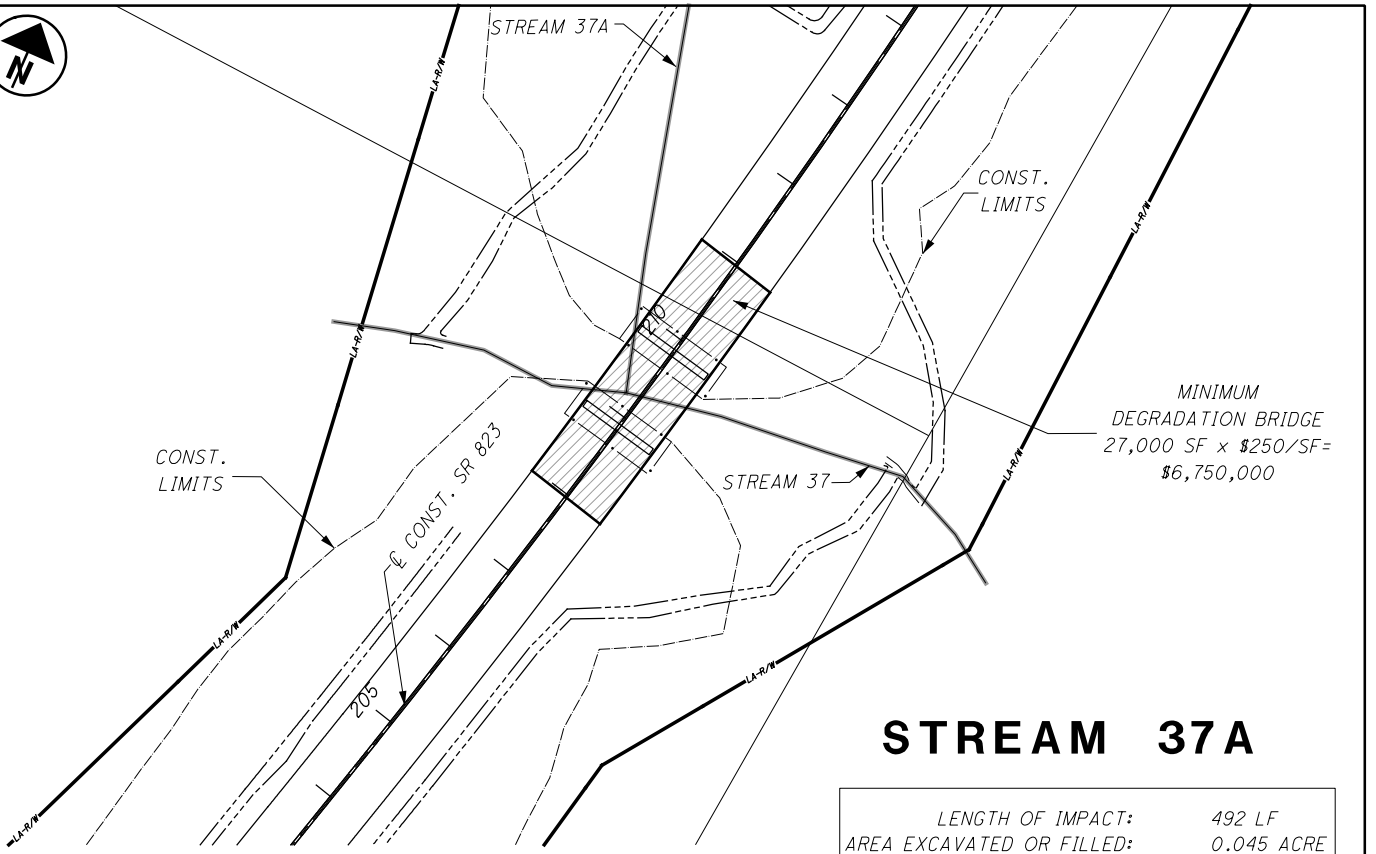
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

BRIDGE PROFILE: H 1" = 400'  
 V 1" = 160'

DATE: JUNE 28, 2013

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

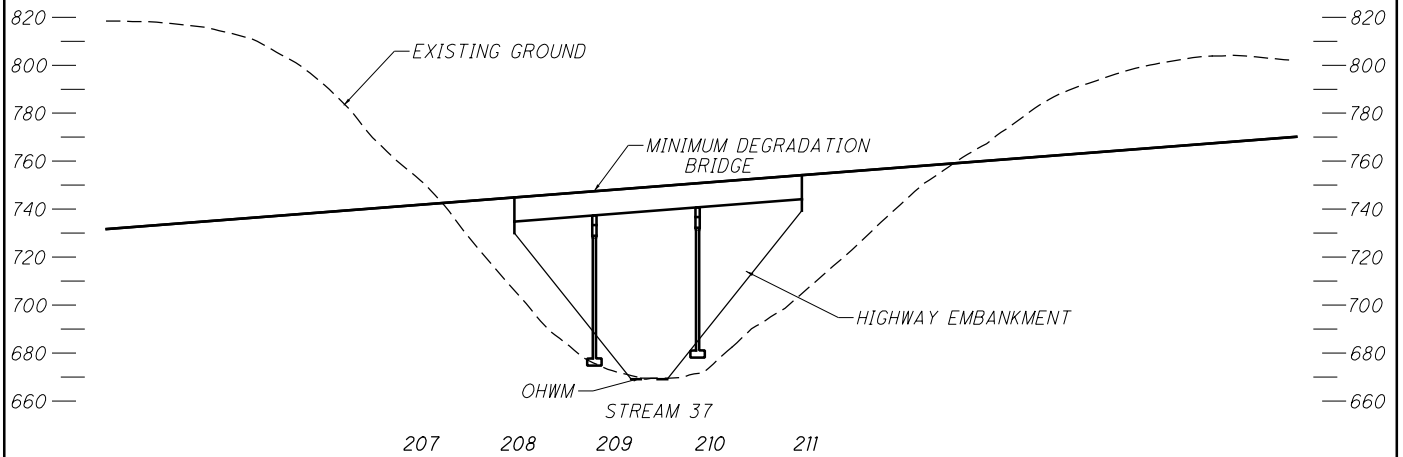
## FIGURE 4-15A



### STREAM 37A

LENGTH OF IMPACT:	492 LF
AREA EXCAVATED OR FILLED:	0.045 ACRE
EXCAVATED BELOW OHW:	0 CY
FILL BELOW OHW:	36 CY

### PLAN



### SR823 BRIDGE PROFILE

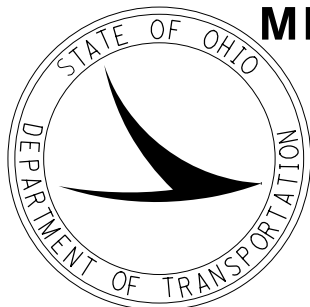
### STREAM 37

**PROPERTY OWNERS:**  
 WILLIAM T. BRYAN, HAROLD R. BRYAN,  
 BETTY GAY MAIDEN, PAMELA JOY BRYAN,  
 PATRICIA FAYE GILLILAND, RAYMEND EUGENE BRYAN  
 HAROLD G. WILLIAMS

**LEGEND**

	PROPOSED DITCH
	PROPOSED BRIDGE

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATED BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY



## MINIMUM DEGRADATION STREAM 37 STREAM 37A

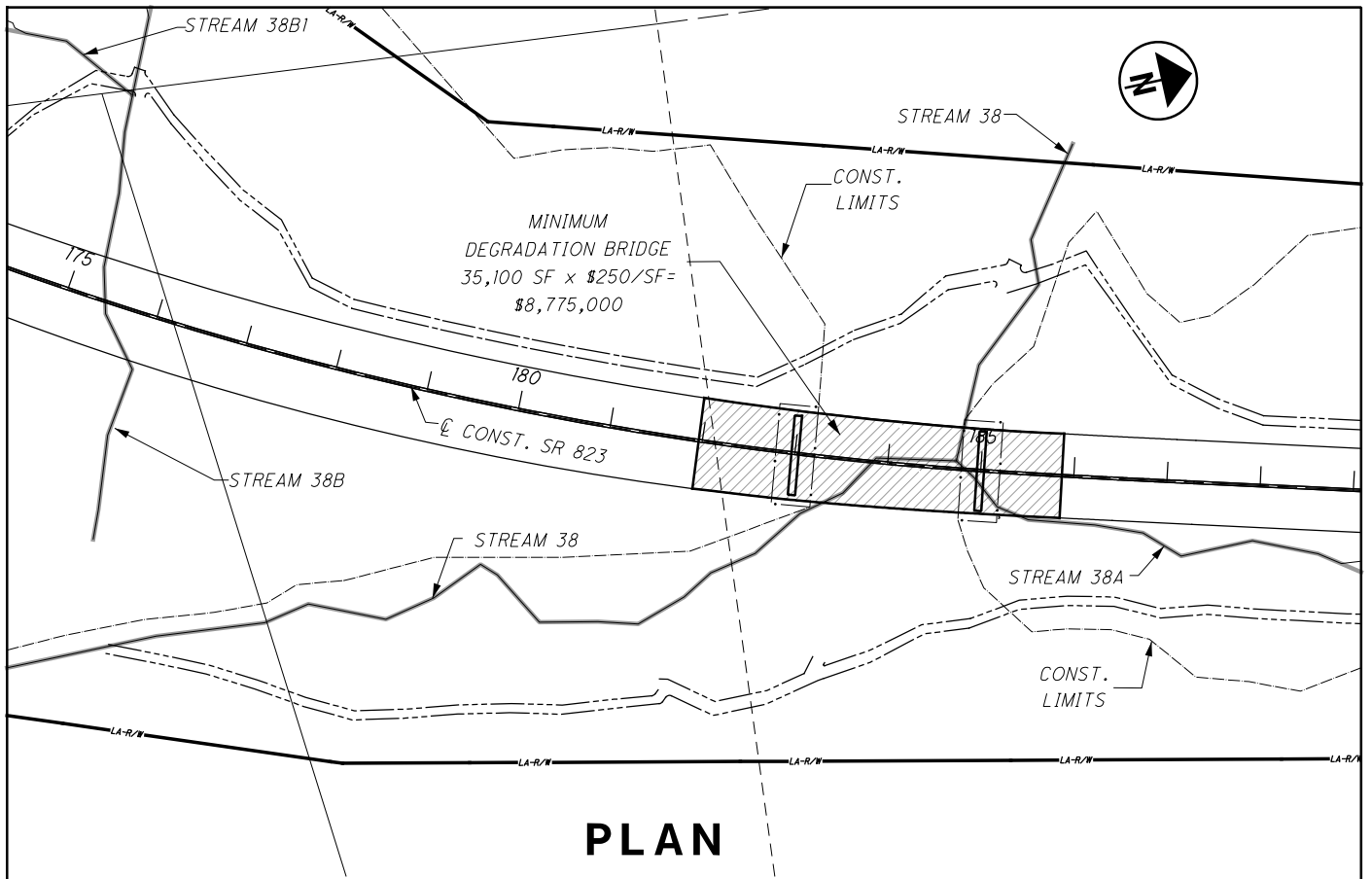
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'

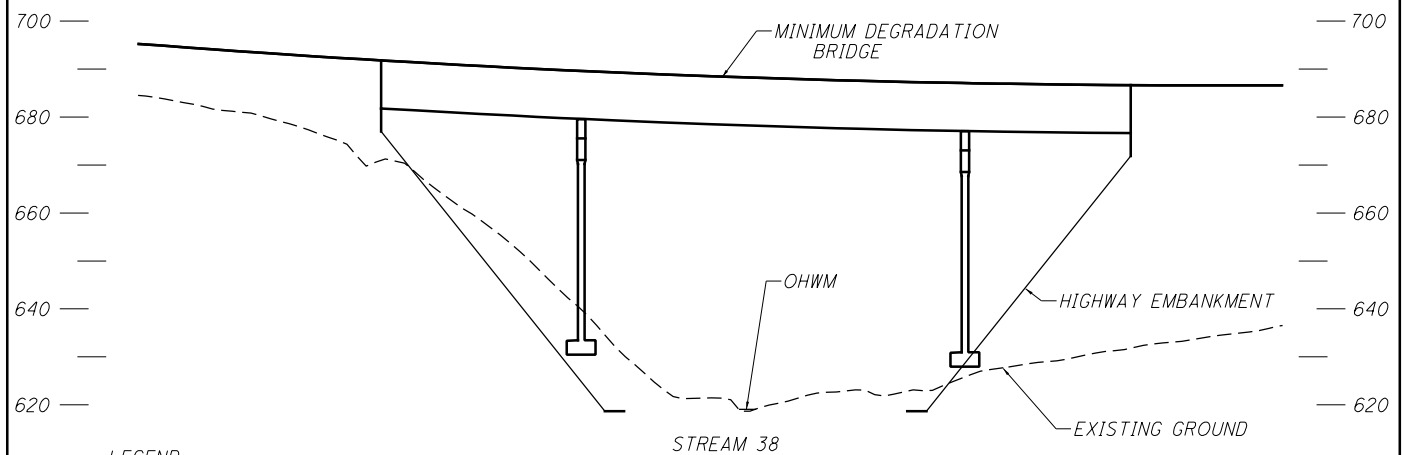
DATE: JUNE 28, 2013

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

## FIGURE 4-16



**PLAN**

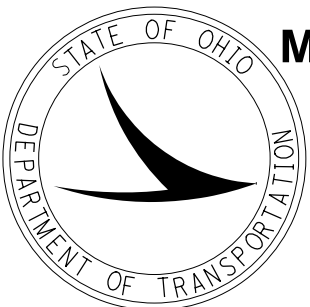


**LEGEND**

- 181 PROPOSED DITCH
- 182
- 183
- 184
- 185
- 186
- 187
- PROPOSED BRIDGE

**SR823 BRIDGE PROFILE**

PROPERTY OWNERS:  
 RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE, OF THE  
 EDITH L. KITZLER REVOCABLE TRUST U/A DATED AUGUST 17, 1993  
 SAMUEL S. WILLIAMS AND JILL L. WILLIAMS



**MINIMUM DEGRADATION**  
**STREAM 38**  
**STREAM 38A**  
**STREAM 38B**  
**STREAM 38B1**

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

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 100'  
 V 1" = 40'

DATE: JULY 1, 2013

**FIGURE 4-17**

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

## **STREAM 38**

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY

## **STREAM 38A**

LENGTH OF IMPACT:	1755 LF
AREA EXCAVATED OR FILLED:	.201 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	244 CY

## **STREAM 38B**

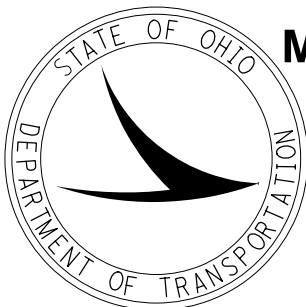
LENGTH OF IMPACT:	681 LF
AREA EXCAVATED OR FILLED:	0.109 ACRE
EXCAVATION BELOW OHW:	47 CY
FILL BELOW OHW:	70 CY

## **STREAM 38B1**

LENGTH OF IMPACT:	398 LF
AREA EXCAVATED OR FILLED:	0.046 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	37 CY

**PROPERTY OWNERS:**

RONALD D. CORIELL AND EDITH L. KITZLER TRUSTEE, OF THE  
EDITH L. KITZLER REVOCABLE TRUST U/A DATED AUGUST 17, 1993  
SAMUEL S. WILLIAMS AND JILL L. WILLIAMS



## **MINIMUM DEGRADATION**

**STREAM 38**  
**STREAM 38A**  
**STREAM 38B**  
**STREAM 38B1**

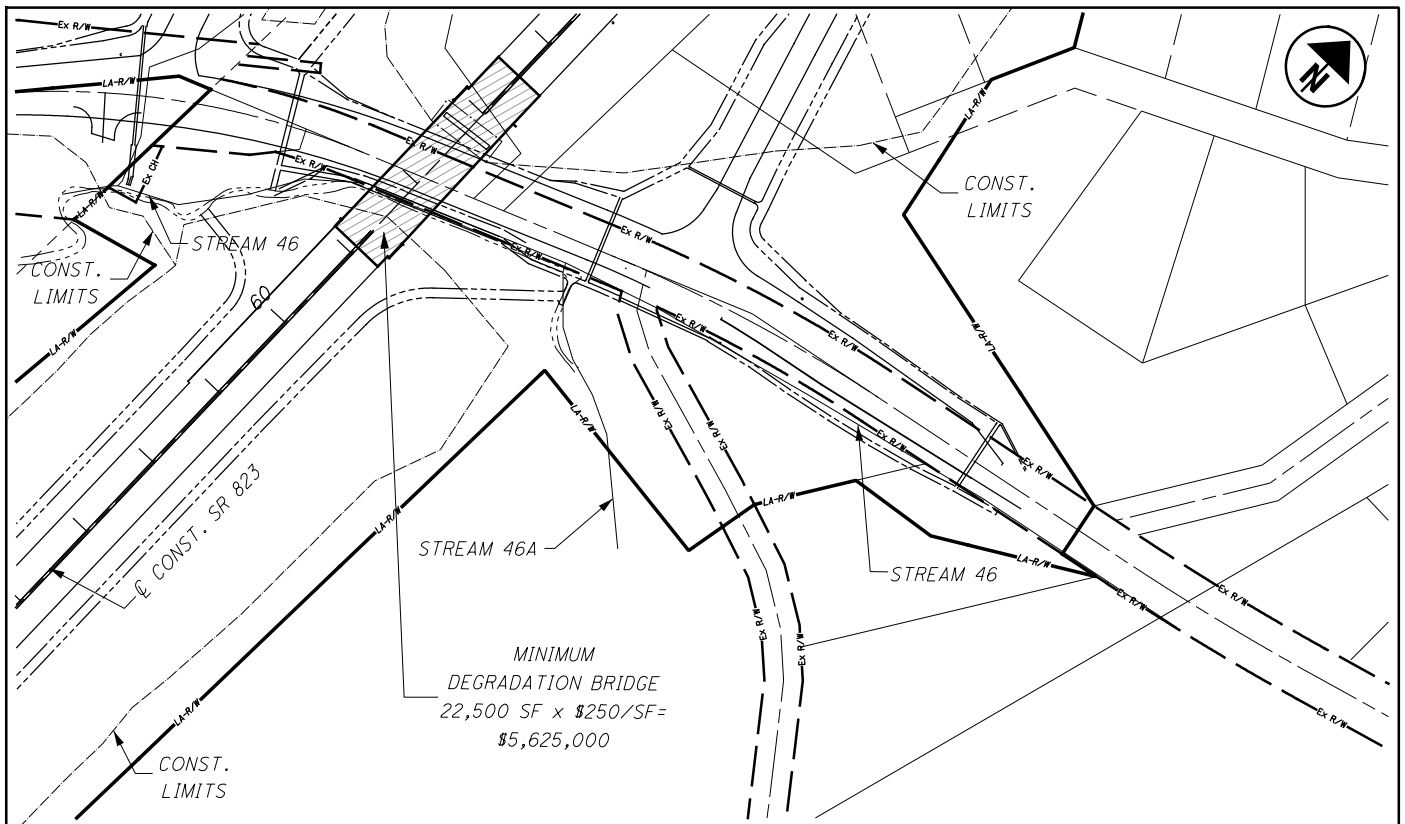
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

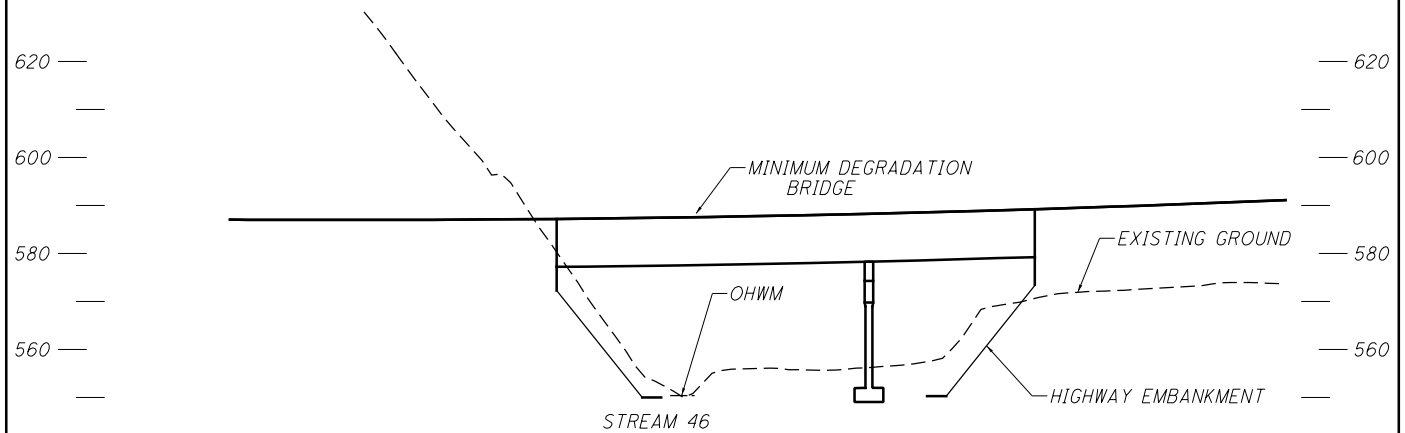
PLAN SCALE: 1" = 200'  
BRIDGE PROFILE: H 1" = 100'  
V 1" = 40'

DATE: JULY 1, 2013

## **FIGURE 4-17A**



### PLAN

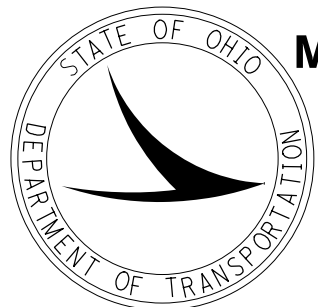


- LEGEND
- PROPOSED DITCH
  - ▨ PROPOSED BRIDGE

### SR823 BRIDGE PROFILE

PROPERTY OWNERS:  
 LANDON W. EVANS AND TONYA A. EVANS  
 MICHAEL G. RIDER AND GAIL A. LAW  
 STATE OF OHIO

LENGTH OF IMPACT:	0 LF
AREA EXCAVATED OR FILLED:	0 ACRE
EXCAVATION BELOW OHW:	0 CY
FILL BELOW OHW:	0 CY



## MINIMUM DEGRADATION STREAM 46

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

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 100'  
 V 1" = 40'

DATE: JULY 9, 2013



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

### FIGURE 4-18

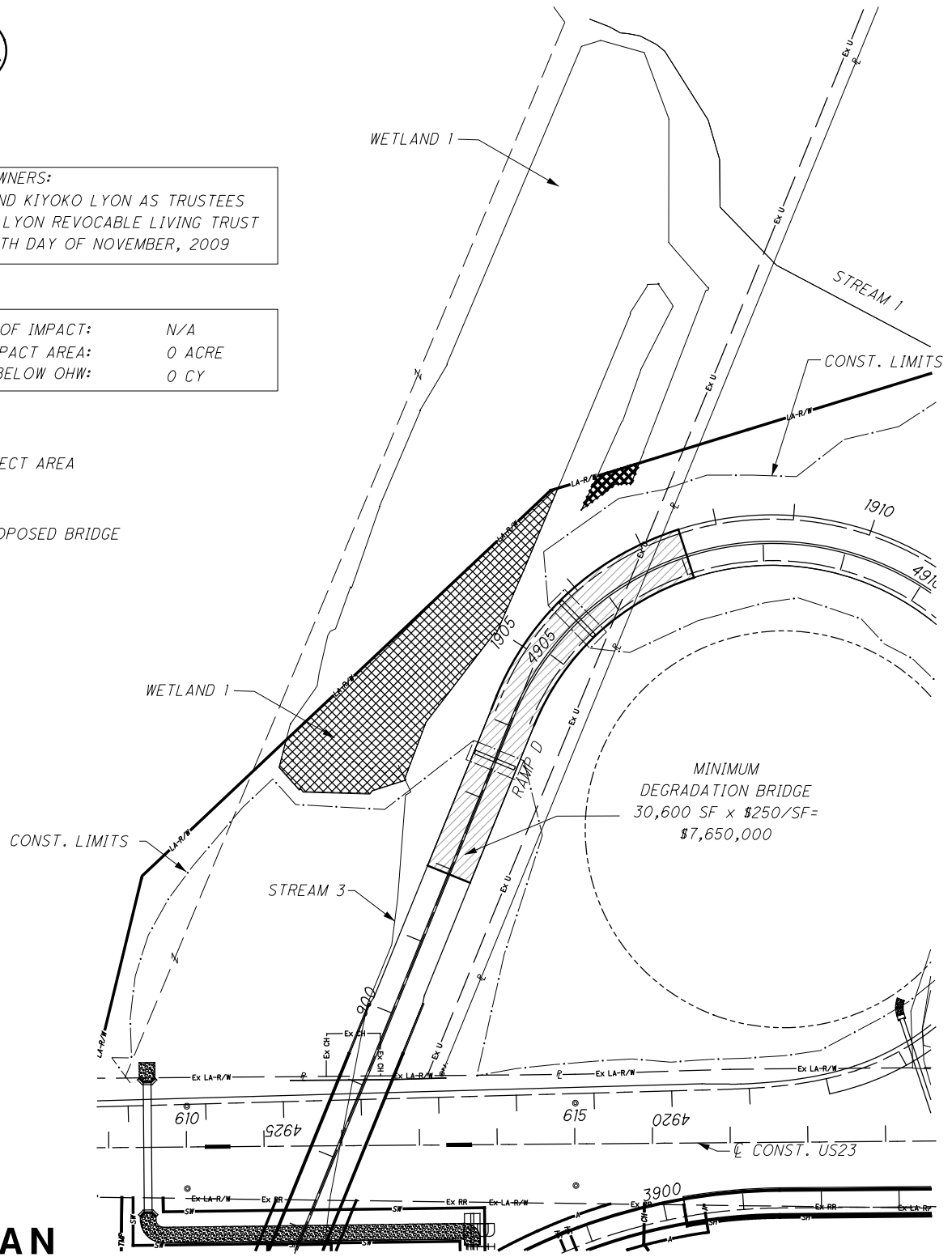


PROPERTY OWNERS:  
 CARL LYON AND KIYOKO LYON AS TRUSTEES  
 OF THE CARL LYON REVOCABLE LIVING TRUST  
 DATED THE 15TH DAY OF NOVEMBER, 2009

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRE  
 FILL BELOW OHW: 0 CY

LEGEND  
 DIRECT AREA  
 PROPOSED BRIDGE

**PLAN**



**MINIMUM DEGRADATION  
 WETLAND 1**

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

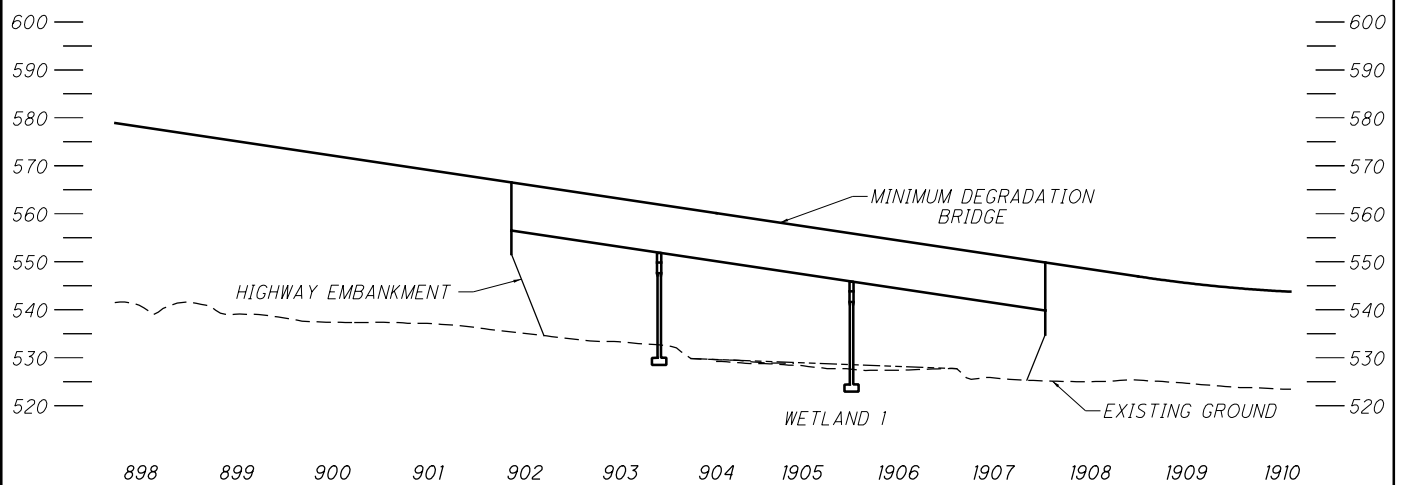
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'

DATE: JUNE 19, 2013

**FIGURE 4-19**





## RAMP D BRIDGE PROFILE



### MINIMUM DEGRADATION WETLAND 1

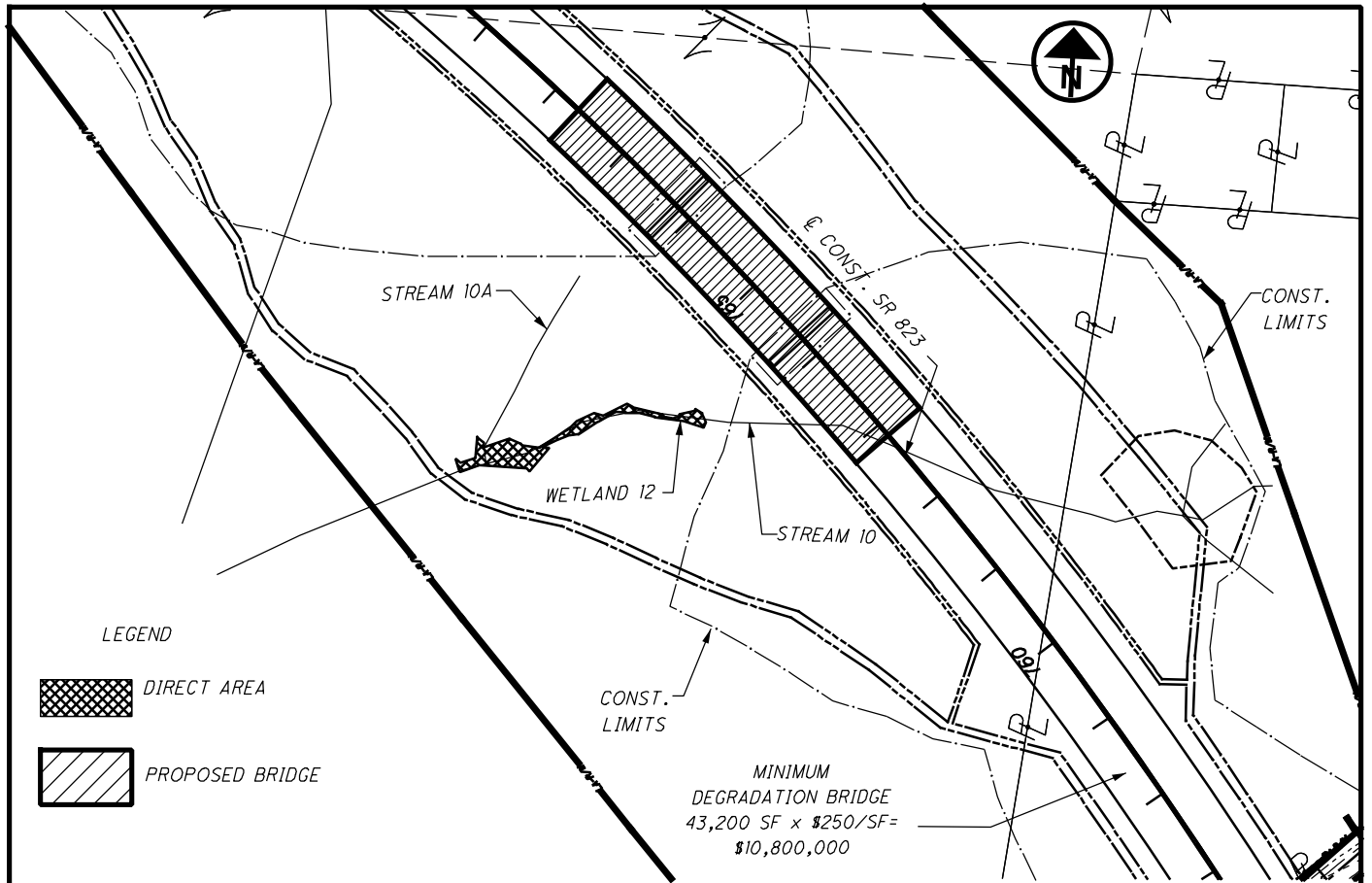
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

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

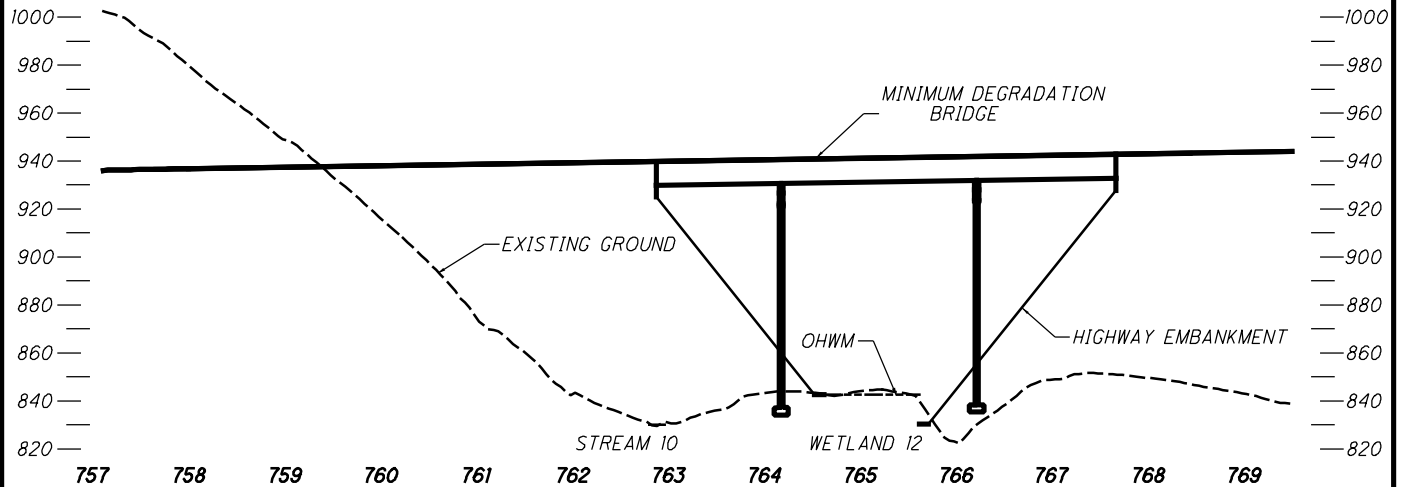
BRIDGE PROFILE : H 1" = 200'  
 V 1" = 40'

DATE: JUNE 19, 2013

**FIGURE 4-19A**



**PLAN**



**SR823 BRIDGE PROFILE**

PROPERTY OWNERS:  
 SCOTT WEST AND RONNIE WEST

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRES  
 FILL BELOW OHW: 0 CY



**MINIMUM DEGRADATION WETLAND 12**

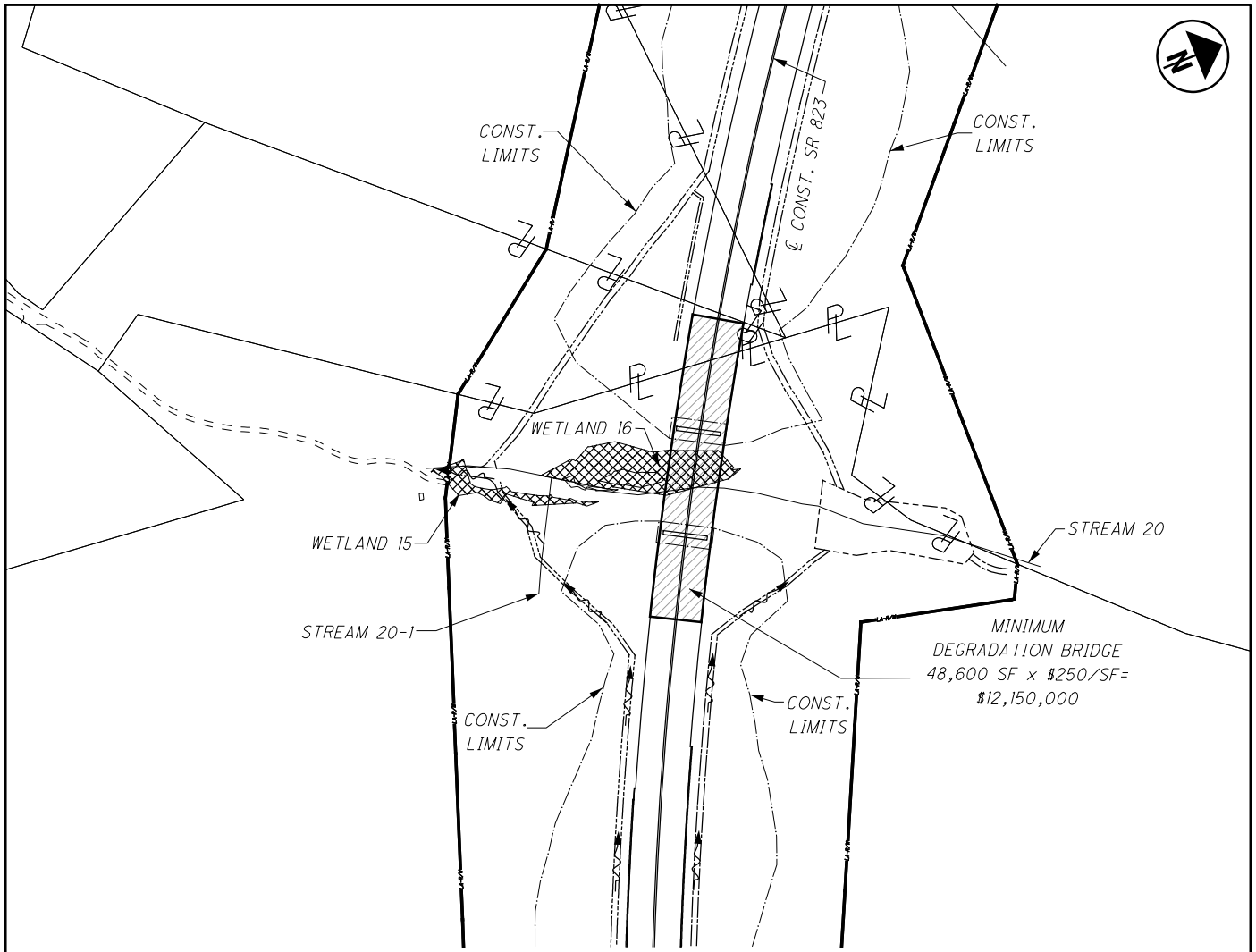
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'



DATE: JUNE 25, 2013

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

**FIGURE 4-20**



**LEGEND**

-  DIRECT AREA
-  PROPOSED BRIDGE

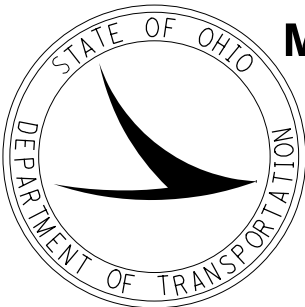
PROPERTY OWNERS:  
JOSEPH RAMSEY

**WETLAND 15**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0 ACRES
FILL BELOW OHW:	0 CY

**WETLAND 16**

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0 ACRES
FILL BELOW OHW:	0 CY



**MINIMUM DEGRADATION  
WETLAND 15  
WETLAND 16**

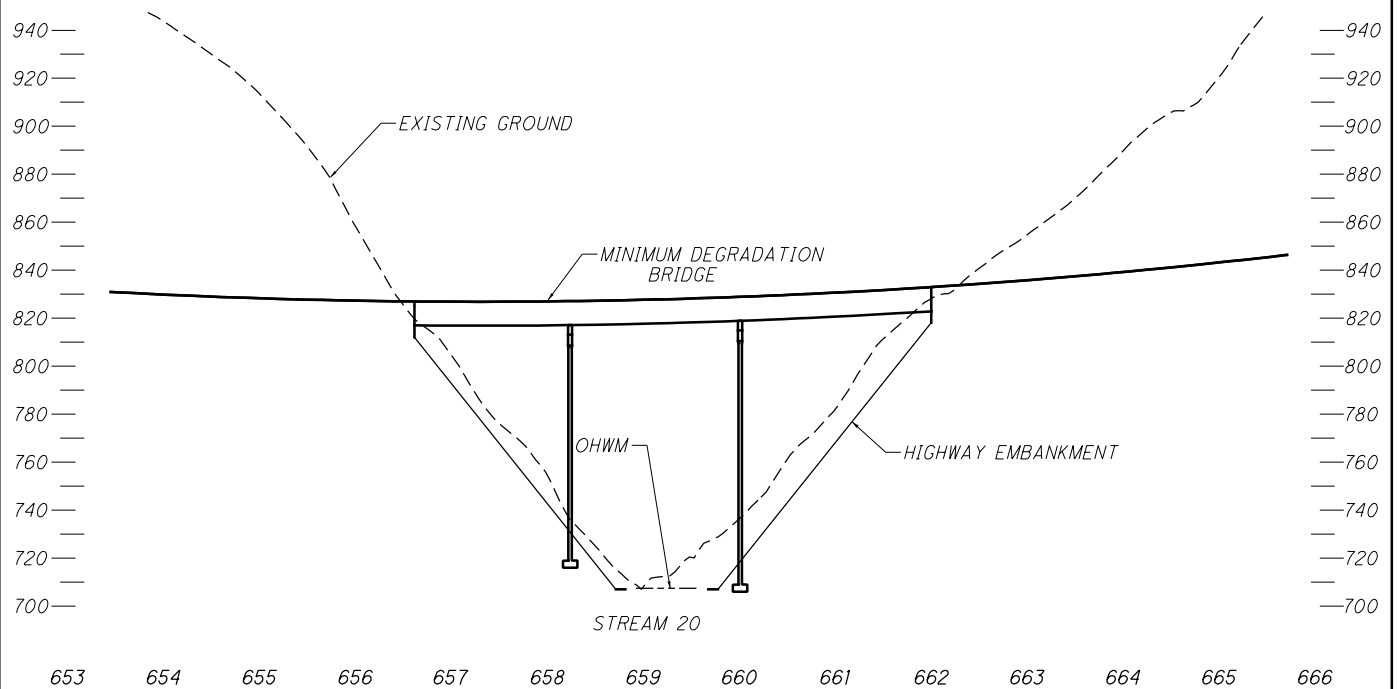
U.S. ARMY CORPS OF ENGINEERS  
SECTION 404 PERMIT AND OEPA  
SECTION 401 WATER QUALITY  
CERTIFICATION APPLICATION

PLAN SCALE: 1" = 300'

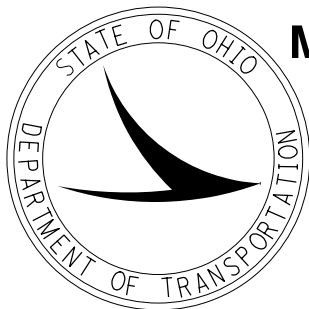
DATE: JUNE 26, 2013

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

**FIGURE 4-21**



## SR823 BRIDGE PROFILE



### MINIMUM DEGRADATION WETLAND 15 WETLAND 16

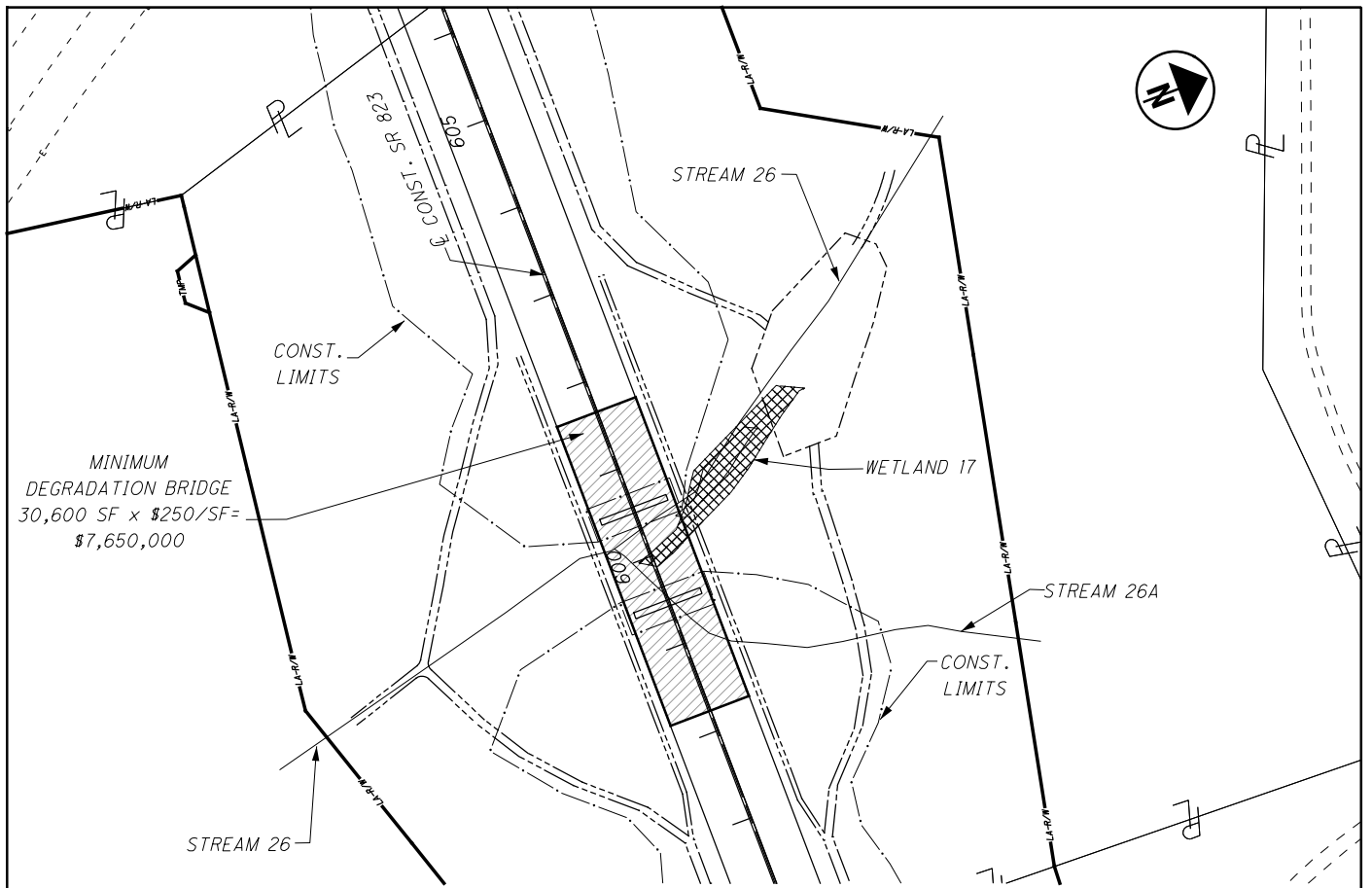
OHIO DEPARTMENT OF TRANSPORTATION  
SCI-823-10.13 PORTSMOUTH BYPASS  
SCIOTO COUNTY, OHIO

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

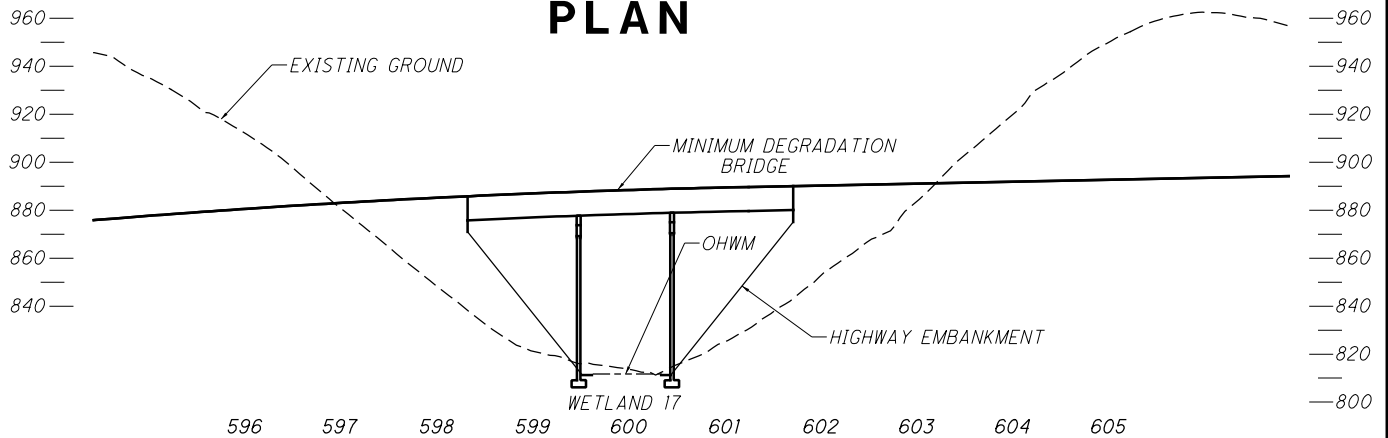
BRIDGE PROFILE: H 1" = 200'  
V 1" = 80

DATE: JUNE 26, 2013

**FIGURE 4-21A**





**PLAN**

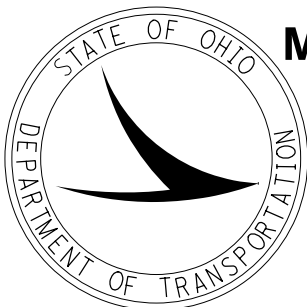


**SR823 BRIDGE PROFILE**

PROPERTY OWNERS:  
 VIRGIL L. LAXTON AND  
 CHERYL A. LAXTON

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRES  
 FILL BELOW OHW: 0 CY

LEGEND  
 DIRECT AREA  
 PROPOSED BRIDGE



**MINIMUM DEGRADATION  
 WETLAND 17**

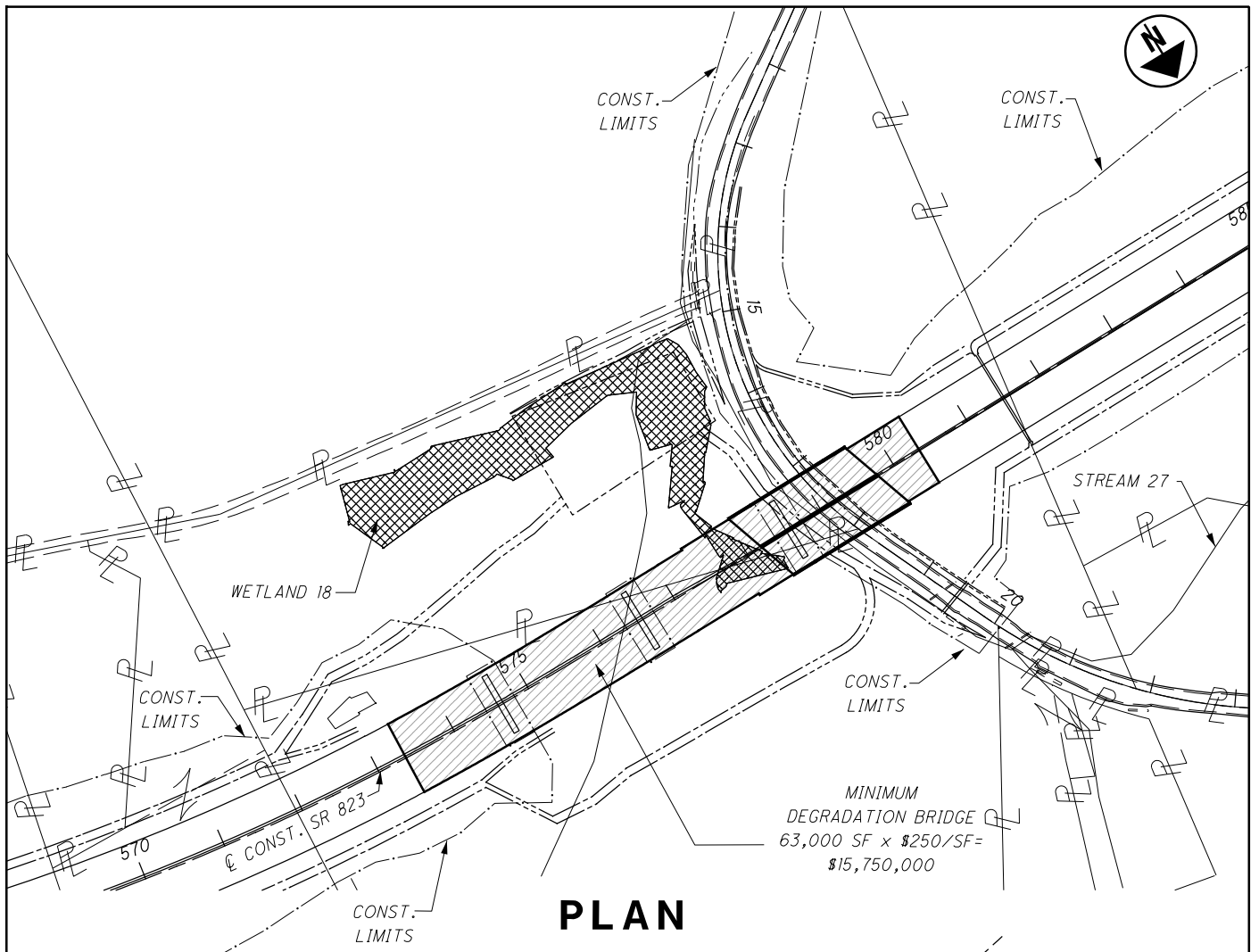
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'

DATE: JUNE 27, 2013

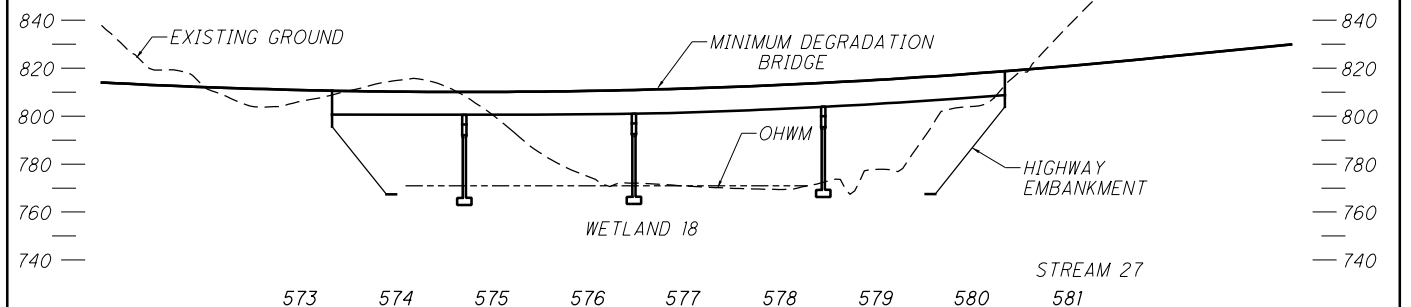
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

**FIGURE 4-22**



**PLAN**

MINIMUM DEGRADATION BRIDGE  
 63,000 SF x \$250/SF =  
 \$15,750,000



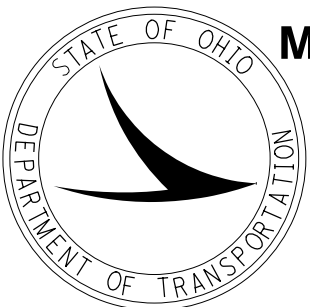
**SR823 BRIDGE PROFILE**

PROPERTY OWNERS:  
 LORENZO J. BENTLEY AND  
 AMANDA R. BENTLEY  
 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 ACRES
FILL BELOW OHW:	0 CY

LEGEND

	DIRECT AREA
	PROPOSED BRIDGE



**MINIMUM DEGRADATION WETLAND 18**

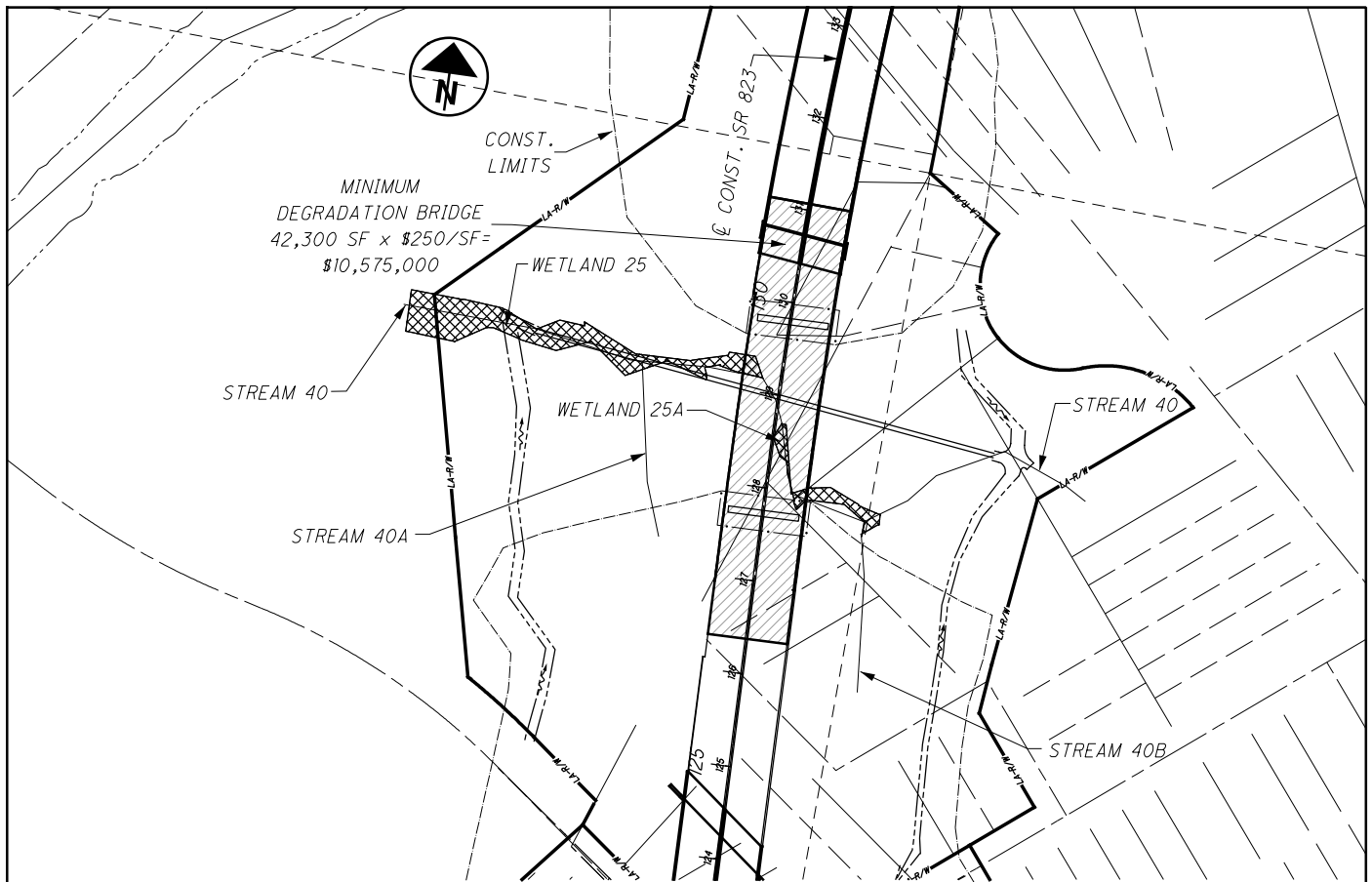
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'

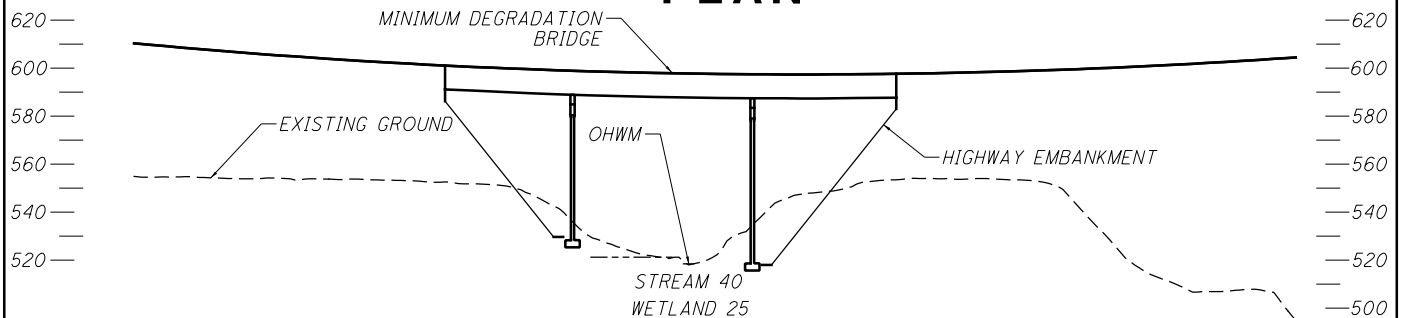
DATE: JUNE 27, 2013

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

**FIGURE 4-23**



**PLAN**



**SR823 BRIDGE PROFILE**

**LEGEND**



DIRECT AREA



PROPOSED BRIDGE

125 126 127 128 129 130 131 132 133

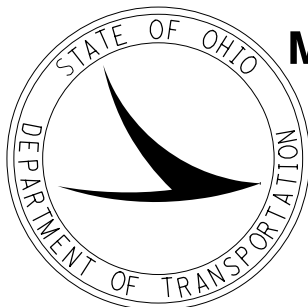
**WETLAND 25 WETLAND 25A**

**PROPERTY OWNERS:**

DENNIS JORDAN AND JOYCE JORDAN  
 GARY LEE BENNETT, JR AND ANNETTE BENNETT  
 GARY LEE BENNETT, JR AND HENRIETTA FAYE BENNETT

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRES  
 FILL BELOW OHW: 0 CY

LENGTH OF IMPACT: N/A  
 DIRECT IMPACT AREA: 0 ACRES  
 FILL BELOW OHW: 0 CY



**MINIMUM DEGRADATION  
 WETLAND 25  
 WETLAND 25A**

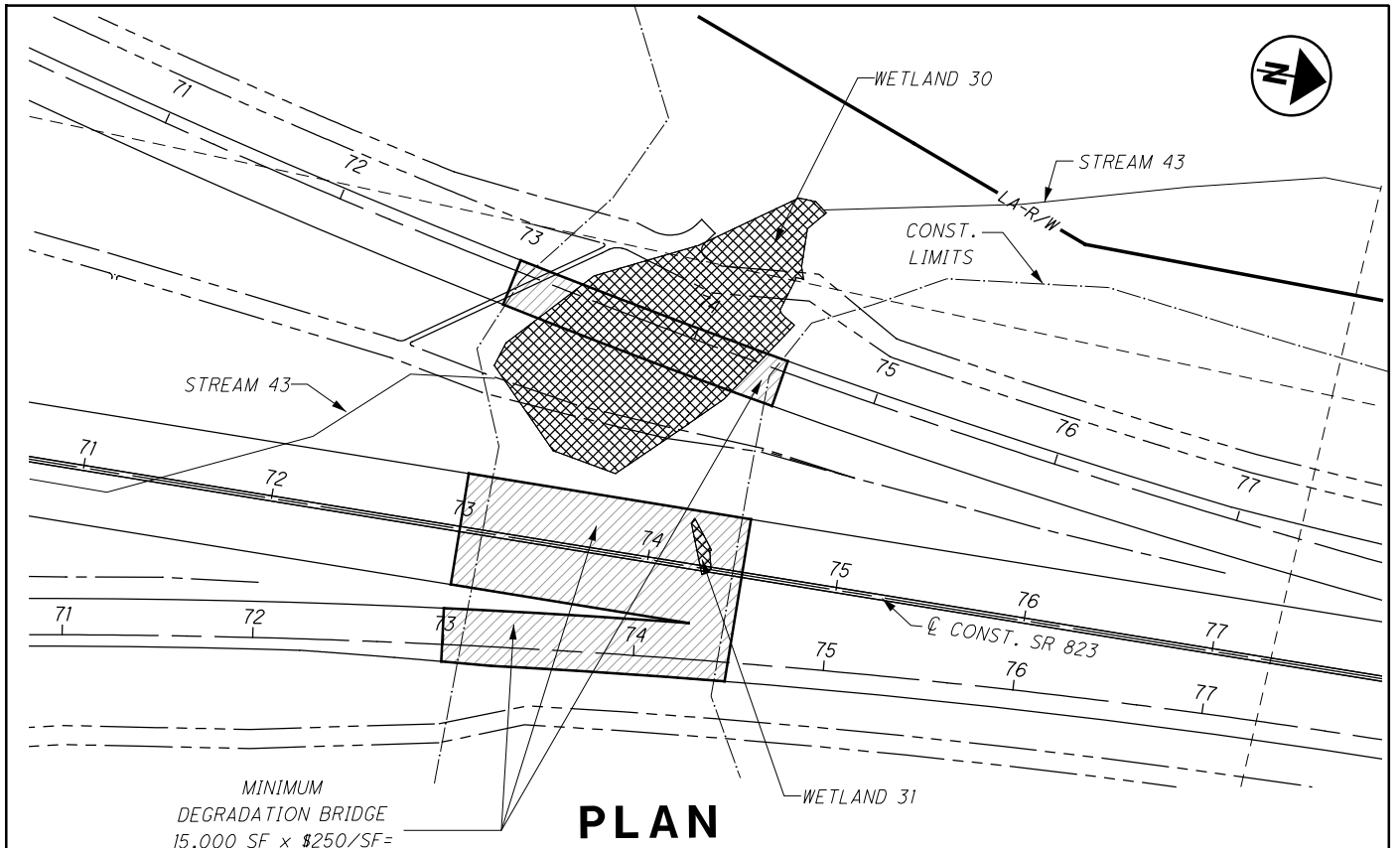
U.S. ARMY CORPS OF ENGINEERS  
 SECTION 404 PERMIT AND OEPA  
 SECTION 401 WATER QUALITY  
 CERTIFICATION APPLICATION

PLAN SCALE: 1" = 200'  
 BRIDGE PROFILE: H 1" = 200'  
 V 1" = 80'

DATE: JULY 2, 2013

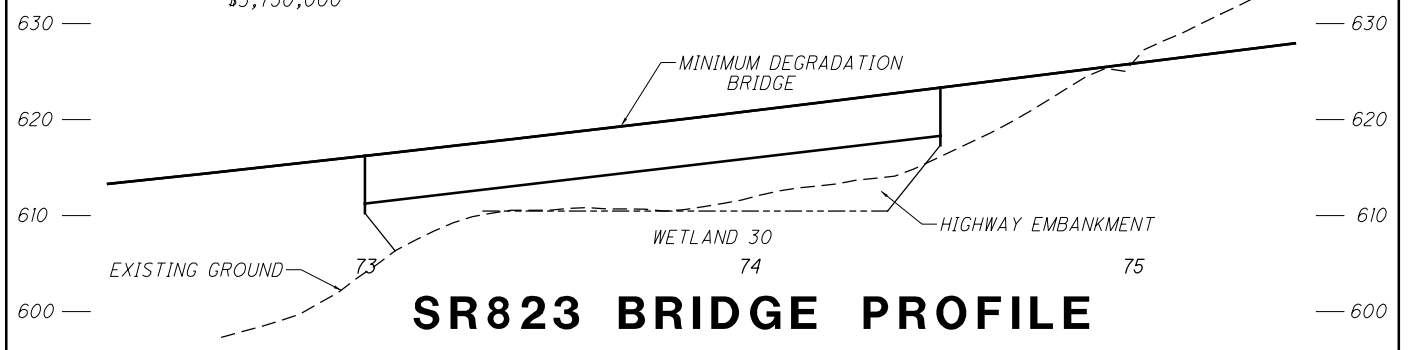
OHIO DEPARTMENT OF TRANSPORTATION  
 SCI-823-10.13 PORTSMOUTH BYPASS  
 SCIOTO COUNTY, OHIO

**FIGURE 4-24**

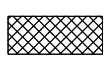



MINIMUM  
DEGRADATION BRIDGE  
15,000 SF x \$250/SF =  
\$3,750,000

### PLAN



### SR823 BRIDGE PROFILE

- LEGEND**
-  DIRECT AREA
  -  PROPOSED BRIDGE

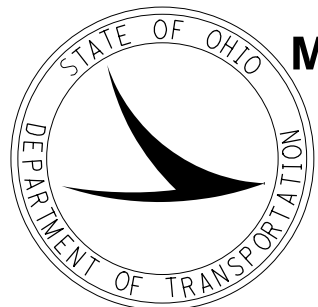
PROPERTY OWNERS:  
MARK FITZGERALD  
STATE OF OHIO

### WETLAND 30

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0 ACRES
FILL BELOW OHW:	0 CY

### WETLAND 31

LENGTH OF IMPACT:	N/A
DIRECT IMPACT AREA:	0 ACRES
FILL BELOW OHW:	0 CY



## MINIMUM DEGRADATION WETLAND 30 WETLAND 31

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

PLAN SCALE: 1" = 100'  
BRIDGE PROFILE: H 1" = 50'  
V 1" = 20'

DATE: JULY 3, 2013

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

## FIGURE 4-25



## **APPENDIX B: TABLES**

**TABLE A. IMPACTED STREAMS**  
**Preferred Alternative**

Stream	Station	Length Within Project	Drainage Area at Project	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Description of Proposed Impacts
Stream 1	Ramp A: 1920+15.72	2,190	0.57	05060002	Scioto River (OAC 3745-1-09)	Scioto River	HHEI - 30	Modified Class II PHWH	FILL
Stream 2	Ramp D: 4916+97.18	1,479	0.23	05060002	Scioto River (OAC 3745-1-09)	Stream 1	HHEI - 26	Modified Class I PHWH	CULVERT
Stream 3	897+75.63	1,100	0.29	05060002	Scioto River (OAC 3745-1-09)	Stream 1	HHEI - 34	Modified Class II PHWH	CULVERT
Stream 4	Ramp B: 2588+45.52	213	0.8	05060002	Scioto River (OAC 3745-1-09)	Stream 1	HHEI - 38	Modified Class II PHWH	FILL
Stream 5	869+23.67	599	0.04	05060002	Scioto River (OAC 3745-1-09)	Stream 6	HHEI - 59	Modified Class IIIA PHWH	CULVERT
Stream 5A	871+19.37	237	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 5	HHEI - 21	Class I PHWH	FILL
Stream 5B	872+20.72	248	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 5	HHEI - 12	Class I PHWH	FILL
Stream 5C	868+71.75	153	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 5	HHEI - 11	Modified Class I PHWH	FILL
Stream 6	854+16.66	862	0.5	05060002	Scioto River (OAC 3745-1-09)	Stream 1	HHEI - 50	Class II PHWH	CULVERT
Stream 6A	857+39.11	623	0.05	05060002	Scioto River (OAC 3745-1-09)	Stream 6	HHEI - 45	Class II PHWH	CULVERT
Stream 6B	850+62.96	927	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 6	HHEI - 45	Class IIIA PHWH	FILL
Stream 6B1	849+35.80	198	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 6B	HHEI - 10	Class I PHWH	FILL
Stream 6B2	850+51.42	297	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 6B	HHEI - 18	Class I PHWH	FILL
Stream 7	823+26.16	441	0.13	05060002	Scioto River (OAC 3745-1-09)	Stream 8	HHEI - 20	Modified Class I PHWH	CULVERT
Stream 8	815+03.23	1,177	0.09	05060002	Scioto River (OAC 3745-1-09)	UNT to Stream 6	HHEI - 10	Modified Class I PHWH	CULVERT
Stream 9	795+16.28	781	0.09	05060002	Scioto River (OAC 3745-1-09)	Back Run	HHEI - 34	Class II PHWH	CULVERT
Stream 10	763+37.73	1,025	0.15	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 37	Modified Class II PHWH	CULVERT
Stream 10A	766+11.38	229	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 10	HHEI - 22	Modified Class I PHWH	CULVERT
Stream 10B	770+27.62	708	0.04	05060002	Scioto River (OAC 3745-1-09)	Stream 10	HHEI - 10	Modified Class I PHWH	CULVERT
Stream 10C	760+58.25	112	0.03	05060002	Scioto River (OAC 3745-1-09)	Stream 10	HHEI - 12	Modified Class I PHWH	FILL
Stream 10D	759+64.85	128	0.03	05060002	Scioto River (OAC 3745-1-09)	Stream 10	HHEI - 23	Modified Class I PHWH	FILL
Stream 11	749+45.26	1,082	0.12	05060002	Scioto River (OAC 3745-1-09)	Candy Run	HHEI - 46	Class II PHWH	CULVERT
Stream 11A	751+75.16	606	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 22	Class I PHWH	FILL
Stream 11B	753+21.72	379	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 11A	HHEI - 18	Class I PHWH	FILL
Stream 11C	752+40.97	431	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 11A	HHEI - 28	Class I PHWH	FILL
Stream 11D	747+45.88	580	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 13	Class I PHWH	FILL
Stream 11E	750+49.10	324	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 32	Class II PHWH	FILL

**TABLE A. IMPACTED STREAMS**  
**Preferred Alternative**

Stream	Station	Length Within Project	Drainage Area at Project	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Description of Proposed Impacts
Stream 11F	746+12.52	757	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 12	Class I PHWH	FILL
Stream 12	740+12.98	696	0.1	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 32	Class II PHWH	FILL
Stream 13	734+25.13	628	0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 44	Class II PHWH	FILL
Stream 14	731+30.77	706	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 23	Modified Class I PHWH	FILL
Stream 15	722+13.22	1,040	0.02	05060002	Scioto River (OAC 3745-1-09)	Stream 16	HHEI - 22	Class I PHWH	FILL
Stream 15A	724+96.62	339	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 15	HHEI - 21	Class I PHWH	FILL
Stream 15B	723+45.78	317	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 15	HHEI - 11	Class I PHWH	FILL
Stream 16	716+81.49	1,040	0.27	05060002	Scioto River (OAC 3745-1-09)	Stream 11	HHEI - 41	Class II PHWH	CULVERT
Stream 16A	716+25.06	310	0.05	05060002	Scioto River (OAC 3745-1-09)	Stream 16	HHEI - 26	Modified Class I PHWH	FILL
Stream 17	699+17.49	1,046	0.09	05060002	Scioto River (OAC 3745-1-09)	Candy Run	HHEI - 61	Class II PHWH	CULVERT
Stream 17A	700+84.96	122	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 17	HHEI - 29	Class I PHWH	FILL
Stream 17B	692+83.35	870	0.04	05060002	Scioto River (OAC 3745-1-09)	Stream 17	HHEI - 32	Class II PHWH	CULVERT
Stream 17C	690+90.19	553	0.04	05060002	Scioto River (OAC 3745-1-09)	Stream 17B	HHEI - 37	Class II PHWH	FILL
Stream 17C1	690+78.59	130	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 17C	HHEI - 21	Class I PHWH	FILL
Stream 18	681+13.87	716	<0.01	05060002	Scioto River (OAC 3745-1-09)	Candy Run	HHEI - 37	Class II PHWH	FILL
Stream 18A	681+36.19	79	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 18	HHEI - 11	Class I PHWH	FILL
Stream 18B	680+42.79	172	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 18	HHEI - 24	Class I PHWH	FILL
Stream 19	672+55.65	940	0.04	05060002	Scioto River (OAC 3745-1-09)	Candy Run	HHEI - 37	Class II PHWH	CULVERT
Stream 19A	671+21.38	210	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 19	HHEI - 12	Class I PHWH	FILL
Stream 19B	669+75.33	665	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 19	HHEI - 27	Class I PHWH	FILL
Stream 20	659+08.39	1,013	0.13	05060002	Scioto River (OAC 3745-1-09)	Candy Run	HHEI - 43	Modified Class II PHWH	CULVERT
Stream 20-1	657+88.59	204	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 20	HHEI - 12	Modified Class I PHWH	FILL
Stream 21	648+34.49	715	0.04	05060002	Scioto River (OAC 3745-1-09)	Stream 22	HHEI - 41	Modified Class II PHWH	FILL
Stream 21A	649+95.52	102	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 21	HHEI - 12	Class I PHWH	FILL
Stream 22	635+85.19	911	0.07	05060002	Scioto River (OAC 3745-1-09)	Stream 22	HHEI - 46	Class II PHWH	CULVERT
Stream 22A	639+30.00	710	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 22	HHEI - 22	Modified Class I PHWH	FILL
Stream 22B	635+39.57	191	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 22	HHEI - 12	Modified Class I PHWH	FILL
Stream 22C	633+89.92	382	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 22	HHEI - 12	Class I PHWH	FILL

**TABLE A. IMPACTED STREAMS**  
**Preferred Alternative**

Stream	Station	Length Within Project	Drainage Area at Project	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Description of Proposed Impacts
Stream 23	623+05.91	863	0.09	05060002	Scioto River (OAC 3745-1-09)	UNT to Candy Run	HHEI - 46	Class II PHWH	CULVERT
Stream 23A	625+28.06	467	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 23	HHEI - 22	Class I PHWH	FILL
Stream 23B	623+77.77	232	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 23	HHEI - 12	Class I PHWH	FILL
Stream 24	618+32.25	775	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 23	HHEI - 46	Class II PHWH	CULVERT
Stream 24A	616+96.94	142	<0.01	05060002	Scioto River (OAC 3745-1-09)	Stream 24	HHEI - 11	Class I PHWH	FILL
Stream 25	610+23.26	297	0.04	05060002	Scioto River (OAC 3745-1-09)	UNT to Candy Run	HHEI - 12	Modified Class I PHWH	CULVERT
Stream 26	600+45.24	932	0.06	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 27	HHEI - 12	Modified Class I PHWH	CULVERT
Stream 26A	598+51.80	474	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 26	HHEI - 12	Modified Class I PHWH	FILL
Stream 27	579+01.45	1,227	0.15	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Long Run	HHEI - 46	Modified Class II PHWH	FILL
Stream 27B	576+74.52	655	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 27	HHEI - 22	Class I PHWH	FILL
Stream 28	560+54.41	228	0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	UNT to Long Run	HHEI - 23	Class I PHWH	FILL
Stream 29	344+84.57	718	0.48	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 83	Class IIIA PHWH	CULVERT
Stream 30	333+40.04	444	0.02	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 38	Class II PHWH	CULVERT
Stream 31	329+08.73	511	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 52	Modified Class II PHWH	CULVERT
Stream 31A	330+23.13	189	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 31	HHEI - 27	Modified Class I PHWH	FILL
Stream 32	320+17.03	830	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 32	Class II PHWH	CULVERT
Stream 32A	319+80.76	160	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 32	HHEI - 24	Class I PHWH	FILL
Stream 32B	320+89.19	142	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 32	HHEI - 13	Class I PHWH	FILL
Stream 32C	321+55.96	186	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 32	HHEI - 24	Class I PHWH	FILL
Stream 32D	322+82.01	245	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 32	HHEI - 22	Class I PHWH	FILL
Stream 32D1	323+43.50	246	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 32D	HHEI - 22	Class I PHWH	FILL
Stream 33	311+49.89	1,000	0.13	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 34	HHEI - 51	Class II PHWH	CULVERT
Stream 33A	317+15.11	142	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 33	HHEI - 23	Class I PHWH	FILL
Stream 33A1	317+25.48	3	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 33A	HHEI - 13	Class I PHWH	FILL
Stream 33A2	317+35.84	106	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 33A	HHEI - 13	Class I PHWH	FILL
Stream 33B	312+80.11	38	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 33	HHEI - 12	Class I PHWH	FILL
Stream 34	297+81.55	2,418	1.53	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	QHEI - 65	Warmwater Habitat	CULVERT
Stream 34A	297+63.94	402	0.54	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 34	HHEI - 56	Class II PHWH	CULVERT

**TABLE A. IMPACTED STREAMS**  
**Preferred Alternative**

Stream	Station	Length Within Project	Drainage Area at Project	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Description of Proposed Impacts
Stream 34B	293+72.81	391	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 34	HHEI - 19	Class I PHWH	FILL
Stream 34B1	292+60.26	348	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 34B	HHEI - 13	Class I PHWH	FILL
Stream 34B2	293+03.86	309	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 34B	HHEI - 13	Class I PHWH	FILL
Stream 35A	271+02.31	439	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 35/Slab Run	HHEI - 33	Class II PHWH	FILL
Stream 35A1	271+14.58	111	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 35A	HHEI - 10	Class I PHWH	FILL
Stream 36	238+87.99	1,054	0.64	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	UNT to Little Scioto River	HHEI - 50	Class II PHWH	CULVERT
Stream 36A	245+66.88	1,233	0.03	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36	HHEI - 21	Class I PHWH	FILL
Stream 36A1	245+26.11	83	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36A	HHEI - 13	Modified Class I PHWH	FILL
Stream 36C	233+14.64	1,143	0.07	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36	HHEI - 36	Class II PHWH	CULVERT
Stream 36C2	227+68.77	370	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36C	HHEI - 43	Modified Class II PHWH	FILL
Stream 36C3	226+72.74	184	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36C	HHEI - 24	Class I PHWH	FILL
Stream 36C4	229+30.23	33	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 36C	HHEI - 13	Class I PHWH	FILL
Stream 37	209+44.92	690	0.13	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 32	Class II PHWH	CULVERT
Stream 37A	211+67.37	548	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 37	HHEI - 19	Class I PHWH	FILL
Stream 38	181+09.62	1,604	0.24	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 48	Class II PHWH	CULVERT
Stream 38A	193+12.54	1,755	0.48	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38	HHEI - 33	Class II PHWH	FILL
Stream 38A1	196+50.67	247	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 12	Class I PHWH	FILL
Stream 38A2	196+95.21	72	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 11	Class I PHWH	FILL
Stream 38A3	196+42.76	111	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 12	Class I PHWH	FILL
Stream 38A4	194+80.38	161	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 23	Class I PHWH	FILL
Stream 38A5	193+55.27	134	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 13	Modified Class I PHWH	FILL
Stream 38A6	192+82.91	107	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38A	HHEI - 12	Class I PHWH	FILL
Stream 38B	175+24.59	677	0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38	HHEI - 47	Modified Class II PHWH	CULVERT
Stream 38B1	172+93.96	398	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38B	HHEI - 23	Modified Class I PHWH	FILL
Stream 38D	167+51.60	548	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 38	HHEI - 32	Modified Class II PHWH	CULVERT
Stream 39	142+03.09	1,095	0.02	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 30	Modified Class II PHWH	FILL
Stream 39A	140+05.06	921	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 39	HHEI - 12	Modified Class I PHWH	FILL
Little Scioto River	135+75.25	480	223	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Ohio River	N/A	Warmwater Habitat	BRIDGE

**TABLE A. IMPACTED STREAMS**  
**Preferred Alternative**

Stream	Station	Length Within Project	Drainage Area at Project	Hydrologic Unit Code (HUC)	Drainage Basin	Receiving Stream	QHEI or HHEI Score	OEPA Use Designation	Description of Proposed Impacts
Stream 40	128+73.65	808	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 14	Class I PHWH	CULVERT
Stream 40A	128+22.86	188	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 40	HHEI - 11	Class I PHWH	FILL
Stream 40B	126+86.94	183	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 40	HHEI - 11	Class I PHWH	FILL
Stream 41	121+61.17	212	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Little Scioto River	HHEI - 12	Modified Class I PHWH	CULVERT
Stream 42	107+70.63	513	0.05	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	UNT to Little Scioto River	HHEI - 18	Modified Class I PHWH	FILL
Stream 42A	95+05.51	147	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 42	HHEI - 10	Modified Class I PHWH	FILL
Stream 43	75+35.33	1,029	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 44	HHEI - 22	Modified Class I PHWH	CULVERT
Stream 44	66+97.49	1,281	0.15	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Ohio River	HHEI - 44	Modified Class II PHWH	CULVERT
Stream 45	68+27.37	434	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 44	HHEI - 13	Modified Class I PHWH	CULVERT
Stream 46	62+63.31	1,093	0.11	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 44	HHEI - 57	Class II PHWH	CULVERT
Stream 46A	61+78.42	203	<0.01	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 46	HHEI - 12	Modified Class I PHWH	FILL
Stream 47	No C/L	268	<0.06	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Ohio River	HHEI - 48	Modified Class II PHWH	FILL
Stream 48	No C/L	255	0.97	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Ohio River	QHEI - 61.5	Warmwater Habitat	CULVERT
Stream 48A	No C/L	184	0.04	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 48	HHEI - 17	Modified Class I PHWH	FILL
Stream 49	No C/L	346	0.35	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	Stream 48	HHEI - 25	Class I PHWH	CULVERT

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

Station: relates to stationing on the plan set

Drainage Area: can be obtained from plans, stream stats, or manually. Use drainage area based on the project location, not the entire drainage area of the stream itself.

OEPA Use Designation: can be obtained from the ESR, or OEPA's website. Indicate (\*) if the QHEI score or HHEI score results in a provisional use designation.

Description of Proposed Impacts: briefly explain the impact to the resource

**TABLE B. IMPACTED WETLANDS  
 PREFERRED ALTERNATIVE**

Wetland	Station	Acreage Within Project	Hydrologic Unit Code (HUC)	Drainage Basin	Cowardin et al Classification	ORAM Score	OEPA Wetland Category	Connectivity to Other Waters	Jurisdictional Status
Wetland 1	904+67.86	4.546	05060002	Scioto River (OAC 3745-1-09)	PEM/SS	45.0	Category 2	Abutting Stream 1	Jurisdictional
Wetland 2	Ramp D: 4915+53.47	0.268	05060002	Scioto River (OAC 3745-1-09)	PEM	21.0	Category 1	Abutting Stream 2	Jurisdictional
Wetland 3	Ramp B: 2600+70.17	0.610	05060002	Scioto River (OAC 3745-1-09)	PEM	30.0	Category 2	Adjacent to non-jurisdictional conveyance	Jurisdictional
Wetland 4	856+68.35	0.019	05060002	Scioto River (OAC 3745-1-09)	PEM	41.0	Modified Category 2	Adjacent to Stream 6A	Jurisdictional
Wetland 5	855+67.30	0.038	05060002	Scioto River (OAC 3745-1-09)	PEM	41.0	Modified Category 2	Adjacent to Stream 6A	Jurisdictional
Wetland 6	871+08.71	0.003	05060002	Scioto River (OAC 3745-1-09)	PEM	38.0	Modified Category 2	Abutting Stream 5A	Jurisdictional
Wetland 7	Ramp C: 3918+18.10	0.195	05060002	Scioto River (OAC 3745-1-09)	PEM	24.0	Category 1	Abutting Stream 1	Jurisdictional
Wetland 9	Ramp C: 3905+79.89	0.237	05060002	Scioto River (OAC 3745-1-09)	PEM	21.0	Category 1	Abutting Stream 2	Jurisdictional
Wetland 10	867+81.61	0.028	05060002	Scioto River (OAC 3745-1-09)	PEM	17.0	Category 1	Abutting Stream 5	Jurisdictional
Wetland 11	848+01.32	0.018	05060002	Scioto River (OAC 3745-1-09)	PEM/SS	24.0	Category 1	Adjacent to Stream 6B1	Jurisdictional
Wetland 12	765+29.86	0.074	05060002	Scioto River (OAC 3745-1-09)	PEM/SS	32.0	Category 2	Abutting Stream 10	Jurisdictional
Wetland 13	717+06.00	0.013	05060002	Scioto River (OAC 3745-1-09)	PEM	43.0	Modified Category 2	Abutting Stream 16	Jurisdictional
Wetland 14	716+83.63	0.004	05060002	Scioto River (OAC 3745-1-09)	PEM	41.0	Modified Category 2	Abutting Stream 16	Jurisdictional
Wetland 15	658+81.50	0.012	05060002	Scioto River (OAC 3745-1-09)	PEM	28.0	Category 1	Abutting Stream 20	Jurisdictional
Wetland 16	659+02.50	0.051	05060002	Scioto River (OAC 3745-1-09)	PEM	31.0	Category 2	Adjacent to Stream 20	Jurisdictional
Wetland 17	600+62.18	0.041	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	45.5	Category 2	Abutting Stream 26	Jurisdictional
Wetland 18	576+80.42	0.827	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/SS/FO	51.5	Category 2	Abutting Stream 27B	Jurisdictional
Wetland 20	322+41.24	0.060*	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/RAB	53.5	Category 2	Abutting Stream 32	Jurisdictional
Wetland 22	264+84.36	0.031	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	L2EM	43.0	Modified Category 2	Adjacent to UNT to Stream 35 (Slab Run)	Jurisdictional
Wetland 23	264+30.07	0.010	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	27.0	Category 1	Adjacent to UNT to Stream 35 (Slab Run)	Jurisdictional
Wetland 24	137+12.25	0.150*	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	65.5	Category 3	Adjacent to Little Scioto River	Jurisdictional
Wetland 24A	136+11.14	0.006	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	65.5	Category 3	Adjacent to Little Scioto River	Jurisdictional
Wetland 24B	135+12.02	1.160*	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	65.5	Category 3	Adjacent to Little Scioto River	Jurisdictional
Wetland 25	129+26.07	0.200*	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/SS/FO	53.0	Category 2	Abutting Stream 40	Jurisdictional
Wetland 25A	128+07.37	0.041	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/SS	53.0	Category 2	Abutting Stream 40	Jurisdictional
Wetland 27	92+73.32	0.063	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	23.0	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 28A	95+47.24	0.009	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	24.0	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 28B	94+85.67	0.027	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	24.0	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 28C	95+24.01	0.031	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	24.0	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 28D	97+57.25	0.037	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	24.0	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 29	108+10.78	0.297	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	36.5	Modified Category 2	Abutting Stream 43	Jurisdictional
Wetland 30	73+86.56	0.294	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	48.5	Category 2	Abutting Stream 43	Jurisdictional
Wetland 31	74+27.06	0.003	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	28.5	Category 1	Adjacent to Stream 43	Jurisdictional
Wetland 33	No C/L	0.009	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	26.5	Category 1	Adjacent to Ohio River	Jurisdictional
Wetland 34	No C/L	0.318	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM/SS	26.0	Category 1	Abutting Stream 48	Jurisdictional
Wetland 35	107+89.77	0.801	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	25.0	Category 1	Adjacent to Railroad drainage	Jurisdictional
Wetland 36	108+95.54	0.011	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	PEM	19.5	Category 1	Adjacent to Stream 42	Jurisdictional

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; NA = Not Applicable.

Acreage Within Project: wetlands may extend beyond the boundary of the project; if so indicate (\*) wetlands extend beyond.

**TABLE C. OTHER WATERS IMPACTED  
 PREFERRED ALTERNATIVE**

Resource Identity	Station	Acreage Within Project Area	HUC	Drainage Basin	USACE Classification (RPW, Non-RPW, etc.)	Cowardin et al Classification (*if applicable)	Jurisdictional Status	Description of Proposed Impacts
PJD 1	64+21.96	0.015	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	RPW - Seasonal	N/A	Jurisdictional	Fill
PJD 2	No C/L	0.029	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	RPW - Seasonal	N/A	Jurisdictional	Fill
PJD 3	576+67.18	0.023	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	RPW - Seasonal	N/A	Jurisdictional	Fill
Pond 1	264+81.05	0.140	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	N/A	N/A	Jurisdictional	Fill
Pond 3	No C/L	0.152	05090103	Southeast Ohio Tributaries (OAC-3745-1-16)	N/A	N/A	Jurisdictional	Fill

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



**TABLE D. IMPACT QUANTITIES - STREAMS  
 PREFERRED ALTERNATIVE**

STREAMS			Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Below OHWM												Temporary Fill Below OHWM			TOTAL PERMANENT IMPACT (Upstream to Downstream)			TOTAL NEW IMPACT (Total - Existing)	
Resource ID	Description of Impacts/Activities below OHWM	Total Length Within Project Area			Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)			Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Gross Volume (CY)	Length (LF)	Area (AC)
					Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)								
Stream 1	FILL	2,190	236	236	0	0.0000	0.00	0	0.000	0	2,187	0.151	122	0	0.000	0.00	10	0.001	0.56	2,187	0.151	122	1,951	
Stream 2	CULVERT	1,479	195	195	0	0.0006	3.51	25	0.015	65	1,432	0.101	80	40	0.004	0.23	10	0.001	0.56	1,472	0.121	149	1,277	
Stream 3	CULVERT	1,100	292	0	20	0.0046	6.58	625	0.287	1,167	1,078	0.176	140	20	0.003	0.19	10	0.002	1.30	1,098	0.471	1,313	806	
Stream 4	FILL	213	231	0	0	0.0000	0.00	0	0.000	0	218	0.050	40	0	0.000	0.00	10	0.002	1.85	218	0.050	40	-13	
Stream 5	CULVERT	599	0	0	0	0.0002	0.40	15	0.002	10	389	0.110	115	80	0.007	0.55	10	0.002	2.96	469	0.119	126	469	
Stream 5A	FILL	237	0	0	0	0.0000	0.00	0	0.000	0	237	0.016	13	0	0.000	0.00	10	0.001	0.56	237	0.016	13	237	
Stream 5B	FILL	248	0	0	0	0.0000	0.00	0	0.000	0	249	0.017	14	0	0.000	0.00	10	0.001	0.56	249	0.017	14	249	
Stream 5C	FILL	153	0	0	0	0.0000	0.00	0	0.000	0	153	0.007	6	0	0.000	0.00	10	0.000	0.37	153	0.007	6	153	
Stream 6	CULVERT	862	0	0	0	0.0009	4.22	20	0.014	58	611	0.137	158	120	0.047	3.07	10	0.002	2.59	731	0.199	224	731	
Stream 6A	CULVERT	623	0	0	0	0.0003	1.19	20	0.006	24	440	0.100	114	180	0.022	1.48	10	0.002	2.59	620	0.128	141	620	
Stream 6B	FILL	927	0	0	0	0.0000	0.00	0	0.000	0	689	0.149	179	0	0.000	0.00	10	0.002	2.59	689	0.149	179	689	
Stream 6B1	FILL	198	0	0	0	0.0000	0.00	0	0.000	0	198	0.014	11	0	0.000	0.00	10	0.001	0.56	198	0.014	11	198	
Stream 6B2	FILL	297	0	0	0	0.0000	0.00	0	0.000	0	294	0.020	25	0	0.000	0.00	10	0.001	0.83	294	0.020	25	294	
Stream 7	CULVERT	441	0	0	0	0.0002	1.39	20	0.007	33	321	0.051	30	120	0.011	0.64	10	0.001	0.93	441	0.069	64	441	
Stream 8	CULVERT	1,177	0	0	0	0.0005	2.78	20	0.007	27	1,000	0.134	93	170	0.031	1.81	10	0.001	0.93	1,170	0.173	124	1,170	
Stream 9	CULVERT	781	0	0	0	0.0003	1.62	25	0.008	39	767	0.071	57	10	0.001	0.06	10	0.001	0.74	777	0.081	98	777	
Stream 10	CULVERT	1,025	0	0	0	0.0002	0.82	15	0.005	22	940	0.094	70	80	0.006	0.39	10	0.001	0.74	1,020	0.106	93	1,020	
Stream 10A	CULVERT	229	0	0	0	0.0002	0.82	20	0.007	33	209	0.021	15	20	0.002	0.10	10	0.001	0.74	229	0.030	49	229	
Stream 10B	CULVERT	708	0	0	0	0.0002	1.39	20	0.007	33	528	0.049	29	180	0.017	0.96	10	0.001	0.56	708	0.072	64	708	
Stream 10C	FILL	112	0	0	0	0.0000	0.00	0	0.000	0	112	0.008	6	0	0.000	0.00	10	0.001	0.56	112	0.008	6	112	
Stream 10D	FILL	128	0	0	0	0.0000	0.00	0	0.000	0	128	0.012	9	0	0.000	0.00	10	0.001	0.74	128	0.012	9	128	
Stream 11	CULVERT	1,082	0	0	0	0.0002	1.00	20	0.007	33	820	0.193	243	230	0.026	1.82	10	0.002	2.96	1,050	0.226	278	1,050	
Stream 11A	FILL	606	0	0	0	0.0000	0.00	0	0.000	0	606	0.056	45	0	0.000	0.00	10	0.001	0.74	606	0.056	45	606	
Stream 11B	FILL	379	0	0	0	0.0000	0.00	0	0.000	0	379	0.026	21	0	0.000	0.00	10	0.001	0.56	379	0.026	21	379	
Stream 11C	FILL	431	50	0	0	0.0000	0.00	0	0.000	0	431	0.030	24	0	0.000	0.00	10	0.001	0.56	431	0.030	24	381	
Stream 11D	FILL	580	0	0	0	0.0000	0.00	0	0.000	0	570	0.039	32	0	0.000	0.00	10	0.001	0.56	570	0.039	32	570	
Stream 11E	FILL	324	0	0	0	0.0000	0.00	0	0.000	0	307	0.029	23	10	0.000	0.00	10	0.001	0.74	317	0.029	23	317	
Stream 11F	FILL	757	0	0	0	0.0000	0.00	0	0.000	0	742	0.051	41	0	0.000	0.00	10	0.001	0.56	742	0.051	41	742	
Stream 12	FILL	696	0	0	0	0.0000	0.00	0	0.000	0	671	0.062	99	0	0.000	0.00	10	0.001	1.48	671	0.062	99	671	
Stream 13	FILL	628	0	0	0	0.0000	0.00	0	0.000	0	624	0.100	81	0	0.000	0.00	10	0.002	1.30	624	0.100	81	624	
Stream 14	FILL	706	0	0	0	0.0000	0.00	0	0.000	0	697	0.048	39	0	0.000	0.00	10	0.001	0.56	697	0.048	39	697	

**TABLE D. IMPACT QUANTITIES - STREAMS  
 PREFERRED ALTERNATIVE**

STREAMS			Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Below OHWM												Temporary Fill Below OHWM			TOTAL PERMANENT IMPACT (Upstream to Downstream)			TOTAL NEW IMPACT (Total - Existing)
Resource ID	Description of Impacts/Activities below OHWM	Total Length Within Project Area			Length (LF)	Length (LF)	Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)			Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)
			Length (LF)	Area (AC)			Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)							
Stream 15	FILL	1,040	50	0	0	0.0000	0.00	0	0.000	0	1,040	0.096	77	0	0.000	0.00	10	0.001	0.74	1,040	0.096	77	990
Stream 15A	FILL	339	0	0	0	0.0000	0.00	0	0.000	0	330	0.030	24	0	0.000	0.00	10	0.001	0.74	330	0.030	24	330
Stream 15B	FILL	317	0	0	0	0.0000	0.00	0	0.000	0	317	0.022	18	0	0.000	0.00	10	0.001	0.56	317	0.022	18	317
Stream 16	CULVERT	1,040	0	0	0	0.0004	2.63	20	0.007	29	1,042	0.120	96	0	0.000	0.00	10	0.001	0.93	1,042	0.127	128	1,042
Stream 16A	FILL	310	0	0	0	0.0000	0.00	0	0.000	0	310	0.021	17	0	0.000	0.00	10	0.001	0.56	310	0.021	17	310
Stream 17	CULVERT	1,046	0	0	0	0.0002	1.20	20	0.007	33	898	0.140	150	120	0.013	0.80	10	0.001	1.67	1,018	0.160	184	1,018
Stream 17A	FILL	122	0	0	0	0.0000	0.00	0	0.000	0	91	0.006	5	0	0.000	0.00	10	0.001	0.56	91	0.006	5	91
Stream 17B	CULVERT	870	0	0	0	0.0001	0.31	25	0.007	27	723	0.072	54	60	0.003	0.22	10	0.001	0.74	783	0.082	81	783
Stream 17C	FILL	553	0	0	0	0.0000	0.00	0	0.000	0	551	0.051	61	0	0.000	0.00	10	0.001	1.11	551	0.051	61	551
Stream 17C1	FILL	130	0	0	0	0.0000	0.00	0	0.000	0	130	0.009	7	0	0.000	0.00	10	0.001	0.56	130	0.009	7	130
Stream 18	FILL	716	0	0	0	0.0000	0.00	0	0.000	0	712	0.098	79	0	0.000	0.00	10	0.001	1.11	712	0.098	79	712
Stream 18A	FILL	79	0	0	0	0.0000	0.00	0	0.000	0	79	0.004	3	0	0.000	0.00	10	0.000	0.37	79	0.004	3	79
Stream 18B	FILL	172	0	0	0	0.0000	0.00	0	0.000	0	172	0.012	10	0	0.000	0.00	10	0.001	0.56	172	0.012	10	172
Stream 19	CULVERT	940	0	0	0	0.0002	1.39	20	0.007	44	907	0.105	84	10	0.001	0.05	10	0.001	0.93	917	0.113	129	917
Stream 19A	FILL	210	0	0	0	0.0000	0.00	0	0.000	0	210	0.010	8	0	0.000	0.00	10	0.000	0.37	210	0.010	8	210
Stream 19B	FILL	665	0	0	0	0.0000	0.00	0	0.000	0	631	0.043	35	0	0.000	0.00	10	0.001	0.56	631	0.043	35	631
Stream 20	CULVERT	1,013	0	0	0	0.0005	2.78	20	0.010	41	854	0.093	63	160	0.030	1.71	10	0.001	0.74	1,014	0.133	108	1,014
Stream 20-1	FILL	204	0	0	0	0.0000	0.00	0	0.000	0	204	0.014	11	0	0.000	0.00	10	0.001	0.56	204	0.014	11	204
Stream 21	FILL	715	0	0	0	0.0000	0.00	0	0.000	0	717	0.115	93	0	0.000	0.00	10	0.002	1.30	717	0.115	93	717
Stream 21A	FILL	102	0	0	0	0.0000	0.00	0	0.000	0	102	0.007	6	0	0.000	0.00	10	0.001	0.56	102	0.007	6	102
Stream 22	CULVERT	911	0	0	0	0.0003	1.62	20	0.007	33	853	0.210	158	60	0.006	0.34	10	0.002	1.85	913	0.222	193	913
Stream 22A	FILL	710	0	0	0	0.0000	0.00	0	0.000	0	710	0.065	53	0	0.000	0.00	10	0.001	0.74	710	0.065	53	710
Stream 22B	FILL	191	0	0	0	0.0000	0.00	0	0.000	0	189	0.013	11	0	0.000	0.00	10	0.001	0.56	189	0.013	11	189
Stream 22C	FILL	382	0	0	0	0.0000	0.00	0	0.000	0	382	0.026	21	0	0.000	0.00	10	0.001	0.56	382	0.026	21	382
Stream 23	CULVERT	863	0	0	0	0.0002	0.89	20	0.005	21	823	0.139	160	40	0.004	0.26	10	0.002	1.94	863	0.148	183	863
Stream 23A	FILL	467	0	0	0	0.0000	0.00	0	0.000	0	467	0.043	35	0	0.000	0.00	10	0.001	0.74	467	0.043	35	467
Stream 23B	FILL	232	0	0	0	0.0000	0.00	0	0.000	0	231	0.016	13	0	0.000	0.00	10	0.001	0.56	231	0.016	13	231
Stream 24	CULVERT	775	0	0	0	0.0002	0.68	20	0.005	22	555	0.125	108	220	0.020	1.34	10	0.002	1.94	775	0.149	132	775
Stream 24A	FILL	142	0	0	0	0.0000	0.00	0	0.000	0	66	0.003	2	0	0.000	0.00	10	0.000	0.37	66	0.003	2	66
Stream 25	CULVERT	297	0	0	0	0.0001	0.43	15	0.003	11	238	0.014	13	60	0.004	0.33	10	0.000	0.56	298	0.021	25	298
Stream 26	CULVERT	932	0	0	0	0.0003	1.62	20	0.006	29	714	0.043	26	220	0.022	1.23	10	0.000	0.37	934	0.071	58	934

**TABLE D. IMPACT QUANTITIES - STREAMS  
 PREFERRED ALTERNATIVE**

STREAMS			Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Below OHWM												Temporary Fill Below OHWM			TOTAL PERMANENT IMPACT (Upstream to Downstream)			TOTAL NEW IMPACT (Total - Existing)
Resource ID	Description of Impacts/Activities below OHWM	Total Length Within Project Area			Length (LF)	Length (LF)	Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)			Length (LF)	Area (AC)	Gross Volume (CY)	Length (LF)	
					Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Gross Volume (CY)	Length (LF)
Stream 26A	FILL	474	0	0	0	0.0000	0.00	0	0.000	0	472	0.022	17	0	0.000	0.00	10	0.000	0.37	472	0.022	17	472
Stream 27	FILL	1,227	158	0	0	0.0000	0.00	0	0.000	0	727	0.134	162	0	0.000	0.00	10	0.002	2.22	727	0.134	162	569
Stream 27B	FILL	655	0	0	0	0.0000	0.00	0	0.000	0	652	0.045	36	0	0.000	0.00	10	0.001	0.56	652	0.045	36	652
Stream 28	FILL	228	0	0	0	0.0000	0.00	0	0.000	0	231	0.021	17	0	0.000	0.00	10	0.001	0.74	231	0.021	17	231
Stream 29	CULVERT	718	0	0	280	0.0643	86.69	72	0.051	328	284	0.235	168	0	0.000	0.00	10	0.004	5.93	564	0.351	583	564
Stream 30	CULVERT	444	0	0	0	0.0001	0.31	0	0.000	0	420	0.081	62	20	0.001	0.07	10	0.002	1.48	440	0.082	63	440
Stream 31	CULVERT	511	0	0	0	0.0002	0.82	20	0.004	15	391	0.106	65	120	0.010	0.58	10	0.002	1.67	511	0.119	81	511
Stream 31A	FILL	189	0	0	0	0.0000	0.00	0	0.000	0	189	0.035	28	0	0.000	0.00	10	0.002	1.48	189	0.035	28	189
Stream 32	CULVERT	830	0	0	0	0.0002	0.68	15	0.003	11	810	0.076	90	20	0.002	0.12	10	0.001	1.11	830	0.081	102	830
Stream 32A	FILL	160	0	0	0	0.0000	0.00	0	0.000	0	160	0.018	15	0	0.000	0.00	10	0.001	0.93	160	0.018	15	160
Stream 32B	FILL	142	0	0	0	0.0000	0.00	0	0.000	0	142	0.007	5	0	0.000	0.00	10	0.000	0.37	142	0.007	5	142
Stream 32C	FILL	186	0	0	0	0.0000	0.00	0	0.000	0	186	0.013	10	0	0.000	0.00	10	0.001	0.56	186	0.013	10	186
Stream 32D	FILL	245	0	0	0	0.0000	0.00	0	0.000	0	245	0.011	9	0	0.000	0.00	10	0.000	0.37	245	0.011	9	245
Stream 32D1	FILL	246	0	0	0	0.0000	0.00	0	0.000	0	245	0.011	9	0	0.000	0.00	10	0.000	0.37	245	0.011	9	245
Stream 33	CULVERT	1,000	0	0	200	0.0471	52.10	44	0.008	52	799	0.252	163	0	0.000	0.00	10	0.003	2.04	999	0.307	267	999
Stream 33A	FILL	142	0	0	0	0.0000	0.00	0	0.000	0	145	0.017	13	0	0.000	0.00	10	0.001	0.93	145	0.017	13	145
Stream 33A1	FILL	3	0	0	0	0.0000	0.00	0	0.000	0	3	0.000	0	0	0.000	0.00	10	0.001	0.93	3	0.000	0	3
Stream 33A2	FILL	106	0	0	0	0.0000	0.00	0	0.000	0	106	0.007	6	0	0.000	0.00	10	0.001	0.56	106	0.007	6	106
Stream 33B	FILL	38	0	0	0	0.0000	0.00	0	0.000	0	41	0.003	2	0	0.000	0.00	10	0.001	0.56	41	0.003	2	41
Stream 34	CULVERT	2,418	0	0	60	0.0171	21.50	112	0.069	448	2,024	1.667	2,249	0	0.000	0.00	10	0.007	11.11	2,084	1.753	2,718	2,084
Stream 34A	CULVERT	402	0	0	20	0.0043	7.66	165	0.189	1,222	385	0.102	78	0	0.000	0.00	10	0.003	2.04	405	0.296	1,308	405
Stream 34B	FILL	391	0	0	0	0.0000	0.00	0	0.000	0	391	0.027	22	0	0.000	0.00	10	0.001	0.56	391	0.027	22	391
Stream 34B1	FILL	348	0	0	0	0.0000	0.00	0	0.000	0	348	0.008	6	0	0.000	0.00	10	0.000	0.19	348	0.008	6	348
Stream 34B2	FILL	309	0	0	0	0.0000	0.00	0	0.000	0	309	0.014	11	0	0.000	0.00	10	0.000	0.37	309	0.014	11	309
Stream 35A	FILL	439	0	0	0	0.0000	0.00	0	0.000	0	435	0.050	40	0	0.000	0.00	10	0.001	0.93	435	0.050	40	435
Stream 35A1	FILL	111	0	0	0	0.0000	0.00	0	0.000	0	111	0.003	2	0	0.000	0.00	10	0.000	0.19	111	0.003	2	111
Stream 36	CULVERT	1,054	0	0	20	0.0085	8.65	42	0.031	199	1,034	0.315	373	0	0.000	0.00	10	0.003	3.61	1,054	0.354	581	1,054
Stream 36A	FILL	1,233	0	0	0	0.0000	0.00	0	0.000	0	1,233	0.113	91	0	0.000	0.00	10	0.001	0.74	1,233	0.113	91	1,233
Stream 36A1	FILL	83	0	0	0	0.0000	0.00	0	0.000	0	86	0.002	2	0	0.000	0.00	10	0.000	0.19	86	0.002	2	86
Stream 36C	CULVERT	1,143	0	0	220	0.0514	57.04	7	0.002	11	926	0.158	103	0	0.000	0.00	10	0.001	1.11	1,146	0.211	171	1,146
Stream 36C2	FILL	370	0	0	0	0.0000	0.00	0	0.000	0	386	0.044	36	0	0.000	0.00	10	0.001	0.93	386	0.044	36	386

**TABLE D. IMPACT QUANTITIES - STREAMS  
 PREFERRED ALTERNATIVE**

STREAMS			Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Below OHWM												Temporary Fill Below OHWM			TOTAL PERMANENT IMPACT (Upstream to Downstream)			TOTAL NEW IMPACT (Total - Existing)		
Resource ID	Description of Impacts/Activities below OHWM	Total Length Within Project Area			Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)			Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Gross Volume (CY)	Length (LF)	Area (AC)	Length (LF)
					Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)									
Stream 36C3	FILL	184	0	0	0	0.0000	0.00	0	0.000	0	184	0.021	17	0	0.000	0.00	10	0.001	0.93	184	0.021	17	184		
Stream 36C4	FILL	33	0	0	0	0.0000	0.00	0	0.000	0	41	0.002	2	0	0.000	0.00	10	0.000	0.37	41	0.002	2	41		
Stream 37	CULVERT	690	0	0	0	0.0003	1.19	25	0.007	27	331	0.063	49	360	0.044	2.96	10	0.001	1.48	691	0.115	80	691		
Stream 37A	FILL	548	0	0	0	0.0000	0.00	0	0.000	0	549	0.050	41	0	0.000	0.00	10	0.001	0.74	549	0.050	41	549		
Stream 38	CULVERT	1,604	0	0	0	0.0011	5.43	0	0.000	0	1,560	0.331	520	40	0.008	0.50	10	0.002	3.33	1,600	0.340	526	1,600		
Stream 38A	FILL	1,755	0	0	0	0.0000	0.00	0	0.000	0	1,755	0.201	244	0	0.000	0.00	10	0.001	1.39	1,755	0.201	244	1,755		
Stream 38A1	FILL	247	0	0	0	0.0000	0.00	0	0.000	0	247	0.011	9	0	0.000	0.00	10	0.000	0.37	247	0.011	9	247		
Stream 38A2	FILL	72	0	0	0	0.0000	0.00	0	0.000	0	72	0.003	3	0	0.000	0.00	10	0.000	0.37	72	0.003	3	72		
Stream 38A3	FILL	111	0	0	0	0.0000	0.00	0	0.000	0	111	0.005	4	0	0.000	0.00	10	0.000	0.37	111	0.005	4	111		
Stream 38A4	FILL	161	0	0	0	0.0000	0.00	0	0.000	0	161	0.015	12	0	0.000	0.00	10	0.001	0.74	161	0.015	12	161		
Stream 38A5	FILL	134	0	0	0	0.0000	0.00	0	0.000	0	134	0.006	5	0	0.000	0.00	10	0.000	0.37	134	0.006	5	134		
Stream 38A6	FILL	107	0	0	0	0.0000	0.00	0	0.000	0	107	0.002	2	0	0.000	0.00	10	0.000	0.19	107	0.002	2	107		
Stream 38B	CULVERT	677	0	0	0	0.0002	1.39	20	0.009	44	541	0.109	70	140	0.013	0.75	10	0.002	1.30	681	0.132	117	681		
Stream 38B1	FILL	398	0	0	0	0.0000	0.00	0	0.000	0	398	0.046	37	0	0.000	0.00	10	0.001	0.93	398	0.046	37	398		
Stream 38D	CULVERT	548	0	0	0	0.0001	0.54	20	0.003	7	328	0.050	24	220	0.015	0.94	10	0.001	0.74	548	0.068	32	548		
Stream 39	FILL	1,095	0	0	0	0.0000	0.00	0	0.000	0	1,095	0.176	213	0	0.000	0.00	10	0.002	1.94	1,095	0.176	213	1,095		
Stream 39A	FILL	921	0	0	0	0.0000	0.00	0	0.000	0	925	0.042	34	0	0.000	0.00	10	0.000	0.37	925	0.042	34	925		
Little Scioto River	BRIDGE	480	0	0	0	0.0000	0.00	0	0.000	0	0	0.000	0	0	0.000	0.00	150	0.276	3,258	0	0.000	0	0		
Stream 40	CULVERT	808	0	0	0	0.0002	1.39	0	0.000	0	650	0.056	36	160	0.015	0.85	10	0.001	0.56	810	0.071	38	810		
Stream 40A	FILL	188	0	0	0	0.0000	0.00	0	0.000	0	188	0.009	7	0	0.000	0.00	10	0.000	0.37	188	0.009	7	188		
Stream 40B	FILL	183	0	0	0	0.0000	0.00	0	0.000	0	183	0.004	3	0	0.000	0.00	10	0.000	0.19	183	0.004	3	183		
Stream 41	CULVERT	212	0	0	0	0.0001	0.41	10	0.001	4	175	0.010	6	40	0.002	0.16	10	0.000	0.37	215	0.013	11	215		
Stream 42	FILL	513	0	0	0	0.0000	0.00	0	0.000	0	510	0.035	28	0	0.000	0.00	10	0.001	0.56	510	0.035	28	510		
Stream 42A	FILL	147	0	0	0	0.0000	0.00	0	0.000	0	142	0.003	3	0	0.000	0.00	10	0.000	0.19	142	0.003	3	142		
Stream 43	CULVERT	1,029	0	0	0	0.0001	0.41	0	0.000	0	1,044	0.048	39	0	0.000	0.00	10	0.000	0.37	1,044	0.048	39	1,044		
Stream 44	CULVERT	1,281	0	0	0	0.0003	1.65	0	0.000	0	1,316	0.396	439	120	0.014	0.87	10	0.003	3.33	1,436	0.410	441	1,436		
Stream 45	CULVERT	434	0	0	0	0.0003	0.00	0	0.000	0	438	0.030	24	0	0.000	0.00	10	0.001	0.56	438	0.030	24	438		
Stream 46	CULVERT	1,093	0	0	0	0.0002	0.66	0	0.000	0	1,211	0.085	67	20	0.001	0.09	10	0.001	0.56	1,231	0.086	68	1,231		
Stream 46A	FILL	203	0	0	0	0.0000	0.00	0	0.000	0	205	0.009	8	0	0.000	0.00	10	0.000	0.37	205	0.009	8	205		
Stream 47	FILL	268	0	0	0	0.0000	0.00	0	0.000	0	470	0.043	35	0	0.000	0.00	10	0.001	0.74	470	0.043	35	470		

**TABLE D. IMPACT QUANTITIES - STREAMS  
 PREFERRED ALTERNATIVE**

STREAMS			Existing Culvert	Existing Culvert Replaced (overlap)	Permanent Fill Below OHWM												Temporary Fill Below OHWM			TOTAL PERMANENT IMPACT (Upstream to Downstream)			TOTAL NEW IMPACT (Total - Existing)
Resource ID	Description of Impacts/Activities below OHWM	Total Length Within Project Area			Length (LF)	Length (LF)	Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP			Proposed Earthen, Granular, or Embankment Fill			Proposed Other (Steel, Etc.)			Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)
			Length (LF)	Area (AC)			Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)							
Stream 48	CULVERT	255	0	0	0	0.0000	0.00	0	0.000	0	51	0.000	38	220	0.000	0.00	10	0.005	7.41	271	0.000	38	271
Stream 48A	FILL	184	0	0	0	0.0000	0.00	0	0.000	0	247	0.000	9	0	0.000	0.00	10	0.000	0.37	247	0.000	9	247
Stream 49	CULVERT	346	0	0	0	0.0000	0.00	0	0.000	0	60	0.000	3	290	0.000	0.00	10	0.001	0.56	350	0.000	3	350
<b>Totals</b>	<b>N/A</b>	<b>69,155</b>	<b>1,212</b>	<b>431</b>	<b>820</b>	<b>0.21</b>	<b>288</b>	<b>1,597</b>	<b>0.811</b>	<b>4,201</b>	<b>62,620</b>	<b>9.345</b>	<b>9,398</b>	<b>3,980</b>	<b>0.404</b>	<b>25</b>	<b>1,400</b>	<b>0.408</b>	<b>3,395</b>	<b>67,400</b>	<b>10.767</b>	<b>13,909</b>	<b>66,188</b>

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e. concrete block matting); N/A = Not Applicable

**TABLE D. IMPACT QUANTITIES – WETLANDS AND OTHER WATERS  
 PREFERRED ALTERNATIVE**

WETLANDS, PONDS AND JURISDICTIONAL DITCHES					Permanent Fill Below OHWM			TOTAL PERMANENT IMPACT			TOTAL NEW IMPACT
Resource ID	Description of Impacts/Activities below OHWM	Total Acreage Within Project Area	Width (FT)	Depth (FT)	Proposed Earthen, Granular, or Embankment Fill			Length (LF)	Area (AC)	Volume (CY)	Acreage
					Length (LF)	Area (AC)	Volume (CY)				
Wetland 1	FILL	4.546	N/A	1.0	N/A	1.007	1,625	N/A	1.007	1,625	1.007
Wetland 2	FILL	0.268	N/A	1.0	N/A	0.270	436	N/A	0.270	436	0.270
Wetland 3	FILL	0.610	N/A	1.0	N/A	0.610	984	N/A	0.610	984	0.610
Wetland 4	FILL	0.019	N/A	1.0	N/A	0.019	31	N/A	0.019	31	0.019
Wetland 5	FILL	0.038	N/A	1.0	N/A	0.038	61	N/A	0.038	61	0.038
Wetland 6	FILL	0.003	N/A	1.0	N/A	0.003	5	N/A	0.003	5	0.003
Wetland 7	FILL	0.195	N/A	1.0	N/A	0.188	303	N/A	0.188	303	0.188
Wetland 9	FILL	0.237	N/A	1.0	N/A	0.237	382	N/A	0.237	382	0.237
Wetland 10	FILL	0.028	N/A	1.0	N/A	0.028	45	N/A	0.028	45	0.028
Wetland 11	FILL	0.018	N/A	1.0	N/A	0.018	29	N/A	0.018	29	0.018
Wetland 12	FILL	0.074	N/A	1.0	N/A	0.074	119	N/A	0.074	119	0.074
Wetland 13	FILL	0.013	N/A	1.0	N/A	0.013	21	N/A	0.013	21	0.013
Wetland 14	FILL	0.004	N/A	1.0	N/A	0.004	6	N/A	0.004	6	0.004
Wetland 15	FILL	0.012	N/A	1.0	N/A	0.012	19	N/A	0.012	19	0.012
Wetland 16	FILL	0.051	N/A	1.0	N/A	0.051	82	N/A	0.051	82	0.051
Wetland 17	FILL	0.041	N/A	1.0	N/A	0.041	66	N/A	0.041	66	0.041
Wetland 18	FILL	0.827	N/A	1.0	N/A	0.827	1,334	N/A	0.827	1,334	0.827
Wetland 20	FILL	0.060	N/A	1.0	N/A	0.057	92	N/A	0.057	92	0.057
Wetland 22	FILL	0.031	N/A	1.0	N/A	0.031	50	N/A	0.031	50	0.031
Wetland 23	FILL	0.010	N/A	1.0	N/A	0.010	16	N/A	0.010	16	0.01
Wetland 24	FILL	0.150	N/A	1.0	N/A	0.053	86	N/A	0.053	86	0.053
Wetland 24A	FILL	0.006	N/A	1.0	N/A	0.006	10	N/A	0.006	10	0.006
Wetland 24B	FILL	1.160	N/A	1.0	N/A	0.780	1,258	N/A	0.780	1,258	0.780
Wetland 25	FILL	0.200	N/A	1.0	N/A	0.175	282	N/A	0.175	282	0.175
Wetland 25A	FILL	0.041	N/A	1.0	N/A	0.041	66	N/A	0.041	66	0.041
Wetland 27	FILL	0.063	N/A	1.0	N/A	0.063	102	N/A	0.063	102	0.063
Wetland 28A	FILL	0.009	N/A	1.0	N/A	0.009	15	N/A	0.009	15	0.009
Wetland 28B	FILL	0.027	N/A	1.0	N/A	0.027	44	N/A	0.027	44	0.027
Wetland 28C	FILL	0.031	N/A	1.0	N/A	0.031	50	N/A	0.031	50	0.031
Wetland 28D	FILL	0.037	N/A	1.0	N/A	0.037	60	N/A	0.037	60	0.037
Wetland 29	FILL	0.297	N/A	1.0	N/A	0.261	421	N/A	0.261	421	0.261

**TABLE D. IMPACT QUANTITIES – WETLANDS AND OTHER WATERS  
 PREFERRED ALTERNATIVE**

WETLANDS, PONDS AND JURISDICTIONAL DITCHES					Permanent Fill Below OHWM			TOTAL PERMANENT IMPACT			TOTAL NEW IMPACT
Resource ID	Description of Impacts/ Activities below OHWM	Total Acreage Within Project Area	Width (FT)	Depth (FT)	Proposed Earthen, Granular, or Embankment Fill			Length (LF)	Area (AC)	Volume (CY)	Acreage
					Length (LF)	Area (AC)	Volume (CY)				
Wetland 30	FILL	0.294	N/A	1.0	N/A	0.294	474	N/A	0.294	474	0.294
Wetland 31	FILL	0.003	N/A	1.0	N/A	0.003	5	N/A	0.003	5	0.003
Wetland 33	FILL	0.009	N/A	1.0	N/A	0.009	15	N/A	0.009	15	0.009
Wetland 34	FILL	0.318	N/A	1.0	N/A	0.317	511	N/A	0.317	511	0.317
Wetland 35	FILL	0.801	N/A	1.0	N/A	0.794	1,281	N/A	0.794	1,281	0.794
Wetland 36	FILL	0.011	N/A	1.0	N/A	0.011	18	N/A	0.011	18	0.011
<b>Totals</b>	<b>N/A</b>	<b>10.54</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>6.449</b>	<b>10,404</b>	<b>N/A</b>	<b>6.449</b>	<b>10,404</b>	<b>6.449</b>
PJD 1	FILL	0.015	2.5	2.5	254	0.015	29	254	0.015	29	0.015
PJD 2	FILL	0.029	2.5	2.5	504	0.029	58	504	0.029	58	0.029
PJD 3	FILL	0.023	2.5	2.5	405	0.023	47	405	0.023	47	0.023
<b>Totals</b>	<b>N/A</b>	<b>0.067</b>	<b>N/A</b>	<b>N/A</b>	<b>1,163</b>	<b>0.067</b>	<b>134</b>	<b>1,163</b>	<b>0.067</b>	<b>134</b>	<b>0.067</b>
Pond 1	FILL	0.141	N/A	6.0	N/A	0.141	1,365	N/A	0.141	1,365	0.141
Pond 3	FILL	0.900	N/A	6.0	N/A	0.900	8,712	N/A	0.900	8,712	0.900
<b>Totals</b>	<b>N/A</b>	<b>1.041</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>1.041</b>	<b>10,077</b>	<b>N/A</b>	<b>1.041</b>	<b>10,077</b>	<b>1.041</b>

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e. concrete block matting); N/A = Not Applicable

**TABLE E. LOWERING OF WATER QUALITY PER ALTERNATIVE  
 Preferred, Minimal and Non-Degradation Alternatives**

Alternative	Direct Stream Impacts	Direct Wetland Impacts	Direct Impacts to Other Waters	Aquatic Biota	Threatened and Endangered Species	Terrestrial Impacts (plants, animals, riparian habitat)
Preferred Alternative (PA)	67,400 LF 13,909 CY	6.449 AC 10,404 CY	Ponds: 1.041 AC and 10,077 CY  PJDs: 0.067 AC and 134 CY	The PA will impact 126 streams as a result of the project. Eighty-one of which are ephemeral streams and total approximately 2.679 acres. These ephemeral streams provide limited habitat for aquatic biota. The remaining 45 streams have either perennial or intermittent water regimes and total approximately 8.088 acres. These streams are capable of providing habitat for aquatic species throughout the year.	There were 15 species with both federal and state designations identified for this project. Of those, eight had “no effect” determinations and the remaining six had a “may effect, but not likely to adversely affect” determination. The remaining species was added to the federal proposed endangered list on October 1, 2013 and an effects determination has yet to be rendered. In addition, 32 species were reported in the project area that have only state designations. Twelve of these species are state-listed mussels, 11 of which were not collected during the mussel survey. The other mussel (black sandshell) was collected, but impacts are estimated to be insignificant. Of the non-mussel species, 2 are likely to be impacted, 5 species will be protected by work restrictions, and 13 are not likely to be impacted due to lack of habitat, probable absence from the project area, ability of the species to avoid construction impacts due to mobility, or presence of more suitable habitat adjacent to the site.	The PA will impact approximately 90 acres of developed open space, approximately 826 acres of forested or shrub/scrub habitat, approximately 39 acres of agricultural land, and approximately 120 acres of land dominated by assorted herbaceous communities.
Minimal Degradation Alternative (MDA)	43,174 LF 6,247 CY	4.106 AC 6,626 CY	Ponds: 1.041 AC and 10,077 CY  PJDs: 0.067 AC and 134 CY	The MDA will impact 87 streams as a result of the project. Sixty of which are ephemeral streams and total approximately 1.810 acres. These ephemeral streams provide limited habitat for aquatic biota. The remaining 27 streams have either perennial or intermittent water regimes and total approximately 3.593 acres. These streams are capable of providing at least some form of habitat for aquatic species throughout the year.	Impact to T & E species are essentially the same for both the MDA and the PA, as both are to be constructed along essentially the same alignment and accommodations for T & E species are common to both alternatives.	Impacts to terrestrial habitats are similar between the PA and MDA as they are on essentially the same alignment. There is a significant reduction Impacts to riparian areas resulting from the inclusion of 25 additional bridges. The inclusion of these bridge structures has reduced the proposed impact to streams and their associated riparian corridors by 24,226 feet.
Non-degradation Alternative	N/A	N/A	N/A	N/A	N/A	N/A

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



**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 1	2,187	Modified Class II PHWH HHEI - 30	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 2	1,472	Modified Class I PHWH HHEI - 26	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 3	1,098	Modified Class II PHWH HHEI - 34	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 4	218	Modified Class II PHWH HHEI - 38	Relatively Permanent Water-Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 5	469	Modified Class IIIA PHWH HHEI - 59	Relatively Permanent Water-Perennial	Preservation GE Site	05060002	05060002	0	703.5
Stream 5A	237	Class I PHWH HHEI - 21	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 5B	249	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 5C	153	Modified Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 6	731	Class II PHWH HHEI - 50	Relatively Permanent Water- Perennial	Preservation GE Site	05060002	05060002	0	1,096.5
Stream 6A	620	Class II PHWH HHEI - 45	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	930
Stream 6B	689	Class IIIA PHWH HHEI - 45	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,033.5
Stream 6B1	198	Class I PHWH HHEI - 10	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 6B2	294	Class I PHWH HHEI - 18	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 7	441	Modified Class I PHWH HHEI - 20	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 8	1,170	Modified Class I PHWH HHEI - 10	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 9	777	Class II PHWH HHEI - 34	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,165.5
Stream 10	1,020	Modified Class II PHWH HHEI - 37	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 10A	229	Modified Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 10B	708	Modified Class I PHWH HHEI - 10	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 10C	112	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 10D	128	Modified Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 11	1,050	Class II PHWH HHEI - 46	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,575
Stream 11A	606	Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 11B	379	Class I PHWH HHEI - 18	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 11C	431	Class I PHWH HHEI - 28	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 11D	570	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 11E	317	Class II PHWH HHEI - 32	Non-Relatively Permanent Water	Preservation GE Site AND	05060002	05060002	0	434 GE 41.5 TBD
Stream 11F	742	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 12	671	Class II PHWH HHEI - 32	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,006.5
Stream 13	624	Class II PHWH HHEI - 44	Non-Relatively Permanent Water	Preservation GE Site	05060002	05060002	0	936
Stream 14	697	Modified Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 15	1,040	Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 15A	330	Class I PHWH HHEI - 21	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 15B	317	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 16	1,042	Class II PHWH HHEI - 41	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,563

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 16A	310	Modified Class I PHWH HHEI - 26	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 17	1,018	Class II PHWH HHEI - 61	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,527
Stream 17A	91	Class I PHWH HHEI - 29	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 17B	783	Class II PHWH HHEI - 32	Non-Relatively Permanent Water	Preservation GE Site	05060002	05060002	0	1,174.5
Stream 17C	551	Class II PHWH HHEI - 37	Non-Relatively Permanent Water	TBD	05060002	TBD	0	826.5
Stream 17C1	130	Class I PHWH HHEI - 37	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 18	712	Class II PHWH HHEI - 37	Non-Relatively Permanent Water	Preservation GE Site	05060002	05060002	0	1,068
Stream 18A	79	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 18B	172	Class I PHWH HHEI - 24	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 19	917	Class II PHWH HHEI - 37	Non-Relatively Permanent Water	Preservation GE Site	05060002	05060002	0	1,375.5
Stream 19A	210	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 19B	631	Class I PHWH HHEI - 27	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 20	1,014	Modified Class II PHWH HHEI - 43	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 20-1	204	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 21	717	Modified Class II PHWH HHEI - 41	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 21A	102	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 22	913	Class II PHWH HHEI - 46	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,369.5
Stream 22A	710	Modified Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 22B	189	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 22C	382	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 23	863	Class II PHWH HHEI - 46	Relatively Permanent Water- Seasonal	Preservation GE Site	05060002	05060002	0	1,294.5
Stream 23A	467	Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 23B	231	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 24	775	Class II PHWH HHEI - 46	Non-Relatively Permanent Water	Preservation GE Site	05060002	05060002	0	1,162.5
Stream 24A	66	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05060002	TBD	TBD	TBD
Stream 25	298	Modified Class I PHWH HHEI - 12	Relatively Permanent Water- Seasonal	TBD	05060002	TBD	TBD	TBD
Stream 26	934	Modified Class I PHWH HHEI - 12	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 26A	472	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 27	727	Modified Class II PHWH HHEI - 46	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 27B	652	Class I PHWH HHEI - 22	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 28	231	Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 29	564	Class IIIA PHWH HHEI - 83	Relatively Permanent Water- Perennial	Preservation GE Site	05090103	05060002	0	846
Stream 30	440	Class II PHWH HHEI - 38	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 31	511	Modified Class II PHWH HHEI - 52	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 31A	189	Modified Class I PHWH HHEI - 27	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 32	830	Class II PHWH HHEI - 32	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	1,245

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 32A	160	Class I PHWH HHEI - 24	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 32B	142	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 32C	186	Class I PHWH HHEI - 24	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 32D	245	Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 32D1	245	Class I PHWH HHEI - 22	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 33	999	Class II PHWH HHEI - 51	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	1,498.5
Stream 33A	145	Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 33A1	3	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 33A2	106	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 33B	41	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 34	2,084	WWH QHEI - 65	Relatively Permanent Water- Perennial	Preservation GE Site	05090103	05060002	0	3,126
Stream 34A	405	Class II PHWH HHEI - 56	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 34B	391	Class I PHWH HHEI - 19	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 34B1	348	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 34B2	309	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 35A	435	Class II PHWH HHEI - 33	Non-Relatively Permanent Water	Preservation GE Site	05090103	05060002	0	652.5
Stream 35A1	111	Class I PHWH HHEI - 10	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 36	1,054	Class II PHWH HHEI - 50	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 36A	1,233	Class I PHWH HHEI - 21	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 36A1	86	Modified Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 36C	1,146	Class II PHWH HHEI - 36	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	1,719
Stream 36C2	386	Modified Class II PHWH HHEI - 43	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 36C3	184	Class I PHWH HHEI - 24	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 36C4	41	Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 37	691	Class II PHWH HHEI - 32	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	1,036.5
Stream 37A	549	Class I PHWH HHEI - 19	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38	1,600	Class II PHWH HHEI - 48	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	2,400
Stream 38A	1,755	Class II PHWH HHEI - 33	Relatively Permanent Water- Seasonal	Preservation GE Site	05090103	05060002	0	2,632.5
Stream 38A1	247	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38A2	72	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38A3	111	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38A4	161	Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38A5	134	Modified Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38A6	107	Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38B	681	Modified Class II PHWH HHEI - 47	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 38B1	398	Modified Class I PHWH HHEI - 23	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 38D	548	Modified Class II PHWH HHEI - 32	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 39	1,095	Modified Class II PHWH HHEI - 30	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 39A	925	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Little Scioto River	150*	Designated WWH in OAC-3745/ N/A	Relatively Permanent Water- Perennial	Preservation GE Site	05090103	05060002	0	225
Stream 40	810	Class I PHWH HHEI - 14	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 40A	188	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 40B	183	Class I PHWH HHEI - 11	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 41	215	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 42	510	Modified Class I PHWH HHEI - 18	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 42A	142	Modified Class I PHWH HHEI - 10	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 43	1,044	Modified Class I PHWH HHEI - 22	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 44	1,436	Modified Class II PHWH HHEI - 44	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 45	438	Modified Class I PHWH HHEI - 13	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 46	1,231	Class II PHWH HHEI - 57	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 46A	205	Modified Class I PHWH HHEI - 12	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD
Stream 47	470	Modified Class II PHWH HHEI - 48	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
Stream 48	271	WWH QHEI - 61.5	Relatively Permanent Water- Perennial	Preservation GE Site	05090103	05060002	0	406.5
Stream 48A	247	Modified Class I PHWH HHEI - 17	Non-Relatively Permanent Water	TBD	05090103	TBD	TBD	TBD

**TABLE F. STREAM MITIGATION**  
**Preferred Alternative**

Stream	Impact Amount (feet)	Classification QHEI/HHEI Score	USACE Classification and Flow Type	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (feet)	
					Impacted	Mitigated	On-site	Off-site
Stream 49	350	Class I PHWH HHEI - 25	Relatively Permanent Water- Seasonal	TBD	05090103	TBD	TBD	TBD
<b>Total</b>	<b>67,550</b>	N/A	N/A	N/A	N/A	N/A	N/A	<b>36,029 GE &amp; 65,296 TBD</b>

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; N/A = Not Applicable

\*Only temporary impacts proposed.



**TABLE G. WETLAND MITIGATION**  
**Preferred Alternative**

Wetland	Permanent Impact Amount	ORAM Category	Vegetative Classification	Jurisdictional Status	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (acre)	
						Impacted	Mitigated	On-site	Off-site
Wetland 1	1.007	Category 2	PEM/SS	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	2.0140
Wetland 2	0.270	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.4050
Wetland 3	0.610	Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	1.2200
Wetland 4	0.019	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0380
Wetland 5	0.038	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0760
Wetland 6	0.003	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0060
Wetland 7	0.188	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.2820
Wetland 9	0.237	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.3555
Wetland 10	0.028	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0420
Wetland 11	0.018	Category 1	PEM/SS	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0270
Wetland 12	0.074	Category 2	PEM/SS	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.1480
Wetland 13	0.013	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0260
Wetland 14	0.004	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.0080
Wetland 15	0.012	Category 1	PEM	Jurisdictional	Red Stone Farms	05060002	05090201	0	0.0180

**TABLE G. WETLAND MITIGATION**  
**Preferred Alternative**

Wetland	Permanent Impact Amount	ORAM Category	Vegetative Classification	Jurisdictional Status	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (acre)	
						Impacted	Mitigated	On-site	Off-site
					Mitigation Bank - Restoration				
Wetland 16	0.051	Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05060002	05090201	0	0.1020
Wetland 17	0.041	Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0820
Wetland 18	0.827	Category 2	PEM/SS/FO	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	2.0675
Wetland 20	0.057	Category 2	PEM/RAB	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.1140
Wetland 22	0.031	Modified Category 2	L2EM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0620
Wetland 23	0.010	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0150
Wetland 24	0.053	Category 3	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05060002 & 05090201	0	0.1590 & 0.0530
Wetland 24A	0.006	Category 3	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05060002 & 05090201	0	0.0180 & 0.0060
Wetland 24B	0.780	Category 3	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05060002 & 05090201	0	2.3400 & 0.7800
Wetland 25	0.175	Category 2	PEM/SS/FO	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.3500
Wetland 25A	0.041	Category 2	PEM/SS	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0820
Wetland 27	0.063	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0945
Wetland 28A	0.009	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0135

**TABLE G. WETLAND MITIGATION**  
**Preferred Alternative**

Wetland	Permanent Impact Amount	ORAM Category	Vegetative Classification	Jurisdictional Status	Type of Mitigation	Watershed (8-digit HUC)		Mitigated Amount (acre)	
						Impacted	Mitigated	On-site	Off-site
Wetland 28B	0.027	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0405
Wetland 28C	0.031	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0465
Wetland 28D	0.037	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0555
Wetland 29	0.261	Modified Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.5220
Wetland 30	0.294	Category 2	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.5880
Wetland 31	0.003	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0045
Wetland 33	0.009	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0135
Wetland 34	0.317	Category 1	PEM/SS	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.4755
Wetland 35	0.794	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	1.1910
Wetland 36	0.011	Category 1	PEM	Jurisdictional	Red Stone Farms Mitigation Bank - Restoration	05090103	05090201	0	0.0165
<b>Totals</b>	<b>6.449</b>	N/A	N/A	N/A	N/A	N/A	N/A	0	<b>13.9575 acres (Restored 11.4405 acres &amp; Preserved 2.5170 acres)</b>

LF = linear feet; AC = acres; CY = cubic yards; SM = square miles; N/A = Not Applicable

## **APPENDIX C: 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)

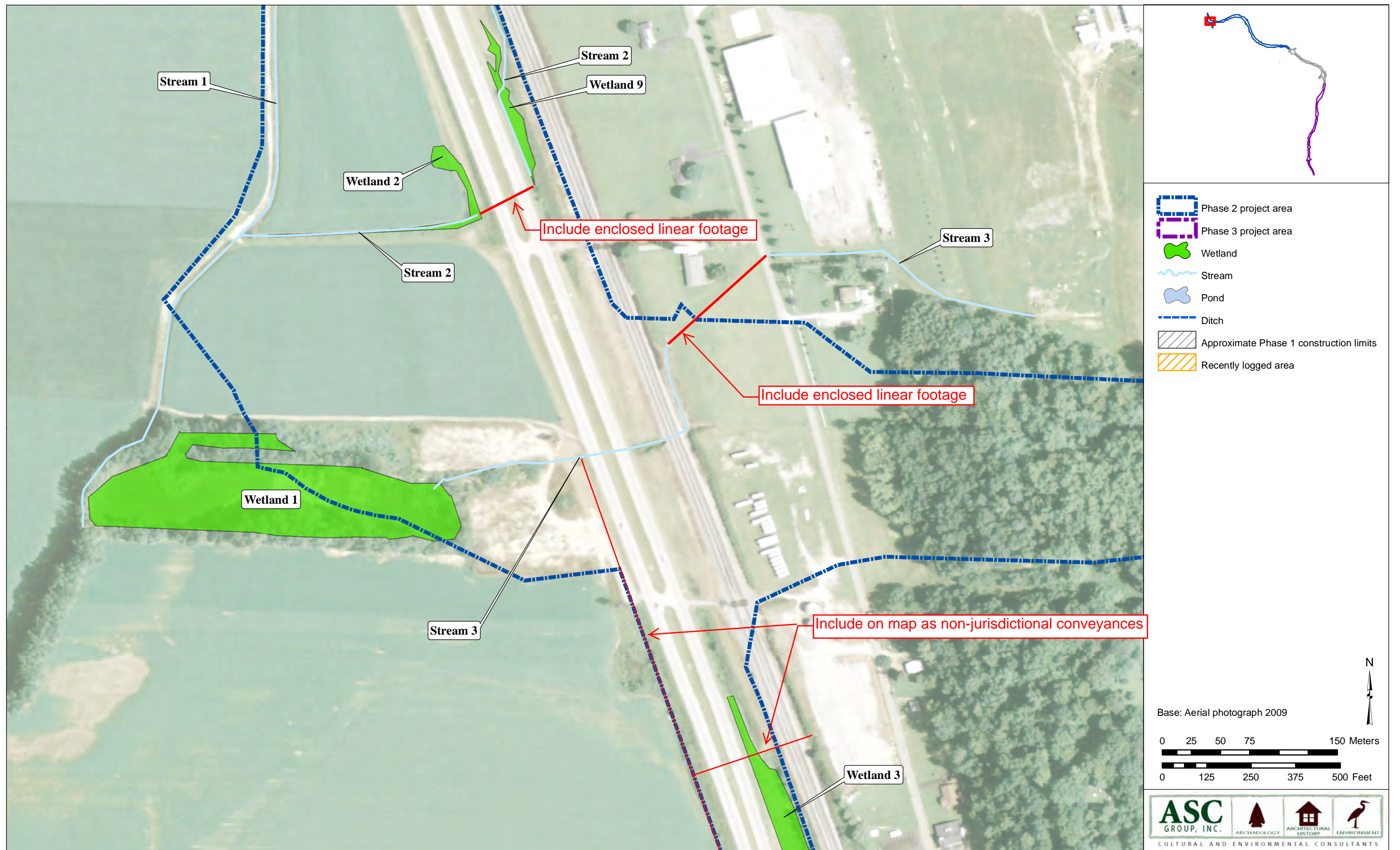


Figure 11. Survey Results. (30 sheets)



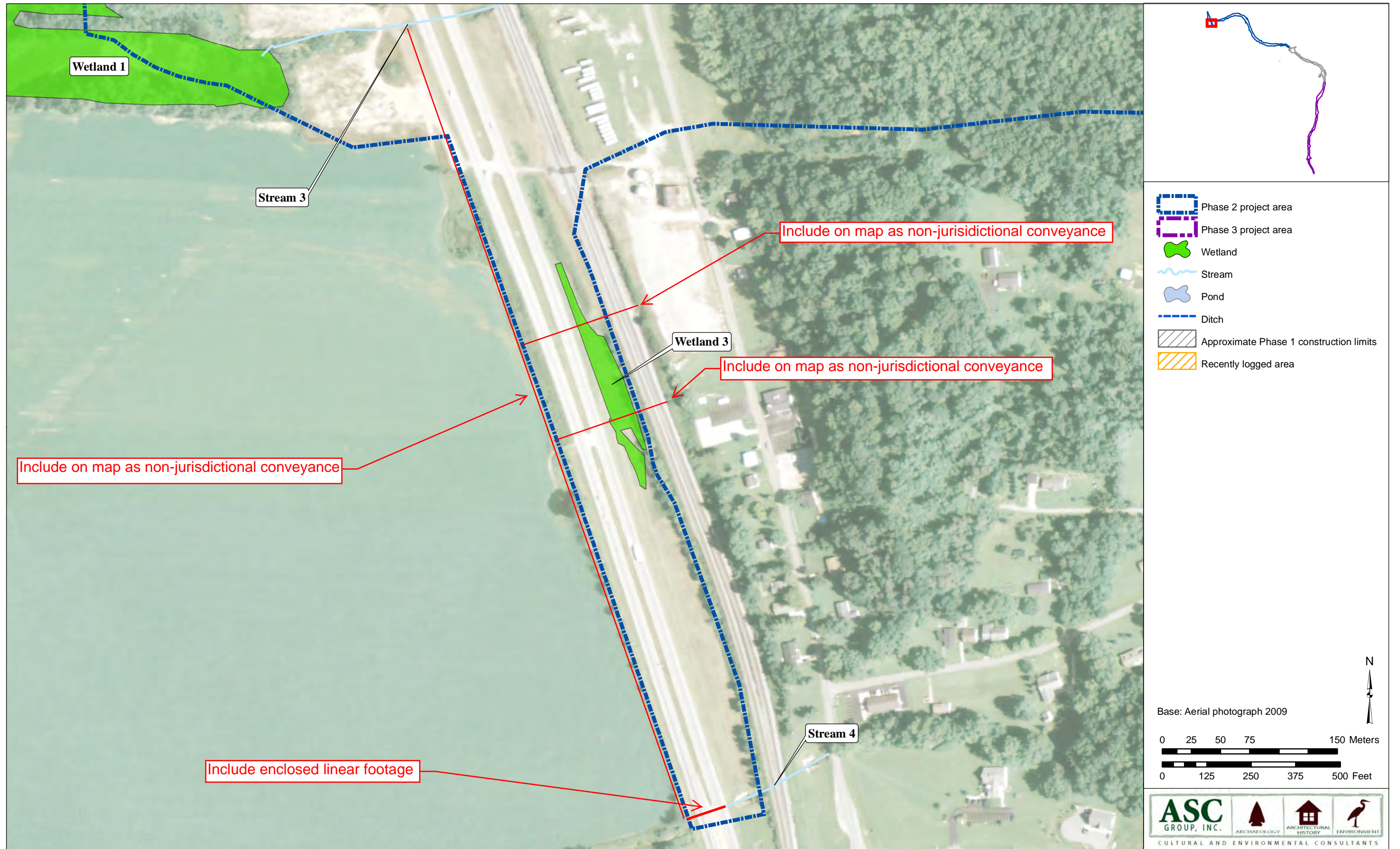


Figure 11. Survey Results. (30 sheets)

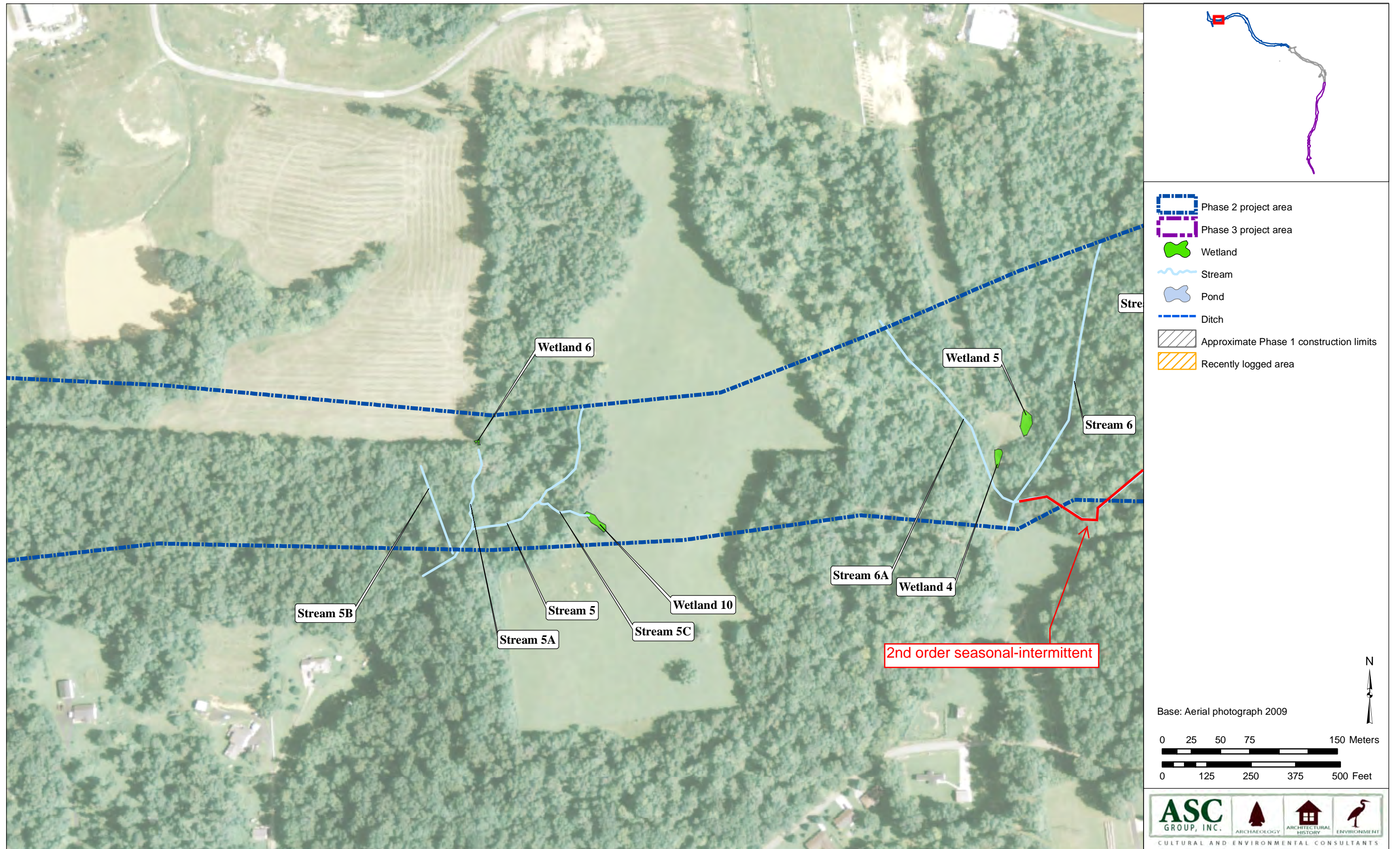


Figure 11. Survey Results. (30 sheets)

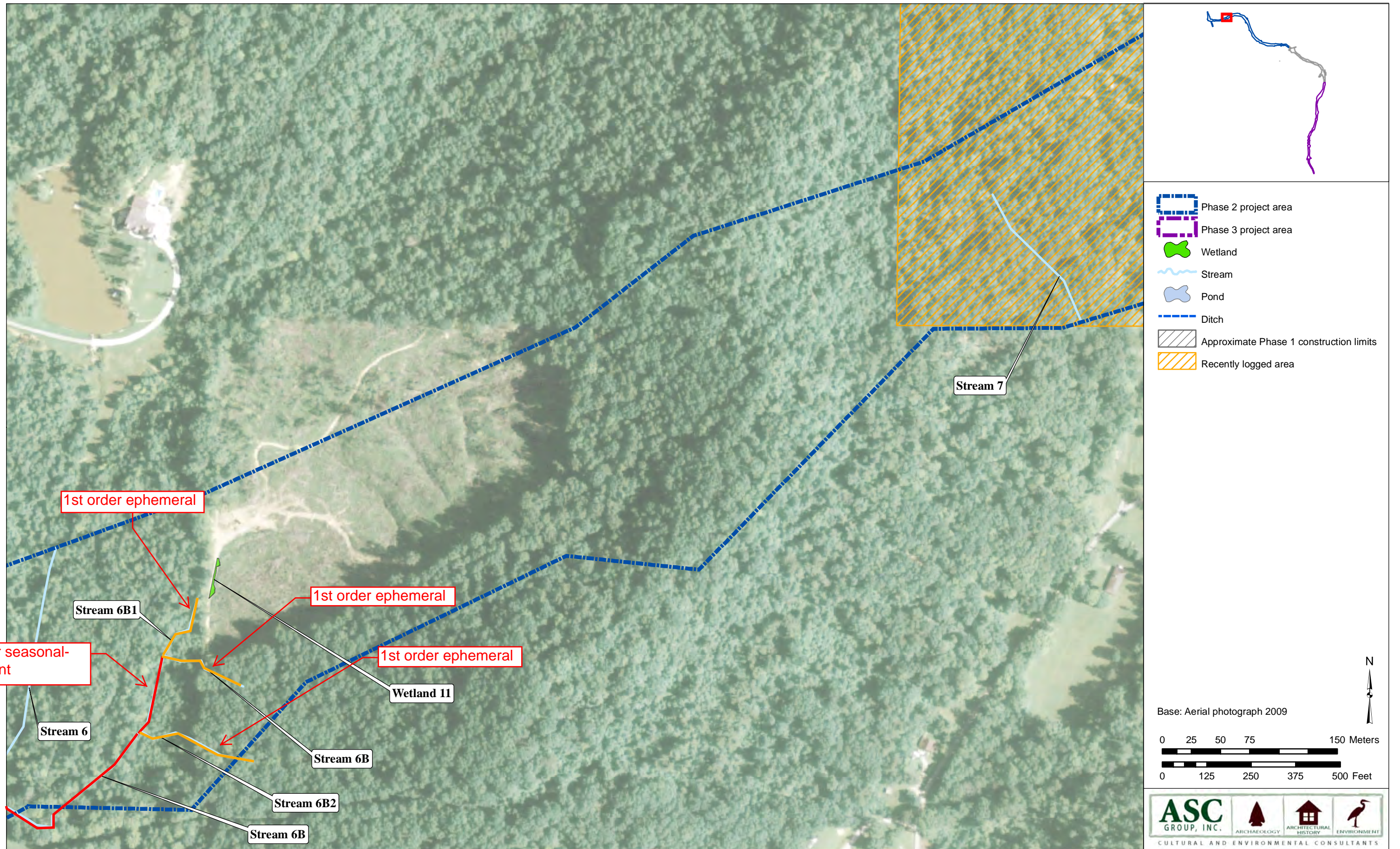


Figure 11. Survey Results. (30 sheets)

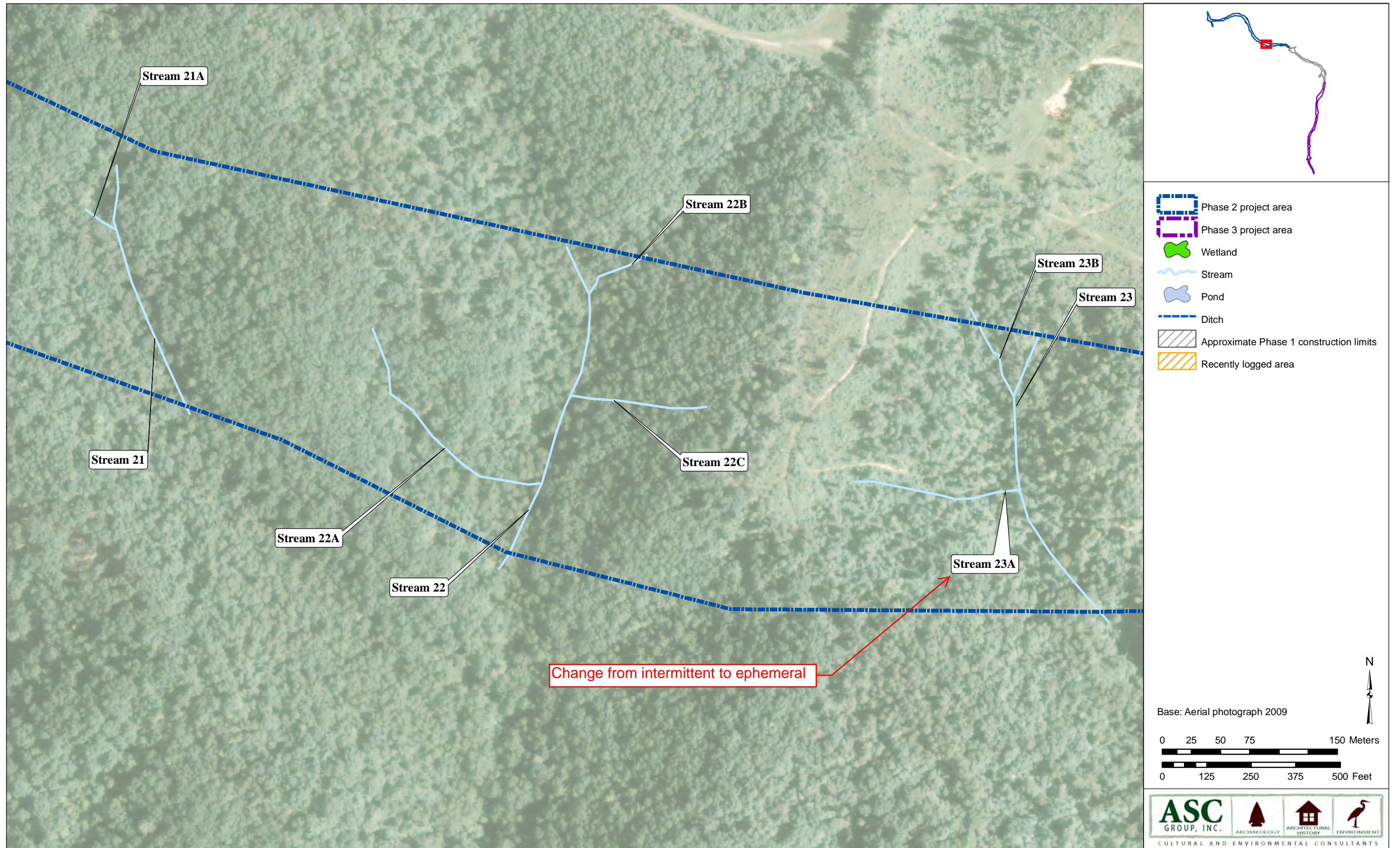


Figure 11. Survey Results. (30 sheets)

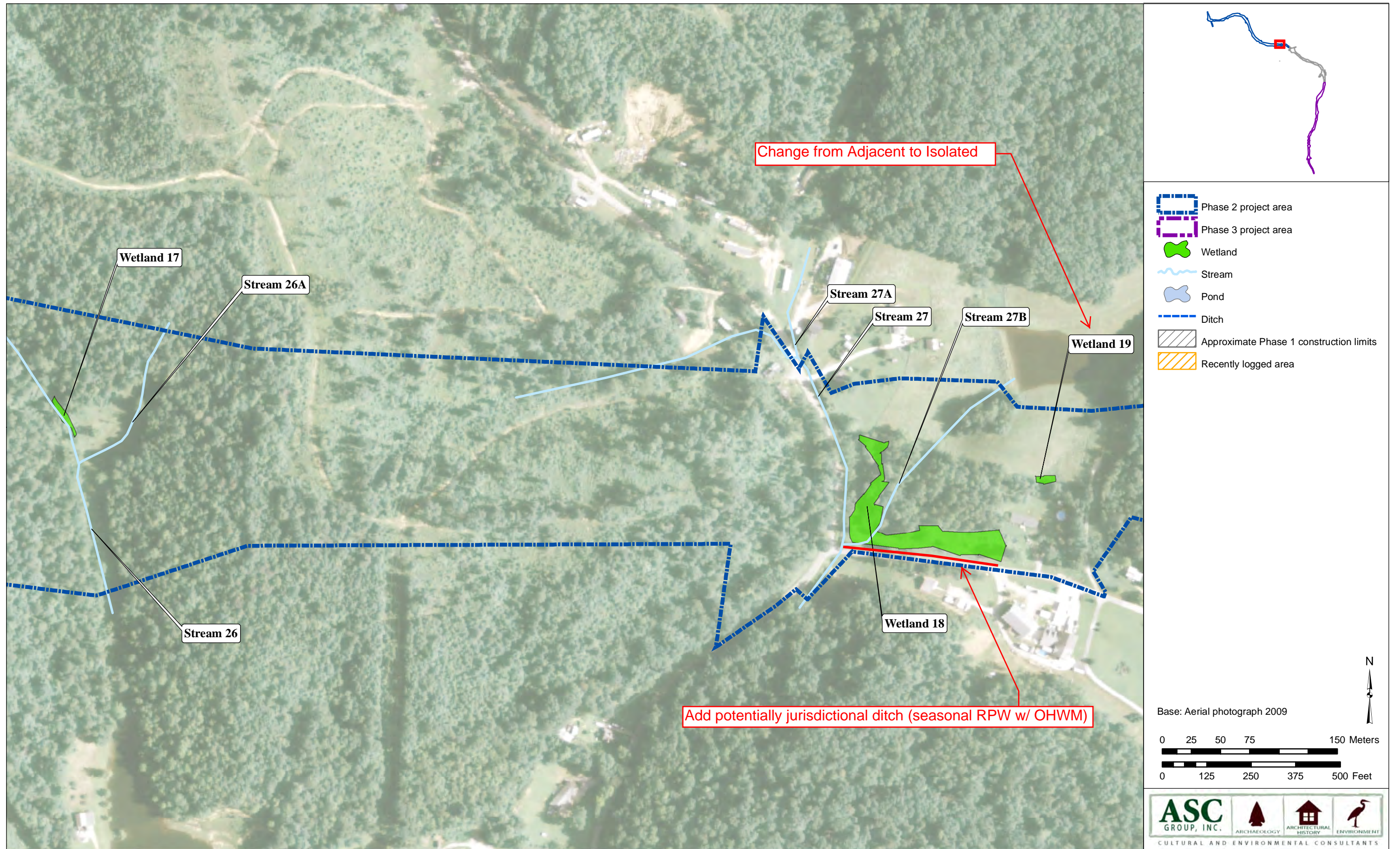


Figure 11. Survey Results. (30 sheets)

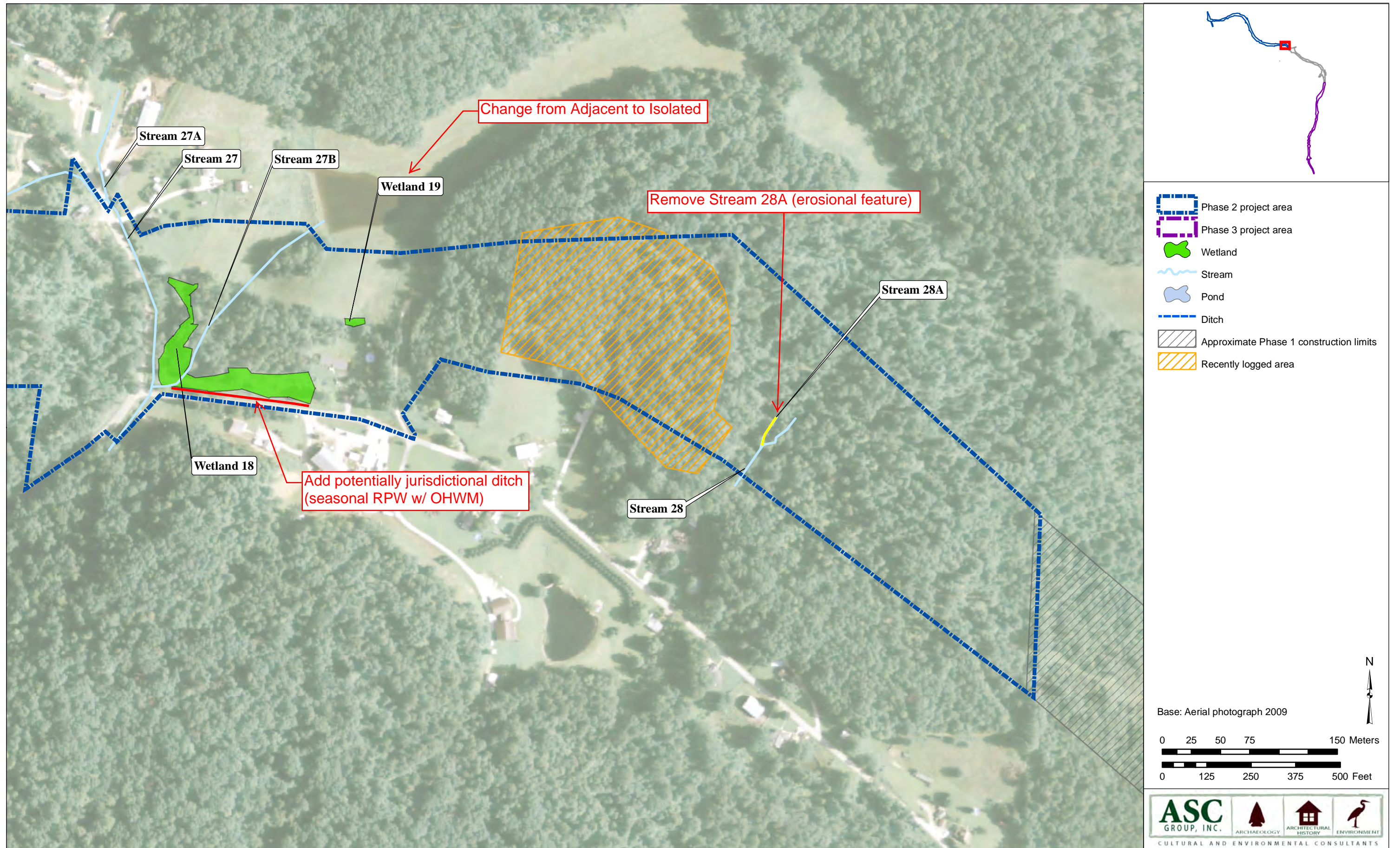


Figure 11. Survey Results. (30 sheets)



Figure 11. Survey Results. (30 sheets)

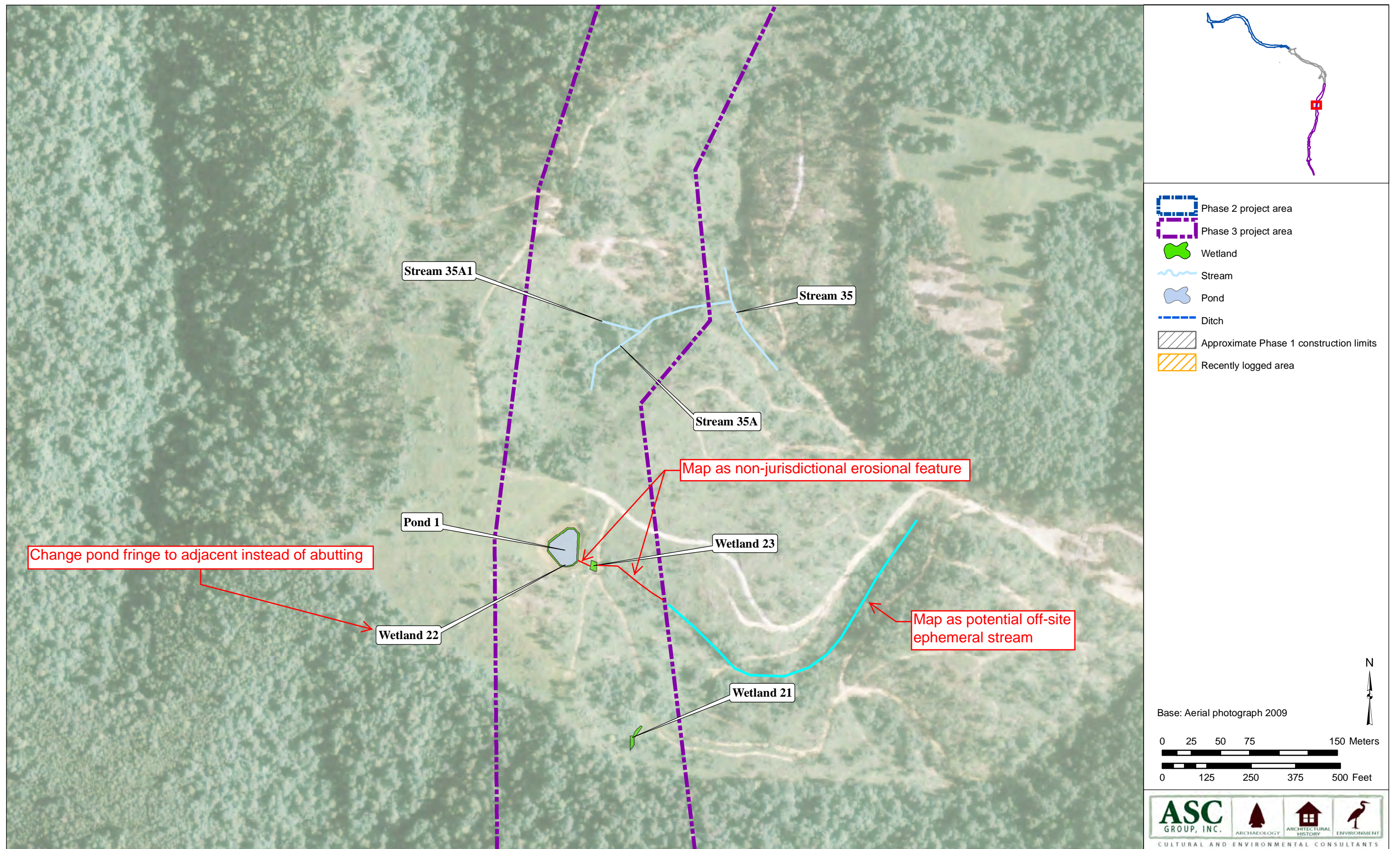


Figure 11. Survey Results. (30 sheets)





Figure 11. Survey Results. (30 sheets)

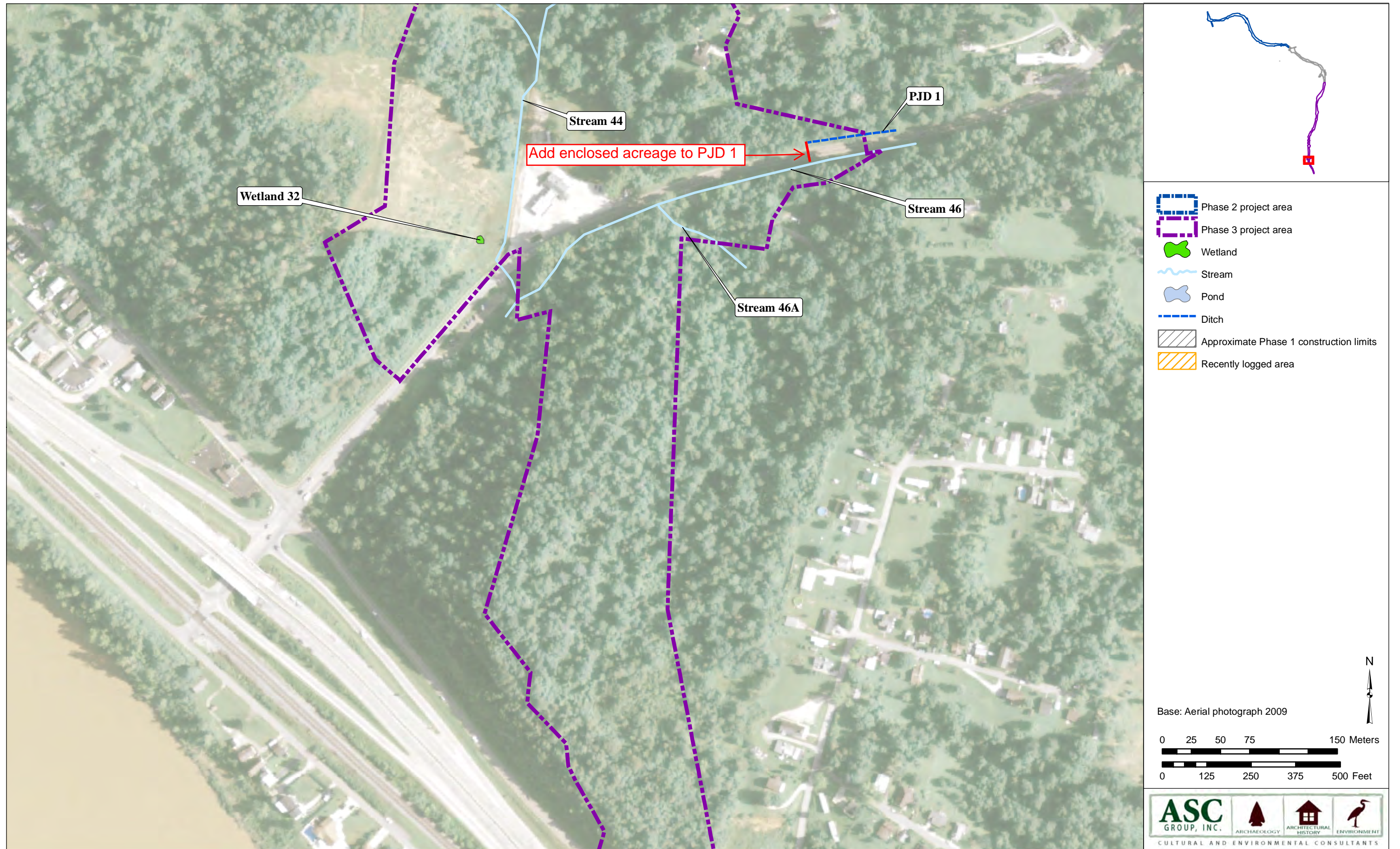


Figure 11. Survey Results. (30 sheets)

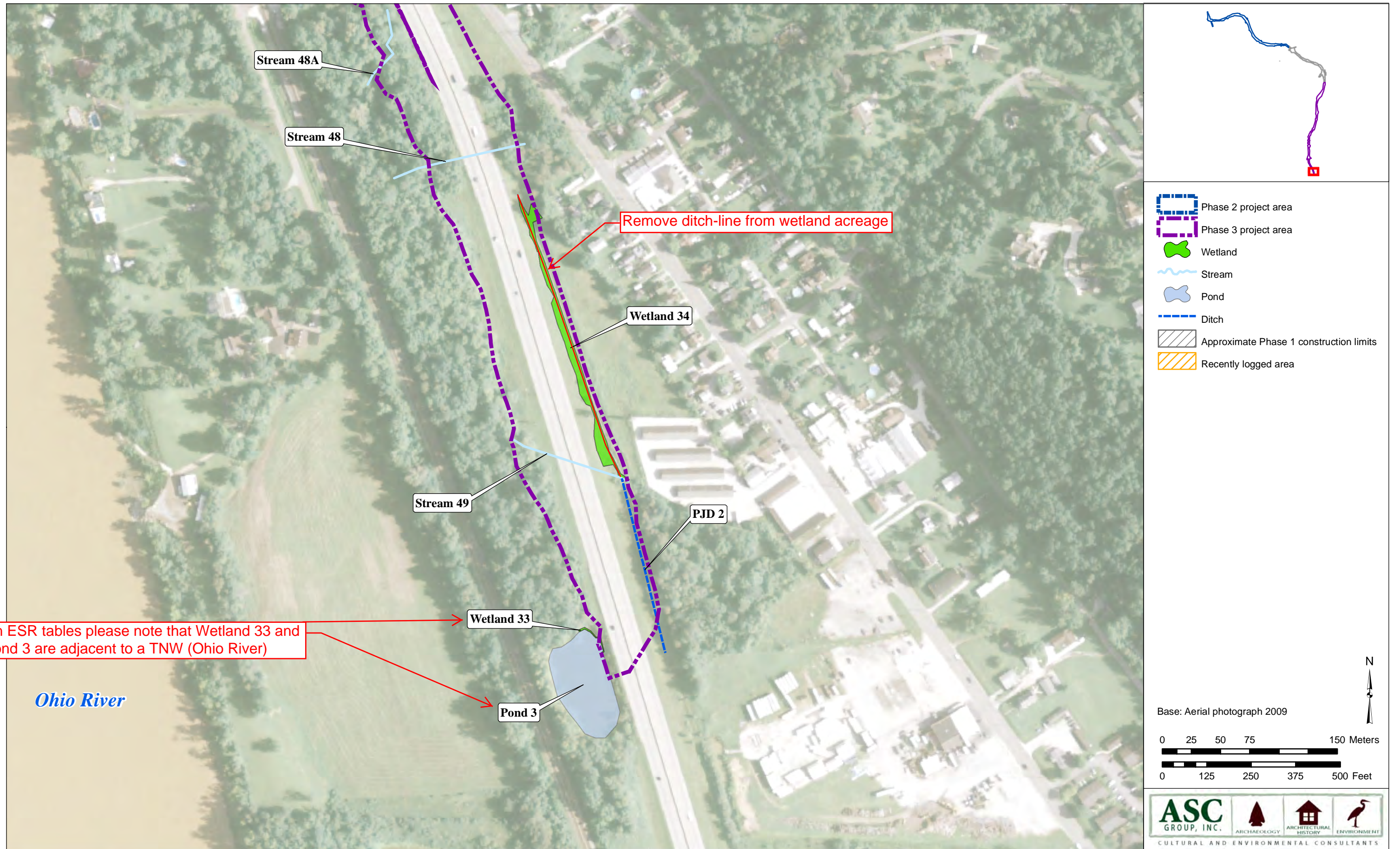


Figure 11. Survey Results. (30 sheets)

## **APPENDIX D: MITIGATION INFORMATION**

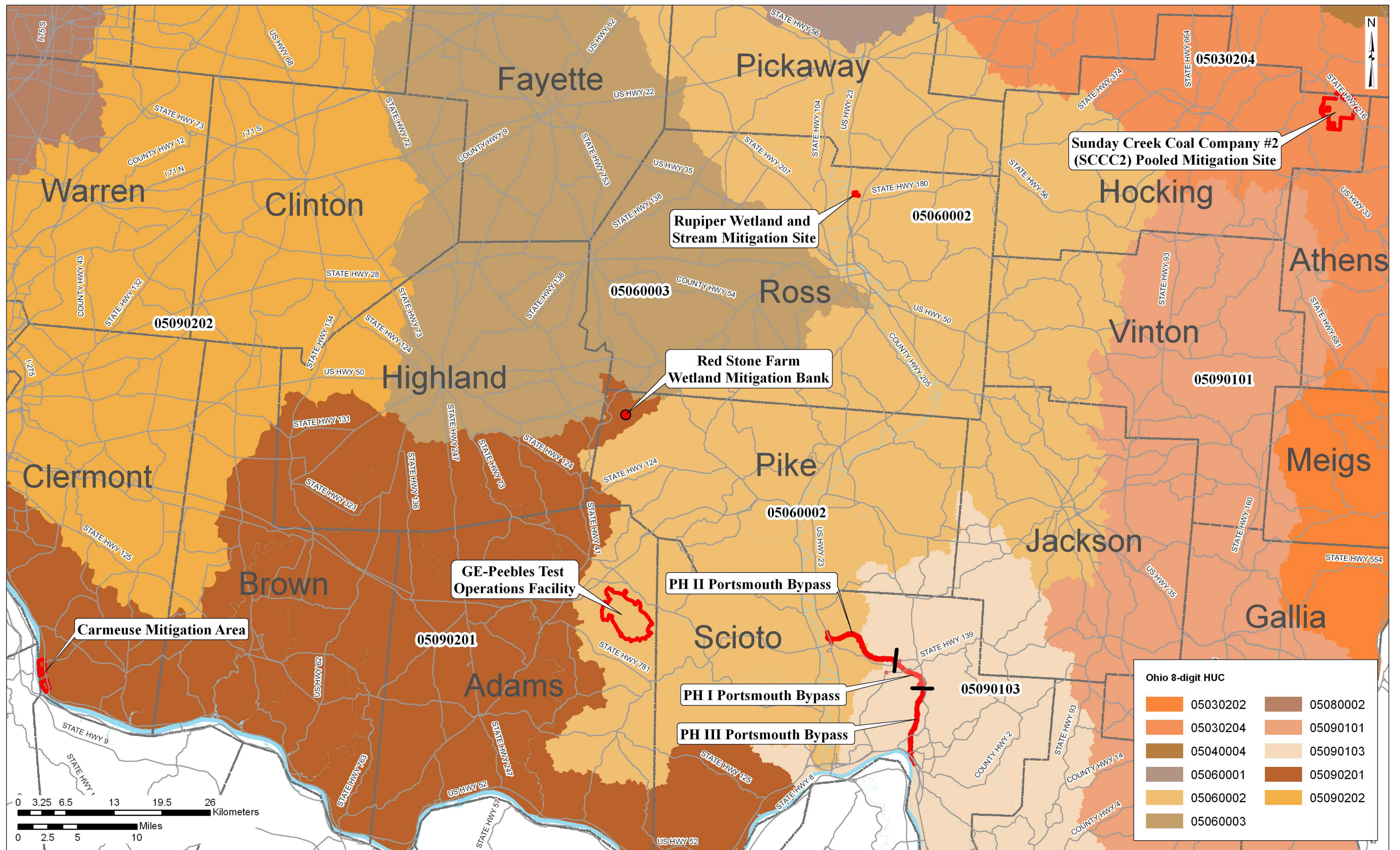


Figure 1: Location overview map for the Portsmouth Bypass Wetland and Stream Mitigation Sites.

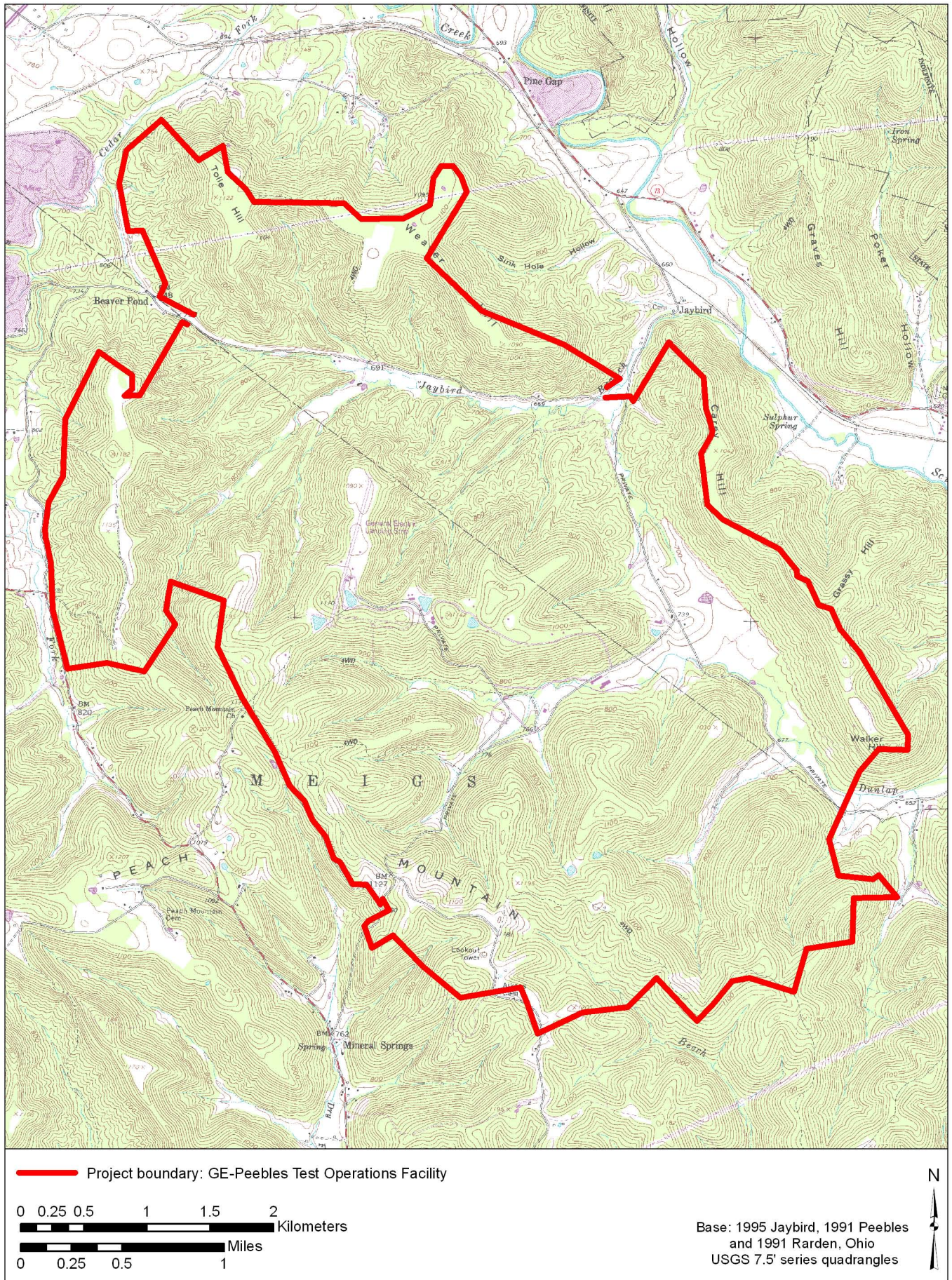


Figure 2: Overview map of the GE Peebles Test Operations Facility Stream Mitigation Site.

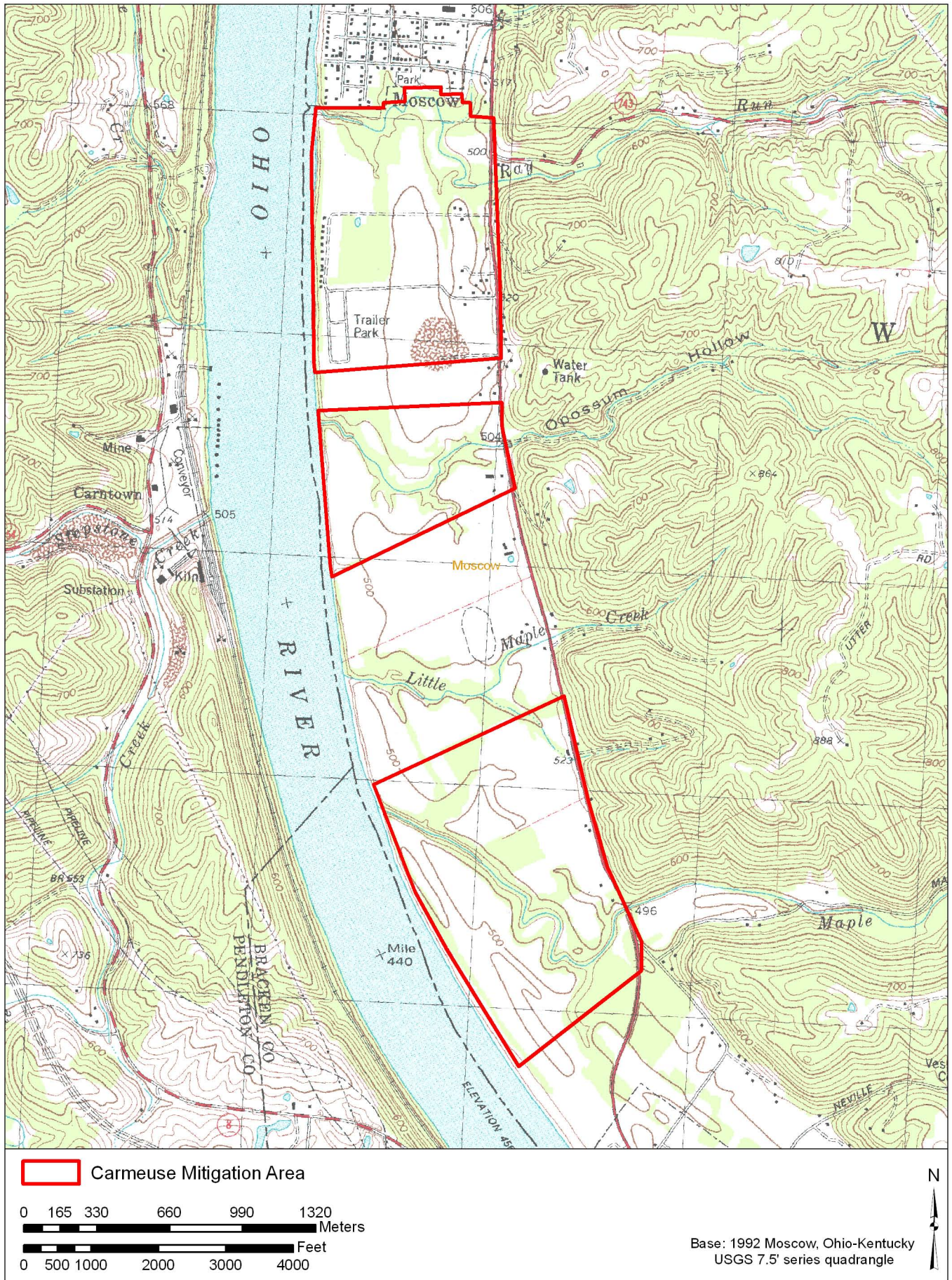


Figure 3: USGS map of Carmeuse Mitigation Area.

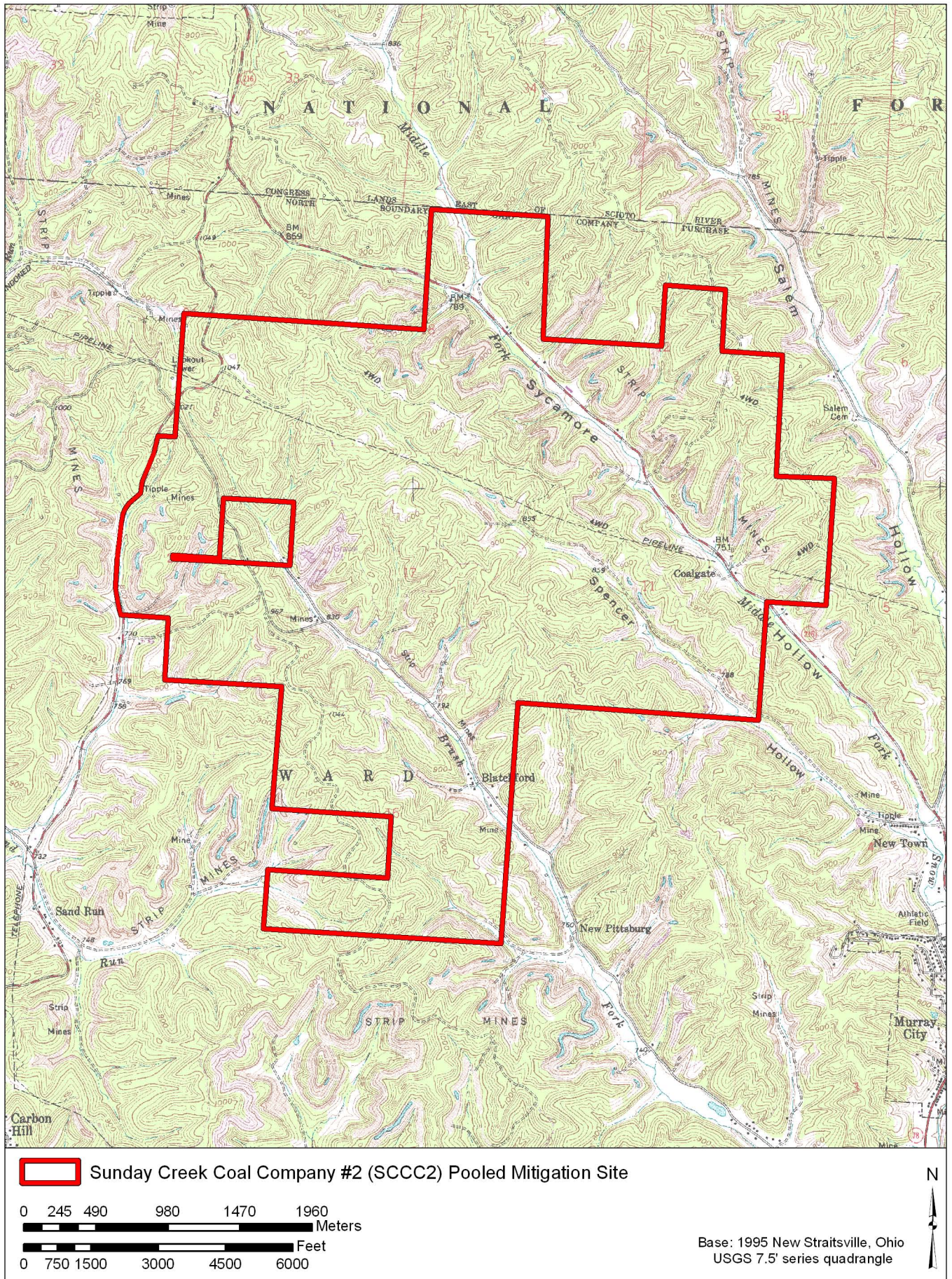
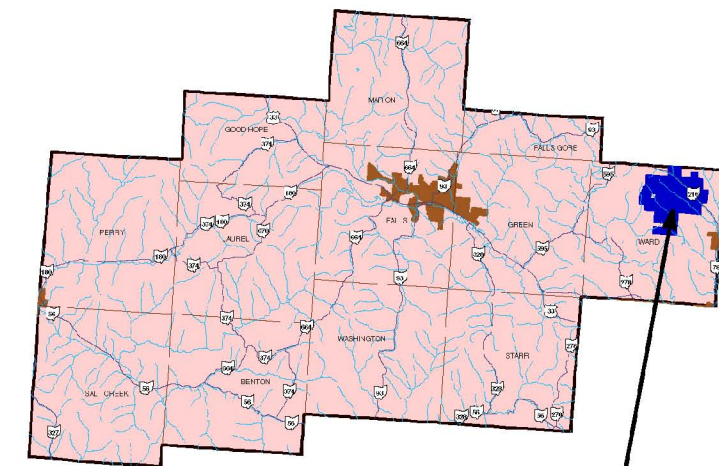
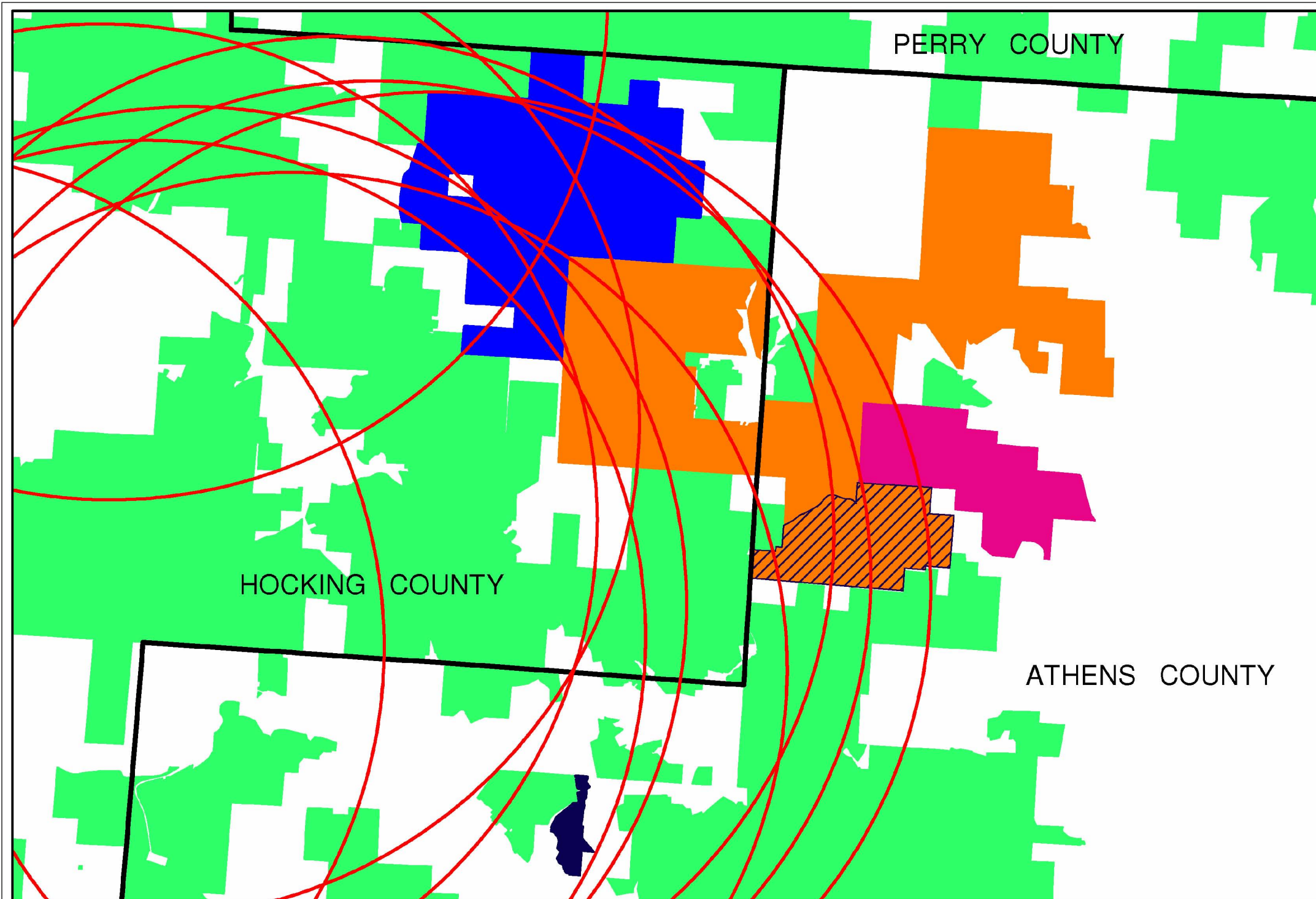


Figure 4: USGS map of Sunday Creek Coal Company #2 (SCCC2) Pooled Mitigation Site.

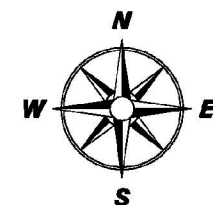




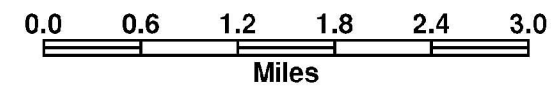
Location of the Sunday Creek Coal Company Property of Mitigation Interest within Hocking County, Ohio.



Location of Hocking County, Ohio.



- Proposed ODOT Purchase of Sunday Creek Coal Company Property for Indiana Bat and Stream Mitigation (Approximately 3,400 acres)
- Wayne National Forest Property
- ODNR Division of Wildlife Property
- Existing ODOT Sunday Creek Coal Company Stream Mitigation Site (Given to ODNR)
- Trimble Township Community Forest
- ODOT Nelsonville Mitigation Area
- 5 Mile Buffer Around Known Indiana Bat Capture
- County Boundary



Location of the Sunday Creek Coal Company property ODOT is proposing to purchase for Indiana bat and stream mitigation for impacts associated with future roadway projects. The figure shows the locations of nearby publically owned and/or protected lands and the proximity to known Indiana bat capture records.

THE OHIO DEPARTMENT OF TRANSPORTATION  
OFFICE OF ENVIRONMENTAL SERVICES  
1980 W. BROAD ST.  
COLUMBUS, OH 43223  
PRODUCED WITH GEOMEDIA PROFESSIONAL SOFTWARE  
CREATED BY: M. RAYMOND  
DATE CREATED: 04/12/11

Figure 5: Map of Sunday Creek Coal Company #2 (SCCC2) Pooled Mitigation Site.

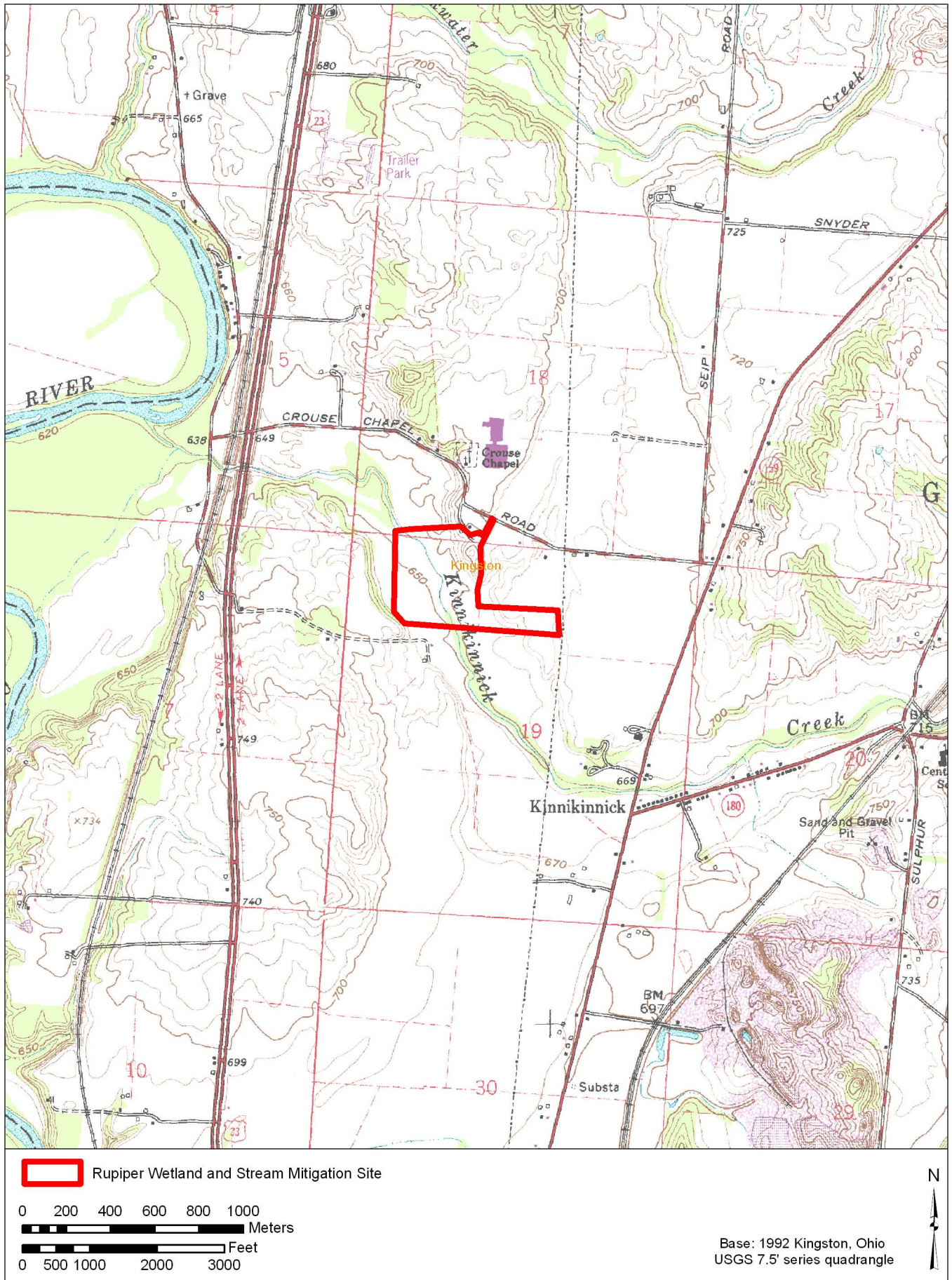


Figure 6: USGS map of proposed Rupiper Wetland and Stream Mitigation Site.

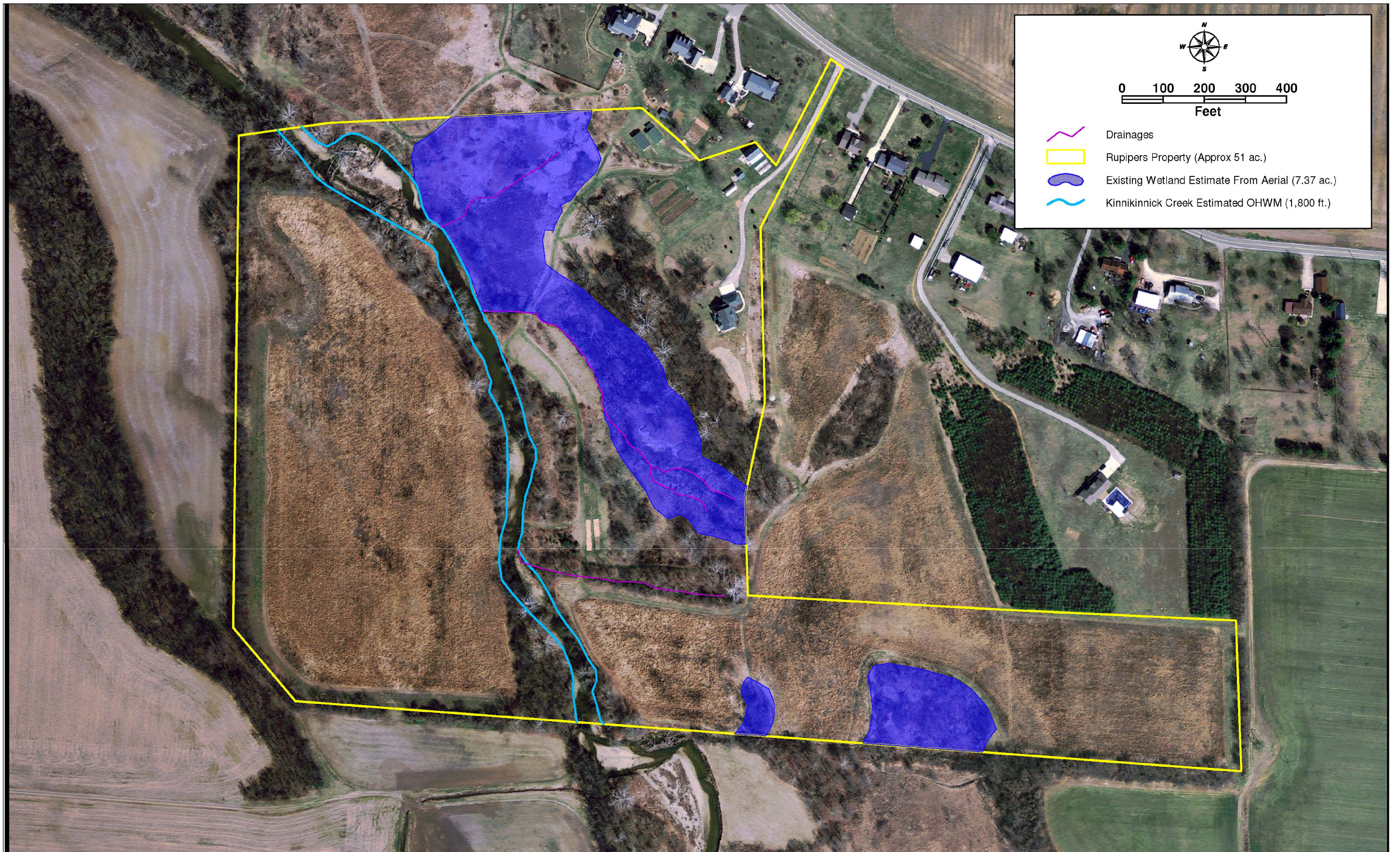


Figure 7: Aerial map of proposed Rupiper Wetland and Stream Mitigation Site.

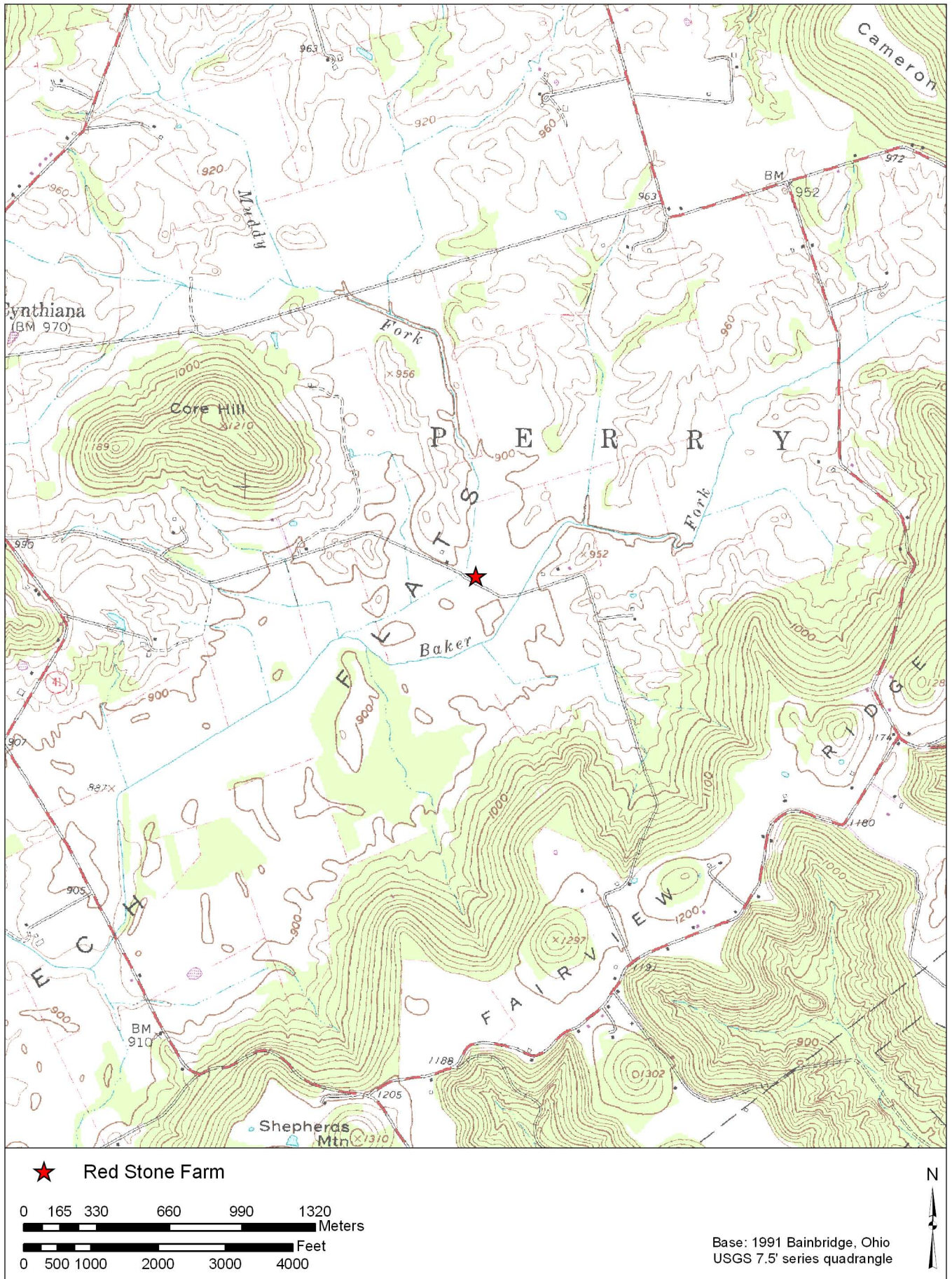


Figure 8: USGS map of Red Stone Farm.

Additional Information: Carmeuse Site

# Proposed Ohio River Basin Mitigation Bank



Carmeuse Lime & Stone, Inc.

# Proposed Ohio River Basin Mitigation Bank

- Total stream length (excluding Ohio River)
  - 44,700 linear feet
- Ohio River frontage
  - 10,700 linear feet
- Total land area (Moscow to Neville)
  - 667 acres of Carmeuse property
  - Approximately 100 acres suitable for wetlands
- Land area currently farmed
  - 300+ acres
  - Research & partnership possibilities

# Proposed Ohio River Basin Mitigation Bank

- **Proposed bank would contain the largest contiguous land area of any existing mitigation bank in Ohio**
  - ❑ 9X that of all current stream mitigation bank credits in Ohio (44,700 linear ft.)
  - ❑ Additional 10,700 linear ft. of Ohio River frontage available (bringing full potential to 11x of existing banks)
  - ❑ 100 acres of wetlands also available (1/10 of all current mitigation banks in Ohio)



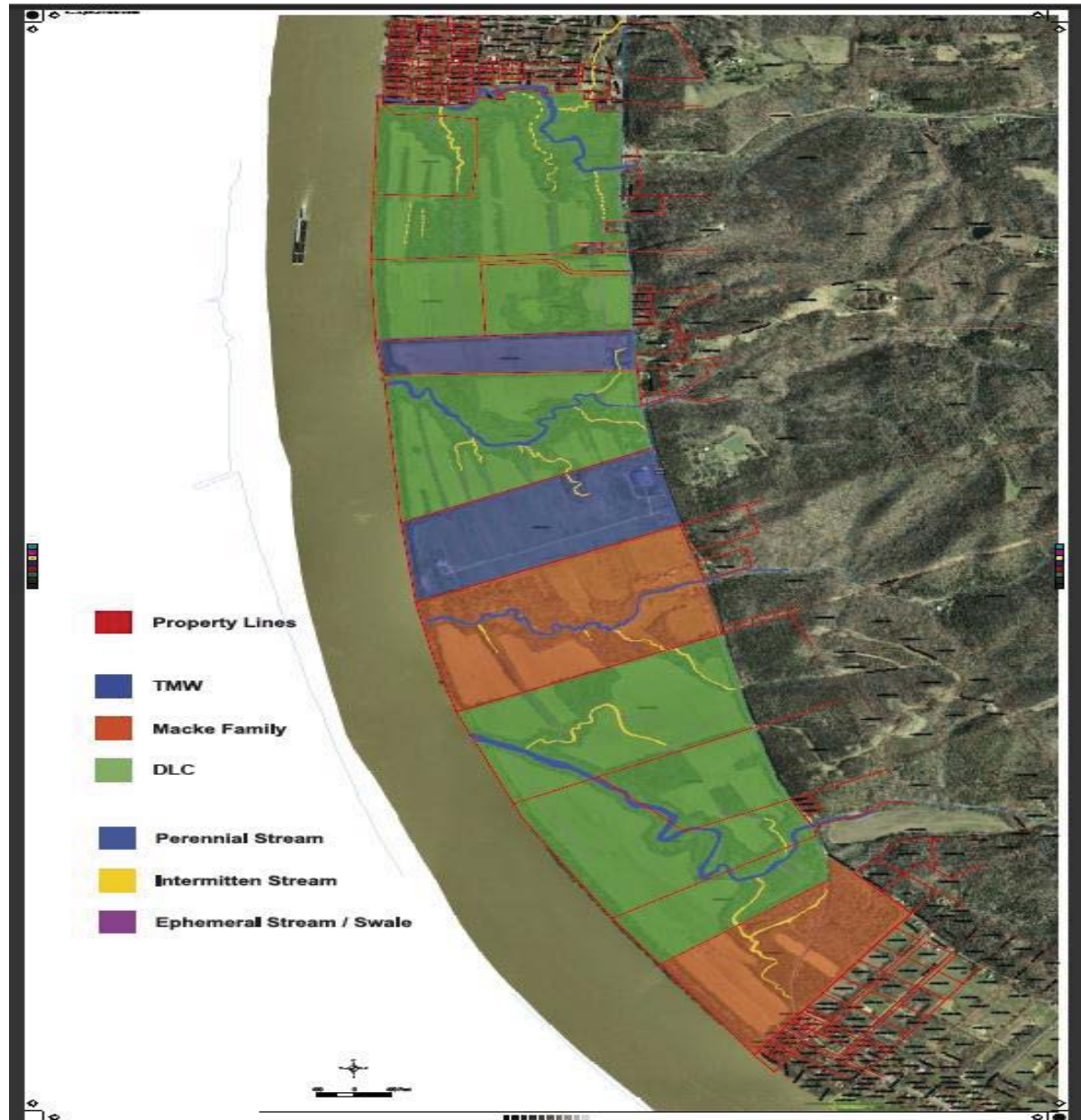
**LINEAR FOOTAGE OF STREAMS IN EACH WATERSHED ON THE PROPOSED CARMEUSE OHIO RIVER WATERSHED MITIGATION BANK PROPERTY**

<b>STREAM TYPE</b>	<b>LINEAR FOOTAGE OF STREAM</b>
<b>Carmeuse Property on Ray Run</b>	
perennial	4200
intermittent	4200
ephemeral	4600
swale	1600
<b>TOTALS</b>	<b>14,600</b>
<b>Carmeuse Property on Opossum Hollow</b>	
perennial	4000
intermittent	4200
ephemeral	3600
swale	5200
<b>TOTALS</b>	<b>17,000</b>
<b>Carmeuse Property on Maple Creek</b>	
perennial	6000
intermittent	3000
ephemeral	4100
swale	00
<b>TOTALS</b>	<b>13,100</b>
<b>Carmeuse Ohio River Frontage</b>	
perennial	10,700
<b>SUMMARY OF EACH STREAM TYPE</b>	
<b>Ohio River frontage</b>	<b>10,700</b>
<b>perennial</b>	<b>14,200</b>
<b>intermittent</b>	<b>11,400</b>
<b>ephemeral</b>	<b>12,300</b>
<b>swale</b>	<b>6,800</b>
<b>TOTALS</b>	<b>55,400</b>

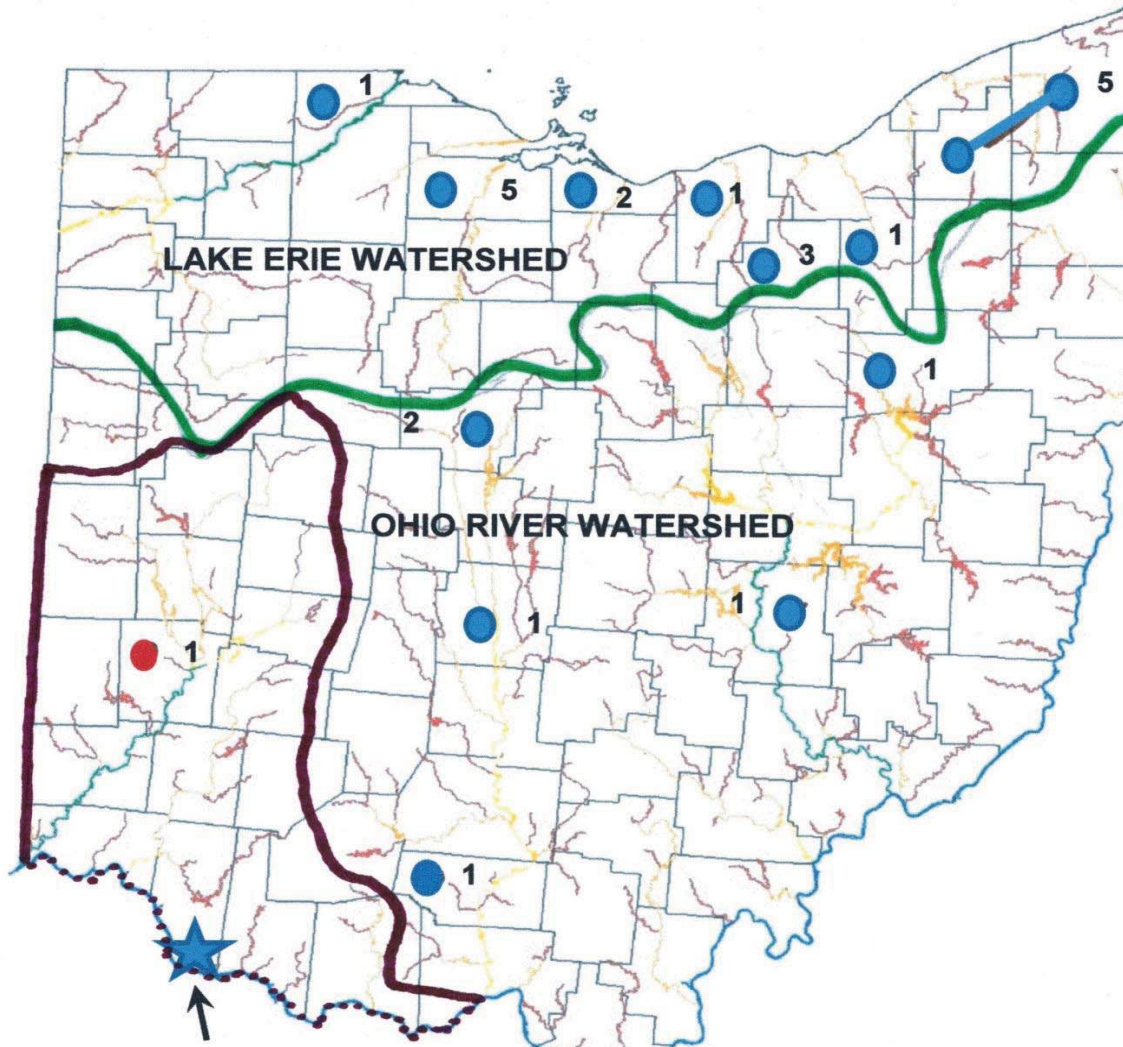
# Proposed Ohio River Basin Mitigation Bank

Carmeuse Property  
Labeled "DLC"

(Dravo Lime Company)



# SERVICE AREA FOR OHIO RIVER BASIN MITIGATION BANK



● ● OHIO COUNTIES IN WHICH MITIGATION BANKS ARE LOCATED  
(1-5) = number of banks in each county

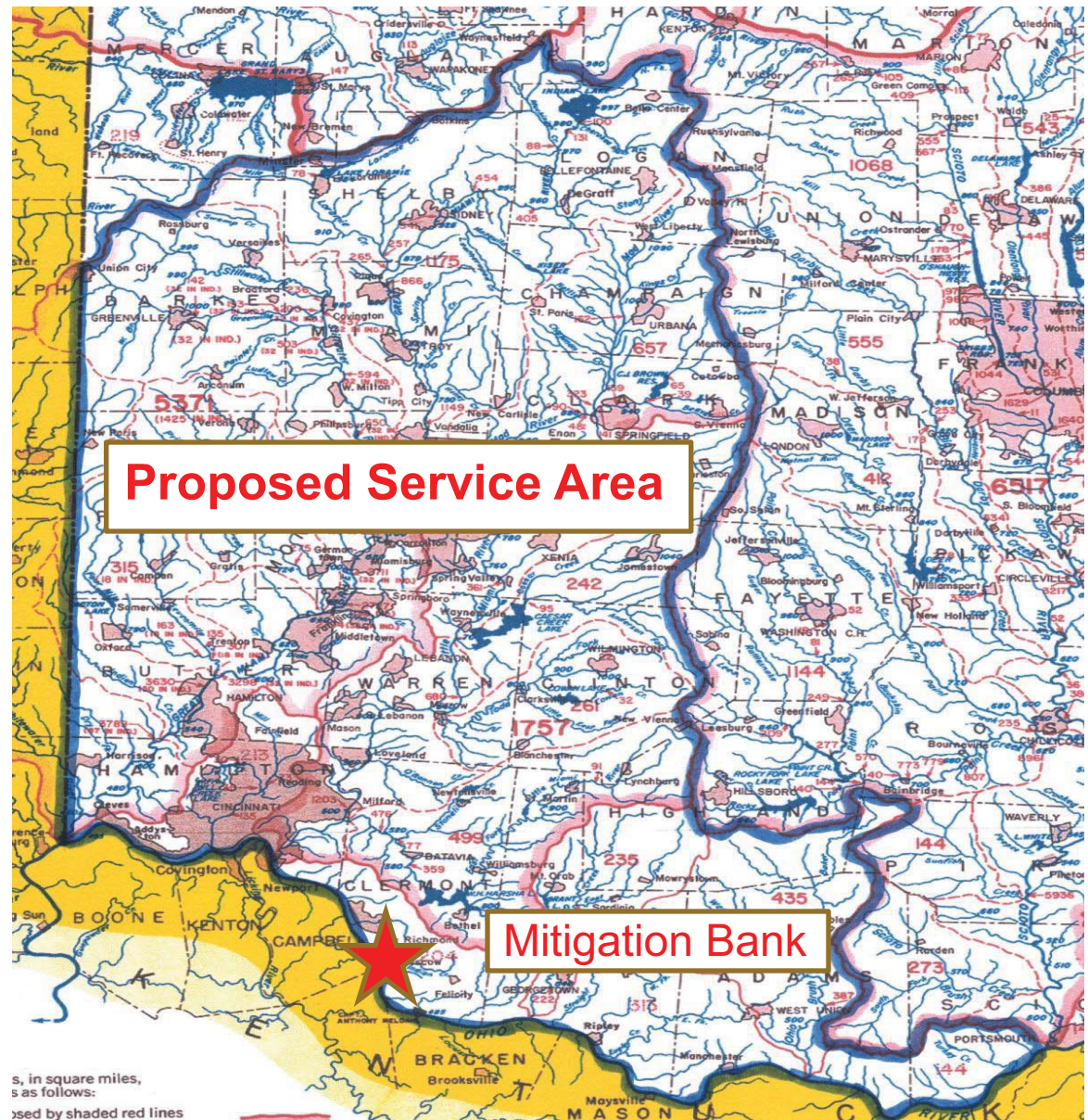
**CARMEUSE MITIGATION BANK PROPERTY**  
44,700 FT OF STREAMS + 10,700 FT OF RIVER FRONTAGE + 100 ACRES WETLANDS

Service area to include:

- Great Miami River Watershed
- Little Miami River Watershed
- Mill Creek Watershed
- White Oak Creek Watershed
- Ohio Brush Creek Watershed

Mitigation Bank Property:

- 667 ACRES TOTAL AREA
- 44,700 FT OF STREAMS
- + 10,700 FT OF RIVER FRONTAGE
- + 100 ACRES WETLANDS



# Proposed Ohio River Basin Mitigation Bank

- Project viability depends on defined/approved service area
  
- Advantages to proposed ORBMB:
  - Large contiguous, protected land area
  - Existing vegetative habitat conducive to reclamation
  - Complex network of multiple stream types
  - Upstream ecosystems not favorable to future development
  - Initial capital expenditures are negligible
  - Mitigation bank preferred to in lieu fees by Federal guidelines
  - Scarcity of existing mitigation potential in SW Ohio
  - Cooperative research opportunities

**Additional Information: Red Stone Farms Mitigation Bank**

**From:** [Queen, Ric](#)  
**To:** [Hill, Tim](#)  
**Cc:** [Earley, Adrienne](#); [Taylor, Mark A LRH \(Mark.A.Taylor@usace.army.mil\)](#)  
**Subject:** Cat 3 credits at Redstone  
**Date:** Wednesday, September 25, 2013 2:07:51 PM

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Tim & Adrienne,

I have discussed the Cat 3 credit issue with Mark Taylor, and we both have concluded that you can use the Cat 3 credits available at Redstone for Cat 3 impacts associated with the Portsmouth Bypass project. Mark said he will bring up future coordination issues along these lines with the IRT at their next meeting. Give me a call if you have any questions. Thanks, Ric

*Ric Queen*

Senior Environmental Manager  
Water Quality Certification, Isolated Wetland Permitting,  
Mitigation Compliance & Wetland Ecology Programs

Ohio EPA, Division of Surface Water  
Central Office  
Lazarus Government Center  
50 West Town Street, Suite 700  
Columbus, Ohio 43215  
614.644.2872  
[Ric.queen@epa.state.oh.us](mailto:Ric.queen@epa.state.oh.us)

**WETLAND MITIGATION PURCHASE AGREEMENT  
RED STONE FARM MITIGATION BANK**

**WHEREAS**, the discharge of dredge or fill material into waters of the United States and waters of the State of Ohio, including wetlands, is regulated pursuant to Section 404 of the Clean Water Act, 33 U.S.C. § 1344, and/or Ohio Revised Code Chapter 6111; and

**WHEREAS**, entities planning to place dredged or fill material into waters of the United States or waters of the State of Ohio, including wetlands, must comply with standards and conditions imposed by the Army Corps of Engineers (the “Corps”) and/or Ohio Environmental Protection Agency (“Ohio EPA”) including, in many cases, the mitigation of wetland impacts; and

**WHEREAS**, efforts to restore wetlands are often most successful when directed toward the establishment of large, varied wetland ecosystems rather than small, isolated wetlands which are often threatened by urban encroachment; and

**WHEREAS**, the Red Stone Farm, LLC has participated in the Interagency Review Team (“IRT”) review process and received approval from the IRT (which includes the Corps and Ohio EPA) to establish the Red Stone Farm Mitigation Bank and to sell wetland mitigation credits to entities required to mitigate for impacts to wetlands and other waters pursuant to the Section 404/401 permit process and Ohio’s Isolated Wetland Permit process; and

**WHEREAS**, the Corps and the Ohio EPA have agreed to consider the purchase of wetland mitigation credits in an appropriate service area approved by the IRT to fulfill an entity’s requirement to mitigate wetland impacts.

**THEREFORE**, \_\_\_\_\_ (“Client”) and Red Stone Farm, LLC agree they will comply with the following guidelines and procedures by which Client will purchase wetland mitigation credits from Red Stone Farm, LLC representing the restoration of wetlands in the State of Ohio which will be permanently maintained and which will serve to mitigate wetland impacts permitted under Sections 404 and 401 of the Clean Water Act and in accordance with ORC Chapter 6111.

**I. RESERVATION OF CREDITS AND PAYMENT TERMS FOR THE CLIENT**

A. Pursuant to the requirements of Sections 401 and 404 of the Clean Water Act and the regulations promulgated thereunder and/or ORC Chapter 6111, Client is obligated to mitigate for impacts to \_\_\_\_\_ acres of forested wetlands and \_\_\_\_\_ acres of impact to non-forested wetlands at its \_\_\_\_\_ site located at \_\_\_\_\_, \_\_\_\_\_ in \_\_\_\_\_ County, Ohio. Based on the sale price of \$\_\_\_\_\_ per acre of mitigation credit, the Client hereby agrees to pay Red Stone Farm, LLC the amount of \$\_\_\_\_\_ in consideration for the purchase of \_\_\_\_\_ acres of forested wetlands and \_\_\_\_\_ acres of non-forested wetlands mitigation credits at the Red Stone Farm Mitigation Bank. Red Stone Farm, LLC will reserve the necessary wetland credits (acreage) for a period of 180 days (the “Reservation Period”) upon receipt of: a signed Purchase Agreement, record of the LRH or OEPA permit #: \_\_\_\_\_, and a deposit payment of \$\_\_\_\_\_ (equal to 10% of the total sale price). If Client has not received the necessary approvals pursuant to Section 404 and/or 401 of the Clean Water Act or the Ohio Isolated Wetland Permit program during the Reservation Period, Red Stone Farm, LLC will extend the Reservation Period for an additional 180 days upon receipt of an additional 10% deposit. If the Reservation Period must be extended a third time, the price of credits may be adjusted by Red Stone Farm, LLC to reflect market value. The Reservation Period will not be extended a fourth time. Payment of deposits must be made within 10 days of the due date. Thereafter, a penalty of 2% of the amount due will be levied every 30 days. Once the Reservation Period expires, the wetlands credits will not be reserved for Client but will be available on a first-come basis to all Red Stone Farm, LLC clients.



Please complete the following Credit Calculation Table to confirm credits required:

<b>Impacted Wetland Category</b>	<b>Acres Impacted</b> <i>Completed by Client</i>	<b>Mitigation Ratio</b>	<b>Credits Required</b> <i>(round to nearest tenth acre)</i> <i>Completed by Client</i>
1 non-forested/forested			
2 non-forested			
2 forested			
3 non-forested			
3 forested			
1 isolated non-forested/forested			
2 isolated non-forested			
2 isolated forested			

B. The Client will provide copies of the granted Sections 404 permit from the Corps, the granted Section 401 Water Quality Certification from OEPA, if needed, and the Isolated Wetland Permit from OEPA, if needed, to Red Stone Farm LLC to demonstrate regulatory approval for the Red Stone Farm Wetland Mitigation Bank to meet wetland requirements for the development site designated in paragraph 1A.

C. The Client and Red Stone Farm, LLC are aware that the Section 404 permit process, and, if necessary, the Section 401 Certification process, or the Ohio Isolated Wetland Permit program must be completed by the Corps and/or Ohio EPA and that this Wetland Mitigation Agreement will be used by the Corps and/or Ohio EPA to document the Client’s mitigation plan. Therefore, the Client’s deposit payment(s), as defined in paragraph 1A of this agreement, will be held by Red Stone Farm, LLC until such time as the Corps and/or Ohio EPA issues the requested permits.

D. If within the Reservation Period the Corps or Ohio EPA denies the Client’s request for a permit for the wetland impact or if the Client elects to withdraw their permit application, Red Stone Farm, LLC will refund the Client’s deposit and provide written notification of the termination of this Agreement to the Corps. If the Reservation Period expires, the Client shall forfeit their deposit payment(s) to Red Stone Farm, LLC. The Client must provide written notification to Red Stone Farm, LLC of the denial of its permit or its intention to withdraw its permit application prior to the expiration of the Reservation Period in order to obtain a refund of its deposit.

**E. Within thirty (30) days of issuance of the Clean Water Act Section 404 permit and, if necessary, the Section 401 Certification or Ohio Isolated Wetland Permit, the Client will tender the outstanding balance of the cost of the mitigation credits.** The Client will also provide Red Stone Farm, LLC with a copy of the Section 404 permit and, if applicable, the Section 401 Certification or the Ohio Isolated Wetland Permit or other approval to proceed. Final receipt for payment in full will not be issued until copy of the above permit is received. If payment is not received by Red Stone Farm, LLC by the end of the thirtieth day after the Permit Issuance Date, the Client will be considered to be in Default of Payment. The Permit Issuance Date is the date of the wetland fill permit (Isolated wetlands Permit, Clean Water Act Section 401/404 permits) issued for the projects. If more than one wetland fill permit is required

for the project identified in this agreement then the date of the most recent permit shall be considered as the Permit Issuance Date.

F. Should the Client be in Default of Payment for greater than 30 days, Red Stone Farm, LLC will have the right to sell the credits reserved by this agreement to other clients on a first come first serve basis or to assess a late payment penalty of \$300 or 2.0% interest per month, whichever is greater, on the outstanding balance from the Permit Issuance Date for each month or portion thereof until payment is received in full. It is the sole responsibility of the Client to ensure that they adhere to the terms of this agreement, including timely payment, and to the terms of permit(s) issued to it for their project. If the Client is in Default of Payment for greater than 90 days and Red Stone Farm, LLC elects to sell the reserved credits to a different client, the Client, the Corps and Ohio EPA shall be notified by Red Stone Farm, LLC that this agreement has been terminated and the credits are no longer held in reserve for the Client. The Client's deposit payment will be forfeited to Red Stone Farm, LLC at this time and may be applied to future mitigation purchases at the discretion of Red Stone Farm, LLC.

G. The Client shall have no other obligation other than the payments detailed in this agreement for future maintenance or remedial measures of the Red Stone Farm Mitigation Bank.

## **II. OBLIGATIONS OF RED STONE FARM, LLC**

A. Red Stone Farm, LLC offers for sale mitigation credits at the Red Stone Farm Mitigation Bank which have been approved by the IRT to mitigate for certain wetland impacts.

B. In consideration for the payment of \$\_\_\_\_\_ (plus penalties, if applicable, as per paragraph I.F of this Agreement) by Client, Red Stone Farm, LLC hereby agrees to provide \_\_\_\_\_ acres of wetlands mitigation credit at the Red Stone Farm Mitigation Bank for the benefit of Client hereunder. Red Stone Farm, LLC shall bear responsibility for assuring the restoration and the monitoring and maintenance of the wetlands as provided herein and in the *Red Stone Farm Wetland Mitigation Bank: Banking Instrument* dated January 2007.

C. Red Stone Farm, LLC will provide written confirmation to the Client that full payment has been made for the purchase of wetland mitigation credits specified in paragraphs IA and IB of this agreement.

D. Client may submit the executed copy of this Agreement to the Corps and/or Ohio EPA with their permit application in order to document its commitment to mitigate anticipated wetland impacts.

**RED STONE FARM, LLC**

Signed By: \_\_\_\_\_  
Drausin Wulsin, Manager

Date: \_\_\_\_\_

**CLIENT** \_\_\_\_\_

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

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

**CLIENT'S CONSULTING FIRM**

Firm Name: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

**APPENDIX E: ADJACENT PROPERTY OWNER INFORMATION**

**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

<b>AUDITOR PARCEL NUMBER(s)</b>	<b>OWNER</b>	<b>MAILING ADDRESS</b>	<b>MAILING ADDRESS 2</b>	<b>Phase</b>
08-0642.000, 24-0015.001, 24-0357.000, 24-0015.000	Alan Bray	9 Grubb Rd	Chillicothe, OH 45601	Phase 2
10-0975.000	Anglea S. Yeagle	4009 Lucasville Minford	Minford, OH 45653	Phase 2
08-0846.000	Bert and Carla Carter	284 Thames Ct	London, OH 43140	Phase 2
08-0882.000	Billy Thayer	P.O. Box 806	Lucasville, OH 45648	Phase 2
24-1624.000	Board of County Commissioners	602 7th St	Portsmouth, OH 45662	Phase 2
10-0826.000	Brian and Brenda Burchett	150 Flowers Ison Rd	Minford, OH 45653	Phase 2
24-0413.000, 24-0415.000	Carl Lyon Revocable Living Trust	11142 Pinewood Dr	Lucasville, OH 45648	Phase 2
08-0800.000	Charles Dean Schuler	178 Brookside Dr	Lucasville, OH 45648	Phase 2
08-0800.005	Curtis and Glenna Hannah	1559 Lucasville Minford Rd	Lucasville, OH 45648	Phase 2
08-0355.000	Danny E. Flowers	3036 Lucasville Minford	Lucasville, OH 45648	Phase 2
24-0297.005, 24-0330-000, 24-0337-000	Donald and Suzanne Walters	627 Fairground Rd	Lucasville, OH 45648	Phase 2
08-0883.000	Donald Stambaugh	791 Morris Lane Blue Run	Lucasville, OH 45648	Phase 2
08-0432.000	Forrest and Evelena Bauer	P.O. Box 466	Lucasville, OH 45648	Phase 2
24-0056.000	Gahm Properties, LLC	1200 Fairground Rd	Lucasville, OH 45648	Phase 2
08-0116.000	George Jr. and Amanda Mayo	1114 Flatwood Fallen Timber	Lucasville, OH 45648	Phase 2
24-0297.000, 24-0297.002, 24-0302.000, 24-0302.004	Howard Brothers Farms, LLC	60 Caldwell Rd	Lucasville, OH 45648	Phase 2
24-0151.000	Merina J. Howard	801 Thomas Hollow Rd	Lucasville, OH 45648	Phase 2
08-0576.000	J and J Shelton Family, LLC	272 Morris Lane Blue Run	Lucasville, OH 45648	Phase 2
10-0998.000	James and Merina Howard	801 Thomas Hollow Rd	Lucasville, OH 45648	Phase 2
08-1649.000	Jeffrey and Deborah Lewis	1969 Thomas Hollow Rd	Lucasville, OH 45648	Phase 2
08-0111.000	Jerry and Lisa Buckler	100 Cobblestone Ct	Lucasville, OH 45648	Phase 2
08-0082.000	Joseph C Bennett	65 Timberlane Dr	Chillicothe, Oh 45601	Phase 2
08-0044.000	Joseph Ramsey	899 Schuler Hollow Rd	Lucasville, OH 45648	Phase 2
08-0066.000	Lorenzo and Amanda Bentley	550 Flower Ison Rd	Minford, OH 45653	Phase 2
08-0159.000, 08-0160.000	Mary Jane and Stephen Burchett	5474 State Rt. 348	Blue Creek, OH 45616	Phase 2
08-0517.000, 08-0518.000, 08-0589.000, 08-0592.000	Norman Meadows Revocable Living Trust	5698 Lynn St	Franklin, OH 45005	Phase 2

**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

<b>AUDITOR PARCEL NUMBER(s)</b>	<b>OWNER</b>	<b>MAILING ADDRESS</b>	<b>MAILING ADDRESS 2</b>	<b>Phase</b>
08-0874.000, 08-0875.000	Mike Bradley	2230 Rose Ave	West Portsmouth, OH 45663	Phase 2
08-0803.000, 08-1622.000	Paul and Leanne Fuhrmann	658 Hansgen Morgan Rd	Wheelersburg, OH 45694	Phase 2
08-0978.000	Phyllis Wills and Lanette Wagner	198 Tremont Dr	Lucasville, OH 45648	Phase 2
24-0551.000, 24-0552.000	Randy and Betty Spriggs	P.O. Box 1255	Lucasville, OH 45648	Phase 2
24-0014.000, 24-0014-001	Randy Anderson ET AL	457 A Kinstler Rd	Lucasville, OH 45648	Phase 2
10-1819.000, 10-1897.000, 10-1898.000	Raymond and Patricia Bryan	426 Flowers Ison Rd	Minford, OH 45653	Phase 2
24-0297.004, 24-0298.000	Raymond P Balzer Revocable Trust	708 Fairground Rd	Lucasville, OH 45648	Phase 2
08-0676.000, 08-0677.000	Richard Thayer	P.O. Box 684	Lucasville, OH 45648	Phase 2
08-0883.001	Robert and Donna Adkins	1069 Morris Lane Blue Run	Lucasville, OH 45648	Phase 2
10-0722.000	Ruth Butcher Miller	362 Flowers Ison Rd	Minford, Oh 45653	Phase 2
24-0300.003, 24-1669.000	Scioto County Agricultural	Rt. 3	Lucasville, OH 45648	Phase 2
08-0063.000, 08-0065.000, 08-0951.000, 08-0953.002	Scott and Ronnie West	311 Walnut St Apt 1b	Waverly, OH 45690	Phase 2
08-0691.000, 08-0692.000	Shirley P Dailey	312 Church St	Chillicothe, OH 45601	Phase 2
24-0297.003	Southern Ohio Management Co	PO Box 184	Beaver, OH 45613	Phase 2
08-0486.000	Steven R. Reinhardt	1030 Flatwood Fallen Timber Rd	Lucasville, OH 45648	Phase 2
08-0684.000	Virgil and Cheryl Laxton	2869c Lucasville-Minford Rd	Lucasville, OH 45648	Phase 2
24-0437.000	Waller Brothers Partnership	P.O. Box 157	McDermott, OH 45652	Phase 2
24-0193.000, 24-0196.000, 24-0197.000	Wesley and Mildred Gammon	368 Kintsler Rd	Lucasville, OH 45648	Phase 2
08-0979.000	Witt Revocable Living Trust	690 Blue Run Rd	Minford, OH 45653	Phase 2
24-0230.000	Shirley E Newton	768a Fairground Rd	Lucasville, OH 45648	Phase 2
08-0293.000	Linda Grace Cox Trust	2629a Lucasville Minford	Lucasville, OH 45648	Phase 2
10-0937.000, 10-0975.001, 10-0975.002, 10-0998.001, 10-0998.002, 08-0900.000	State of Ohio	4800 Parkway Dr	Mason, OH 45040	Phase 2
24-0073.000, 24-0111.000	Larry Turner	120 White Lane	Lucasville, OH 45648	Phase 2
07-0450.000	Andrew Eldridge	4734 Dehner St.	Portsmouth, OH 45662	Phase 3
07-2522.000	Betty Jane Treadway	1601 Warren Hill Rd.	Minford, OH 45653	Phase 3

**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

<b>AUDITOR PARCEL NUMBER(s)</b>	<b>OWNER</b>	<b>MAILING ADDRESS</b>	<b>MAILING ADDRESS 2</b>	<b>Phase</b>
07-2522.000	Betty Jane Treadway	1564B Dutch Ridge Rd.	Sciotoville, OH 45662	Phase 3
07-1604.000, 07-1605.000, 34-0218.000, 34-0219.000, 34-0231.000	Bluemont Corporation	839 Gallia St.	Portsmouth, OH 45662	Phase 3
07-1252.000	Brian and Julie Alexander	6117 State Route 335	Portsmouth, OH 45662	Phase 3
07-0962.000	Carl and Mark Davis	771 Stout Hollow Rd.	Sciotoville, OH 45662	Phase 3
34-2842.000	City of Portsmouth	728 2nd St.	Portsmouth, OH 45662	Phase 3
07-0538.001	Craig and Gayle Veach	3187 White Gravel Rd.	Minford, OH 45653	Phase 3
07-4040.000	CSX Transportation Inc, C/o Tax Dept #C910	500 Water St.	Jacksonville, FL 32202	Phase 3
07-2514.000	Dale Gampp	3567 State RT 335	Portsmouth, OH 45662	Phase 3
07-2520.000	David and Sandra Radar	PO BOX 282	Wheelersburg, OH 45694	Phase 3
16-1086.000	David C Goddard	1721 Dogwood Ridge	Wheelersburg, OH 45694	Phase 3
07-0313.000	David K and Marsha K Coriell	845 Eunice Ave.	Sciotoville, OH 45662	Phase 3
16-0837.000, 16-0838.000	David McGuire	12801 State Rt. 104	Lucasville, OH 45648	Phase 3
07-0188.000	Don Hadsell	230 Rowe Lane	Wheelersburg, OH 45694	Phase 3
07-0296.000, 07-0297.000	Dorothy Janice Pfeifer	5715 County Rd 28	Edison, OH 43320	Phase 3
07-0813.000	Doug and Eric McLaughlin	14 Gampp Lane	Portsmouth, OH 45662	Phase 3
16-0737.000, 16-0738.000	Eric and Laura Stiltner	75 A Pershing Ave.	Sciotoville, OH 45662	Phase 3
07-1594.000, 07-1595.000, 07-2373.000, 34-2377.000	Gary and Annette Bennett	5559 Auburn Ave.	Portsmouth, OH 45662	Phase 3
34-0220.000, 16-0450.000, 16-0450.000, 34-0159.000, 34-0160.000	Gary and Faye Bennett	144 Highland Dr.	Portsmouth, OH 45662	Phase 3
07-0803.000, 07-0804.000	Gertrude B. McKenzie, Trustee of Gertrude B. McKenzie Revocable Trust	7570 State Route 335	Portsmouth, OH 45662	Phase 3
07-1473.000, 07-1474.000	Harold G Williams	59 Coriell Rd.	Portsmouth, OH 45662	Phase 3

**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

<b>AUDITOR PARCEL NUMBER(s)</b>	<b>OWNER</b>	<b>MAILING ADDRESS</b>	<b>MAILING ADDRESS 2</b>	<b>Phase</b>
07-0502.000,07-0504.000, 07-0505.000	Harold Gampp	222 Gampp Lane	Portsmouth, OH 45662	Phase 3
07-0607.000, 07-0610.000	Heer and Co	839 Gallia St.	Portsmouth, OH 45662	Phase 3
34-0355.000	Herschel Burke	131 Pershing Ave.	Portsmouth, OH 45662	Phase 3
07-0203.000	James and Sylvia Munion	398 Dutch Ridge Rd.	Portsmouth, OH 45662	Phase 3
34-1345.000	James Mickles	190 Slocum Rd.	Portsmouth, OH 45662	Phase 3
34-2249.000	Jennifer and Tyler Riggs	6204 Gallia St.	Sciotoville, OH 45662	Phase 3
07-2578.000	Jesse Glass	2423 Rolling Hill Dr.	Fayetteville, NC 28304	Phase 3
07-2801.000	Jesse Glass	2423 Rolling Hill Dr.	Fayetteville, NC 28304	Phase 3
07-2578.000	Jesse Glass	2655 Cypress Head Trail	Oviedo, FL 32765	Phase 3
07-2801.000	Jesse Glass	2655 Cypress Head Trail	Oviedo, FL 32765	Phase 3
07-0358.000	John Adams	183 Rockport Dr.	Greenup, KY 41144	Phase 3
34-2613.001	John and Candace McHenry and Sheela Gast	7300 E. Front St.	Portsmouth, OH 45662	Phase 3
34-1127.000	Joseph and Victoria Hood	5625 Stewart St.	Sciotoville, OH 45662	Phase 3
16-0453.000, 16-0752.000	Judith Dalton	2275 Blue Run Rd.	Lucasville, OH 45648	Phase 3
07-0048.001	Julie Warnock	495 Dutch Ridge Rd.	Portsmouth, OH 45662	Phase 3
07-2554.000	Kenneth Coriell Revocable Trust	293 Coriell Rd.	Portsmouth, OH 45662	Phase 3
16-1512.000	Landon and Tonya Evans	472 Hastings Hill Rd.	Portsmouth, OH 45662	Phase 3
07-0454.000,07-0455.000, 07-2553.000,07-2555.000	Linda and Lynn Wessel	375 B Coriell Rd.	Portsmouth, OH 45662	Phase 3
16-0036.000, 16-0037.000, 34-0235.000, 34-0236.000, 34-0238.000, 34-0949.000	Mark Fitzgerald	P.O. Box 4123	Sciotoville, OH 45662	Phase 3
07-0538.000	Mark Jeffrey and Teresa Ann Potts	P.O. Box 357	Minford, OH 45653	Phase 3
16-0439.000	Mark Scott	51 Highland Ave.	Portsmouth, OH 45662	Phase 3
07-0182.000	Mary Buckley	4122 Bonser Rd.	Portsmouth, OH 45662	Phase 3
07-1193.000	Melissa Munion	790 Dutch Ridge Road, Portsmouth, OH 45662	Portsmouth, OH 45662	Phase 3
07-0597.000	Merritt and Helen Hayward	5077 State Rt. 335	Portsmouth, OH 45662	Phase 3
34-1658.000	Michael and Cheryl Musser	97 Pershing Ave.	Portsmouth, OH 45662	Phase 3



**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

<b>AUDITOR PARCEL NUMBER(s)</b>	<b>OWNER</b>	<b>MAILING ADDRESS</b>	<b>MAILING ADDRESS 2</b>	<b>Phase</b>
07-0159.000, 07-0160.000	Michael Blackburn	862 Dutch Ridge Rd.	Portsmouth, OH 45662	Phase 3
16-0306.000	Michael Rider and Gail Law	2 Nurad Rd.	Athens, OH 45701	Phase 3
07-2394.000	Pam Spurgeon	102 Highland Dr.	Portsmouth, OH 45662	Phase 3
34-0353.000, 34-0354.000	Patricia Burke	82 Pershing Ave.	Sciotoville, OH 45662	Phase 3
34-2240.000	Paul Soltis	18 Fieldstone Dr.	Woburn, MA 01801	Phase 3
07-0313.001, 07-0312.000	Raymond Coriell	189B Coriell Road	Portsmouth, OH 45662	Phase 3
07-0873.000	Richard Bobst	6703 State Route 335	Portsmouth, OH 45662	Phase 3
16-1152.000	Riverview Baptist Church	200 Hastings Hill Road	Portsmouth, OH 45662	Phase 3
34-0170.000, 34-0171.000, 34-0351.000, 34-0352.000	Robert and Mary Lou Dials	74 Pershing Ave.	Portsmouth, OH 45662	Phase 3
07-0500.000	Ronald and Sanda Gampp	3553 State Rt. 335	Portsmouth, OH 45662	Phase 3
07-1440.000, 07-1441.000	Ronald Coriell	76 Shump Rd.	Portsmouth, OH 45662	Phase 3
07-0132.000, 07-0133.000	Ronald Coriell and Edith Kitzler Trustee	76 Shump Rd.	Portsmouth, OH 45662	Phase 3
34-0193.000, 34-1944.000, 34-2333.000, 34-2875.000	Ronda Sturgill	447D State Rt. 140	Sciotoville, OH 45662	Phase 3
16-0931.000	Rose O'Brien, C/o Pat Turner	3091 Mill Vista Road	Littleton, CO 80123	Phase 3
07-0134.000	Samuel and Jill Williams	482 Stout Hollow Rd.	Sciotoville, OH 45662	Phase 3
34-1126.000	Scott and April Feeman	5539 Endicott Ave.	Portsmouth, OH 45662	Phase 3
07-0628.000	Sue Ann Coriell Revocable Trust	293 Coriell Rd.	Portsmouth, OH 45662	Phase 3
07-0415.000	Tina Louise Eldridge	1581 Hinkley Hollow Rd.	Portsmouth, OH 45662	Phase 3
16-0974.000	Vernon and Cora Reese Trustees of Reese Family Trust	3018 Tick Ridge Rd.	Wheelersburg, OH 45694	Phase 3
07-0742.000	Victor and Elsie Knore	1144 Winter Haven Way	Lexington, KY 40509	Phase 3
16-0549.000	William and Betty Stiltner	75 Pershing Ave.	Portsmouth, OH 45662	Phase 3
17-1661.000, 17-1662.000, 17-1663.000	William and Hilda Spence	256 Conroy Dr.	Sciotoville, OH 45662	Phase 3
07-2521.000	William Bowling	15641 Dutch Ridge Rd.	Portsmouth, OH 45662	Phase 3
07-0180.000	William Bryan	1928 Mimosa TR.	Florence, KY 41042	Phase 3
07-2395.000, 07-2396.000, 07-2397.000, 16-1095.000, 16-1096.000	Wilma Walters	120 Highland Dr.	Portsmouth, OH 45662	Phase 3

**Adjacent Property Owners  
Phases 2 & 3 Portsmouth Bypass**

AUDITOR PARCEL NUMBER(s)	OWNER	MAILING ADDRESS	MAILING ADDRESS 2	Phase
34-0492.000	Dennis and Joyce Jordan	NO ADDRESS		Phase 3
34-1077.000	Gregory Miller and Florence Soltis	NO ADDRESS		Phase 3

**APPENDIX F: AGENCY COORDINATION**



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / FAX (614) 416-8994

September 12, 2013

Timothy M. Hill, Administrator  
Office of Environmental Services  
Ohio Department of Transportation  
P.O. Box 899  
Columbus, OH 43216-0899

TAILS: 03E15000-2012-I-0581 (PID 19415)

Attn: Michael Pettegrew, Matthew Raymond

RE: **SCI-823-0.00 Portsmouth Bypass**, Phase 2 and Phase 3 (PID 19415)

Dear Mr. Hill,

This is in response to your May 20, 2013 letter received in our office on July 9, 2013 requesting U.S. Fish & Wildlife Service (Service) concurrence on your Endangered Species Act (ESA) section 7(a)(2) effects determinations for federally listed species within the project area of Phases 2 and 3 of the SCI-823-0.00 Portsmouth Bypass project (PID 19415). The overall Portsmouth Bypass project proposes to establish a 17-mile long bypass around the city of Portsmouth in Scioto County. The bypass is proposed to be constructed in three phases, with Phase 1 (the middle portion of the 3-phase project) to be built first. We have been advised that ODOT and the Federal Highway Administration (FHWA) have determined that each phase of the Bypass project has independent utility. The Ohio Department of Transportation (ODOT) has estimated that the construction schedule for the entire project is approximately 13 years.

Due to a six-year delay in implementation of the project, following issuance of the 2005 Final EIS, ODOT re-evaluated the project impacts in 2011. The Service concurred with ODOT's effects determinations for all federally listed species in the overall project area, as proposed, in March 2012. We understand that the project area and impacts within the Phase limits have not changed since the 2012 consultation. However, your letter indicates that the estimated corridor width for Phase 2 and Phase 3 of the project has been increased to represent the widest possible corridor that may be impacted. We understand that the project will now be contracted as design-build; therefore, the exact construction limits are unknown at this time. The Service appreciates ODOT coordinating the "worst case" impact scenario in consideration of the design-build contract.

The forest habitat impacts, estimated at approximately 316 acres in 2012, are now estimated at approximately 685 acres. This represents an increase of approximately 115 feet to each side of the previously coordinated corridor. This change in corridor width will not require additional survey effort for detection of the **Indiana bat** (*Myotis sodalis*). Therefore, the negative survey results for that species, coordinated with our office in March 2012, are still valid. *Please note, however, that additional surveys*

**may be required for any Phase of the project (Phase 1, Phase 2, or Phase 3) that has not been implemented by April 1, 2014.**

As stated in your earlier coordination with us, we understand and appreciate ODOT's commitment to conduct tree clearing activities only between September 30 and April 1 to avoid direct take of other bat species that occur in the project area during their summer brood-rearing season. **Please note that** no tree clearing should occur until both the U.S. Army Corps of Engineers and Ohio EPA anticipate that issuance of both a 404/NWP and a 401 permit authorizing the action is imminent. This will ensure that clearing will be limited to the footprint of the alternative that is ultimately permitted, and that no unnecessary clearing will occur.

In addition to the federally endangered Indiana bat, the following federally listed species could be present within the Portsmouth Bypass project area: **sheepnose mussel** (*Plethobasus cyphus*), **running buffalo clover** (*Trifolium stoloniferum*), **snuffbox mussel** (*Epioblasma triquetra*), **rayed bean** (*Villosa fabalis*), **fanshell** (*Cyprogenia stegaria*), **northern riffleshell** (*Epioblasma torulosa rangiana*), **pink mucket**, **pearlymussel** (*Lampsilis abrupta*), **clubshell** (*Pleurobema clava*), all federally endangered species; **small whorled pogonia** (*Isotria medeoloides*) and **Virginia spiraea** (*Spiraea virginiana*), both federally threatened plant species; and the **bald eagle** (*Haliaeetus leucocephalus*), **timber rattlesnake** (*Crotalus horridus*), and **eastern hellbender** (*Cryptobranchus a. alleganiensis*), federal species of concern. As referenced above, surveys required for detection of these species were conducted in 2011, and the Service concurred with ODOT's effects determinations based on those surveys in March 2012. Both the surveys and our concurrence are still valid at this time.

As we have discussed during recent meetings, additional bat species may be proposed for federal listing or may become federally listed under the ESA prior to implementation of one or more of the Portsmouth Bypass project phases. Once a proposal or final rule has been published in the Federal Register, conferencing or formal consultation (respectively) with the Service may be required under section 7 of the ESA for projects that *may affect* these species. Although the bat surveys conducted in 2011 did not detect the presence of Indiana bats, 121 bats representing 6 species were captured. We appreciate ODOT's desire to coordinate as soon as possible with the Service should any of these 6 species become officially proposed as federally threatened or endangered prior to or during the course of this action.

Please be aware that the Service is concerned with the following types of associated project activities: 1) borrow sites, 2) burn sites, 3) construction debris waste disposal areas, 4) concrete and asphalt plants, 5) haul roads, 6) stockpiling areas, 7) staging areas, 8) material storage sites, and 9) maintenance. The Service recognizes that it is FHWA's policy not to intervene in the site selection for these activities, but instead consider it the responsibility of the selected contractor to comply with federal environmental statutes and regulations, as stated in Section 107.10 (Protection and Restoration of Property) of the ODOT 2013 CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) manual:

The Contractor is responsible for the preservation of all public and private property impacted by the Contractor's operations.

Do not create staging areas, store materials and equipment, or borrow or waste materials in areas labeled as environmental resource areas in the Contract Documents. All properties to be utilized by the Contractor outside the project Right-of-Way must be cleared for all environmental resource impacts prior to the beginning of work. Environmental resources include but may not be limited to:

1. Cultural Resources
  - a. Buildings, structures, objects, and sites eligible for or listed on the [National Register of Historic Places](#)

- b. Historic or prehistoric human remains, cemeteries, and/or burial sites (pursuant with ORC 2909.05 and 2927.11)
- 2. Ecological Resources
  - a. Wetlands
  - b. Streams
  - c. Wooded areas with trees to be removed in excess of 8 inches diameter at breast height
- 3. Public Lands
  - a. Lands meeting the criteria of 49 U.S.C. 303, 23 CFR 771.135: 4(f).
  - b. Lands meeting the criteria of 16 U.S.C. 4601-4, 36 CFR 59.1: 6(f).
- 4. FEMA Mapped 100 year Floodplains
- 5. Hazardous Waste Areas

Except for locations utilized specifically for parking of equipment between workdays for maintenance type projects, all areas proposed to be utilized by the Contractor outside the project construction limits shall be reviewed by environmental contractor(s) that are prequalified by the Department for each environmental resource. This exception applies to projects with "maintenance" in the project description. Have the consultant(s) certify that the proposed site to be utilized for the contractor will not impact:

- 1. Cultural Resources
- 2. Ecological Resources
- 3. Public Lands
- 4. FEMA Mapped 100 year Floodplains
- 5. Hazardous Waste Areas

Provide all documentation and the consultant certification to the Office of Environmental Services with a copy to the Engineer.

Should the areas proposed for use by the Contractor outside the project right of way limits contain environmental resources the Contractor is responsible to the Department for all environmental clearances and permits prior to the beginning of work.

It is the position of FHWA that the contractor is responsible for consulting with the Service for impacts to federally listed species and federally designated critical habitats for these activities. The Service recommends that ODOT and FHWA ensure that the contractor(s) awarded the SCI-823 Portsmouth Bypass project understands their responsibility to be in compliance with the Endangered Species Act. The Service also respectfully requests that ODOT OES provide our office with copies of the documentation and consultant certification referenced in the CMS, as highlighted in gray above.

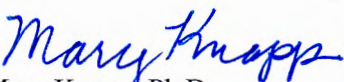
If construction of any phase of the project is delayed for three or more years, ODOT/FHWA should re-initiate consultation with the Service to address any potential changes in species distributions or occurrence records within the Phase 2 and Phase 3 project areas.

Although no federally listed species were identified, the Service recommends that best management practices (BMPs) be implemented to minimize impacts to water quality. We support and recommend mitigation activities that reduce the likelihood of invasive plant spread and encourage native plant colonization. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats. All disturbed areas in the project vicinity should be mulched and revegetated with native plant species.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act, of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Karen Hallberg at extension 23 in this office.

Sincerely,

  
Mary Knapp, Ph.D.  
Field Supervisor

cc: J. Kessler, ODNR, Office of Real Estate, Columbus, OH (*email only*)  
P. Clingan, USACE, Ohio Regulatory Transportation Office, Columbus, OH (*email only*)  
J. Lung, OEPA, Columbus, OH (*email only*)  
B. Mitch, ODNR, Office of Real Estate, Columbus, OH (*email only*)



# OHIO DEPARTMENT OF TRANSPORTATION

CENTRAL OFFICE • 1980 WEST BROAD STREET • COLUMBUS, OH 43223  
JOHN R. KASICH, GOVERNOR • JERRY WRAY, DIRECTOR

## INTER-OFFICE COMMUNICATION OFFICE OF ENVIRONMENTAL SERVICES

**TO:** Vaughn Wilson, District 9 Deputy Director  
Attn: Greg Manson, District Environmental Coordinator

**DATE:** May 10, 2013  
*Greg Manson*

**FROM:** Timothy M. Hill, Administrator, Office of Environmental Services

**SUBJECT:** Section 106 Determination of Effect

**PROJECT:** SCI-823-0.00/10.13 (Phases 2 & 3 Portsmouth Bypass), PID: 19415/77366/79977

**Re:** *Phase I History/Architecture Reevaluation Survey for Phases 2 & 3 of the SCI-823 Portsmouth Bypass project (SCI-823-0.00; PID: 19415) in Harrison, Jefferson, Madison, Porter, and Valley Townships, Scioto County, Ohio, dated March 21, 2013.*

The intent of the subject undertaking is to construct Phases 2 and 3 of the undertaking, SCI-823-0.00/10.13, PID: 19415/77366/79977. The subject Section 106 coordination provides documentation of the agency's efforts to identify properties listed on or eligible for listing on the National Register of Historic Places (NRHP) that have turned fifty years of age or older since the 2001-2002 survey of the area of potential effect. In accordance with the *Section 106 Programmatic Agreement, (Number 16734)*, executed November 30, 2011, the above referenced report and a copy of this Inter-Office Communication are being provided to the Ohio State Historic Preservation Office (OSHP) for review and consideration.

### SCI-823-00 PID: 19415 Corridor Study & Previous Section 106 Consultation

In 2001-2002, an area measuring approximately sixteen miles in length and one to two miles in width was surveyed for the presence of historic cultural resources. This survey encompassed all three phases of the undertaking SCI-823-0.00 PID: 19415. On December 3, 2004, in accordance with 36 CFR § 800.4(d)(1), a finding of "no historic properties affected" was found applicable to the undertaking SCI-823-0.00 PID: 19415 (Exhibit 1).

### **History/Architecture**

On January 16, 2004, the OSHP) concurred five history/architecture properties would require additional investigation if located within the APE of the preferred alternative: 532 Fairgrounds Road,; 295 Lucasville-Minford Road; 4140 Lucasville-Minford Road; 4009 Lucasville-Minford Road; and Stoney Hill Cemetery (Exhibit 2). On July 1, 2004, two of these properties determined to be in close proximity to the preferred alternative were evaluated for National Register eligibility: 4140 Lucasville-Minford Road (SCI-608-5) and 4009 Lucasville-Minford Road (SCI-607-5). Both were found not eligible for inclusion on the NRHP on July 1, 2004 (Exhibit 3). A third property, 532 Fairgrounds Road, was also determined not eligible for inclusion on the NRHP on December 3, 2004.

### **Archaeology**

In regard to archaeological resources, on October 28, 2004, the OSHP) concurred, "Fieldwork was conducted along a project corridor measuring 17 miles (27.4 Km) long which varied in width from 250 to 1000 feet (76 to 305 meter) reflecting the need of roadcuts, grade separations, and interchange areas . . . none of the archaeological resources identified . . . are eligible for the National Register of Historic Places." (Exhibit 4).



**SCI-SR 335 (Phase I Portsmouth Bypass) PID: 19415 & Previous Section 106 Consultation**

On February 13, 2012, in accordance with the *Section 106 Programmatic Agreement, (Number 16734)*, executed November 30, 2011, and 36 CFR § 800.4(d)(1), a finding of "no historic properties affected" was found applicable to Phase 1 of the subject undertaking (Exhibit 5).

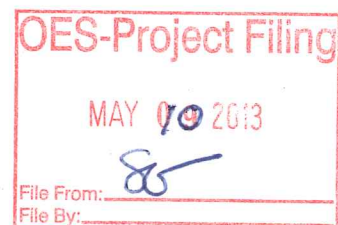
**SCI-823-0.00, PID: 19415 (Phases 2 & 3 Portsmouth ByPass)**

Phases 2 and 3 have now been combined. The area of potential effects (APE) extends from Lucasville-Minford Road to US 23 (Phase 2) and from US 62 to relocated Shumway Hollow Road (Phase 3). The APE was delineated to complement the proposed construction limits and includes the adjacent parcels (Figure 3, Sheets 1-24 of the above referenced survey report). A review of previous consultation and of the Section 106 Records Check did not result in the identification of a historic cultural resource listed on the NRHP or determined eligible for listing on the NRHP within the APE (Exhibit 6).

**History/Architecture**

The history/architecture survey focused on properties that have turned fifty years of age since the completion of the 2001-2002 survey and on properties that may require additional consideration due to new information. The intent of the current history/architecture survey is described, "The goals of this investigation re to determine whether history/architecture resources are present in the study area and, if so, to evaluate whether they are eligible for the NRHP" (Terpsta 2013: 2). All properties identified within the APE that were previously evaluated and determined not eligible for inclusion on the NRHP were not included in the subject report. Properties previously recommended as requiring further consideration resulting from previous consultation were determined to be outside of the subject APE. As illustrated below, ten history/architecture properties were identified that had not been previously evaluated. No history/architecture properties were found eligible for inclusion on the NRHP.

Phase 2 & 3 – Properties fifty years of age or older identified within the APE (excluded from previous consultation):	Year Built	Building type	Eligible for NRHP	Photo. Plate Number
Columbia Gas Substation (Hastings Hill Rd & Gallia Street)	1963	Concrete block, single story, utility building.	No	1
82 Pershing Avenue	1950	Wood frame ranch	No	2
790 Dutch Ridge Road	1920	Single story, frame cottage	No	3
639 Fairground Road	1949	Brick veneer ranch	No	4
627 Fairground Road	1953	Brick veneer ranch	No	5
801 Thomas Hollow Road	1961	Frame ranch	No	6
1119 Flatwood Fallen Timber Rd	Unknown	Frame ranch	No	7
548 Flatwood Fallen Timber Rd	1961	Brick veneer ranch	No	8
2713 Lucasville-Minford Road	1946	Minimal Traditional	No	9
362A Flowers-Ison Road	1958	Concrete block L-plan	No	10



**Cultural Resource Recommendation**

Based the results of previous Section 106 consultation and the current survey, no cultural resources eligible for or listed in the NRHP will be affected by the undertaking. In accordance with Stipulation 4B of the *Section 106 Programmatic Agreement, (Number 16734)*, executed November 11, 2013, and in compliance with 36 CFR § 800.4(d)(1), FHWA, with ODOT as their agent has determined a finding of "No Historic Properties Affected" is applicable to the proposed undertaking based on the following:

- No history/architecture properties eligible or listed on the NRHP will be affected by the undertaking.
- The history/architecture properties identified within the APE are not eligible for inclusion on the NRHP.
- No archaeological sites eligible for inclusion or listed on the NRHP will be affected by the undertaking.

Pursuant to the *Section 106 Programmatic Agreement (Number 16734)*, executed November 11, 2011, if no comments or objections are offered by the OSHPO within the 15 day review period, the environmental document may be processed with no further comment or involvement from the ODOT-OES cultural resource staff. If the OSHPO comments on or objects to the Section 106 finding or eligibility recommendations, ODOT-OES will work with the project team to address the comments prior to finalization of the environmental document. In some instances it may be necessary to handle such responses as environmental commitments. The environmental document should note the date of this Inter-Office Communication for project Section 106 clearance. The environmental document should also note the date of the *Section 106 Programmatic Agreement, (Number 16734)*, executed November 11, 2011 as the basis for the Section 106 approval. Forward questions or concerns to Susan Gasbarro at 614-728-0719.

TMH:mb/sg  
Enclosure

C: Project File; Mark Epstein



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

## Office of Real Estate

*Paul R. Baldrige, Chief*  
2045 Morse Road – Bldg. E-2  
Columbus, OH 43229  
*Phone: (614) 265-6649*  
*Fax: (614) 267-4764*

June 13, 2013

Timothy M. Hill, Environmental Administrator  
Office of Environmental Services  
Ohio Department of Transportation  
1980 West Broad Street  
Columbus, Ohio 43223

**Attn:** Matt Perlik, Mike Pettegrew, Matt Raymond

**Re:** SCI-823-0.00, Portsmouth Bypass Project, Phase 2 and 3 (PID 19415)

**Project:** ODOT will construct a new four-lane limited access highway/bypass of Portsmouth, Ohio as part of the Appalachian Development Highway system.

**Location:** Construction Phase 2 extends from the US 23 Interchange to the Lucasville-Minford Road (CR 28) Interchange, where it will tie into Construction Phase 1 of the. Construction Phase 3 ties into Phase 1 at the Shumway Hollow Road (TR 234) Interchange, near the Scioto County Airport, and extends south to the proposed US 52/Sciotoville Interchange.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

**Fish and Wildlife:** The Division of Wildlife (DOW) has the following comments.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. No Indiana bats were captured during the 2011 mist-net survey for the project. Indiana bat surveys are valid for a period of 2 years. If suitable trees occur within the project area, these trees should be conserved. If suitable habitat occurs on the project area and trees must be cut, cutting must occur between October 1 and March 31. If suitable trees must be cut during the summer months, a net survey must be conducted between June 15 and July 31, prior to cutting. Net surveys shall incorporate either two net sites per square kilometer of project area with each net site containing a minimum of two nets used for two consecutive nights, or one net site per kilometer of stream within the project limits with each net site

containing a minimum of two nets used for two consecutive nights. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the clubshell (*Pleurobema clava*), a state and federal endangered mussel, the Northern riffleshell (*Epioblasma torulosa rangiana*), a state and federal endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federal endangered mussel, the sheepsnose (*Plethobasus cyphus*), a state endangered and federal endangered mussel, the fanshell (*Cyprogenia stegaria*), a state and federal endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state and federal endangered mussel, the washboard (*Megaloniais nervosa*), a state endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federal endangered mussel, the ebonyshell (*Fusconaia ebena*), a state endangered mussel, the butterfly (*Ellipsaria lineolata*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the wartyback (*Quadrula nodulata*), a state endangered mussel, the little spectaclecase (*Villosa lienosa*), a state endangered mussel, and the monkeyface (*Quadrula metanevra*), a state endangered mussel. Due to mussels being found the Little Scioto at the proposed bridge crossing, the DOW recommends the applicant find an alternative that will avoid the potential taking of mussels. If this is not possible, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the proposed project. Surveys should be done in accordance with the Ohio Mussel Survey Protocol. Should any federal listed species be encountered, the work must cease and the U.S. Fish and Wildlife Service must be contacted for consultation.

The project is within the range of the Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered amphibian currently being evaluated for Federal Candidate status. On August 16, 2011 Greg Lipps, a DOW approved professional herpetologist, surveyed the reach of the Little Scioto River that will be impacted by the bypass project for suitable habitat for the eastern hellbender. Although the hellbender is known to occur in the Little Scioto, no suitable habitat for the species was identified at or near the proposed crossing for the bypass. Therefore, the project is not likely to impact this species.

The project is within the range of the green salamander (*Aneides aeneus*), a state endangered amphibian. This salamander is one of the most specialized amphibians in Ohio. Their existence relies upon rock outcrops with cracks and fissures allowing for retreat from predators and harsh environmental conditions, as well as providing nesting areas. Rock outcrops shaded by forest would be expected to maintain the moisture and humidity necessary for their cutaneous respiration and incubation of eggs. Based on known locality records and habitat utilized by this species, the project is not likely to impact this species.

The project is also within the range of the Allegheny woodrat (*Neotoma magister*) a state endangered mammal. This mammal has experienced marked declines in its Ohio distribution and is presumed to occupy forested areas with rock outcrops primarily in Adams County and extreme western portions of Scioto County. Based on known locality records and habitat utilized by this species, the project is not likely to impact this species.

The project is within a county where current records exist for the timber rattlesnake (*Crotalus horridus horridus*), a state endangered species. A survey for this species was conducted by herpetologist Doug Wynn during 2003. The USFWS and Doug Wynn both concurred that updated surveys for this species were unnecessary to make an effect determination for this species. The 2003 survey found that suitable habitat for this species is present within the proposed project area; however, signs of major human disturbance were common, and it was determined to be very unlikely that the species inhabits or utilizes the surveyed area. This species was not encountered during the species specific survey (conducted in 2003) or during any of the previous or updated ecological surveys. Due to the presence of suitable habitat for the species, but the lack of evidence of timber rattlesnakes using the habitat, the proposed project is not likely to impact this species.

The project is within the range of the shovelnose sturgeon (*Scaphirhynchus platyrhynchus*), a state endangered species, the mountain madtom (*Noturus eleutherus*), a state endangered fish, the Northern madtom (*Noturus stigmosus*), a state endangered fish, and the goldeye (*Hiodon alosoides*), a state endangered fish. The DOW recommends no in-water work in perennial WWH streams and Class III primary headwater streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to have an impact on this species.

The project is within the range of the Bewick's wren (*Thryomanes bewickii*), a state endangered bird. A statewide survey has not been completed for this species. A lack of records does not indicate the species is absent from the area. Therefore, if tree removal is proposed to complete the project, tree removal should not occur during the species' nesting period of April 1 to August 31. If no tree removal is proposed, the project is not likely to impact this species.

The project is also within the range of the Eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Based on its close proximity to known sites for this species, if the type of habitat described above exists at the project site, the DOW recommends an Eastern spadefoot toad habitat survey be done to determine the potential for impacts to this species. Because of their fossorial habits, unpredictable breeding season, and short larval period, the survey should only be conducted by a herpetologist approved by the ODNR, Division of Wildlife.

The project is within the range of the Hebard's noctuid moth (*Erythroecia hebaridi*), a state endangered moth. Due to the habitat used by this species and the type of work proposed, the project is not likely to impact this species.

It should be noted that only the melanistic form of the Eastern Garter Snake (*Thamnophis sirtalis sirtalis*) is considered as a species of concern in Ohio.

The ODNR Natural Heritage Database has no additional records for rare or endangered species at this project site. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges or other protected natural areas within the project area. Our inventory program does not provide a complete survey of Ohio wildlife, 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.

**Geological Survey:** The Division of Geological survey has the following comments.

The project areas include several potential geohazards. There are many areas of mapped and potential landslides. Some oil and gas wells are also present. At lower project elevations, weathered lacustrine clay up to 80 or more feet thick is present. On the highest ridgetops, there may be unmapped abandoned coal mines. The applicant should contact the Division of Geological Survey for details on these potential hazards.

ODNR appreciates the opportunity to provide these comments. Please contact Brian Mitch at (614) 265-6387 if you have questions about these comments or need additional information.

Brian Mitch  
ODNR Office of Real Estate  
2045 Morse Road, Building E-2  
Columbus, Ohio 43229-6693  
(614) 265-6387  
[brian.mitch@dnr.state.oh.us](mailto:brian.mitch@dnr.state.oh.us)



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

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

November 6, 2012

Jason Early  
ASC Group  
800 Freeway Drive North, Suite 101  
Columbus, OH 43229

Dear Mr. Early

Per your request, I have e-mailed you a set of ArcView shape files for the Portsmouth Bypass - Phases 2 and 3 - SCI 823 project area, including a one mile radius, in Scioto County, Ohio. This data may not be published or distributed beyond the scope of the project description on the data request form without prior written permission of the Natural Heritage Program.

I am attaching a shape file for the 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 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, FE = federal endangered, FT = federal threatened, FPE = federal potentially endangered, FC = federal candidate and FSC = federal species of concern.

We have no records for Indiana Bat (*Myotis sodalis*) capture locations within a five mile radius or hibernacula within a ten mile radius of the project sites.

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. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas.

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 614-265-6452 if I can be of further assistance.

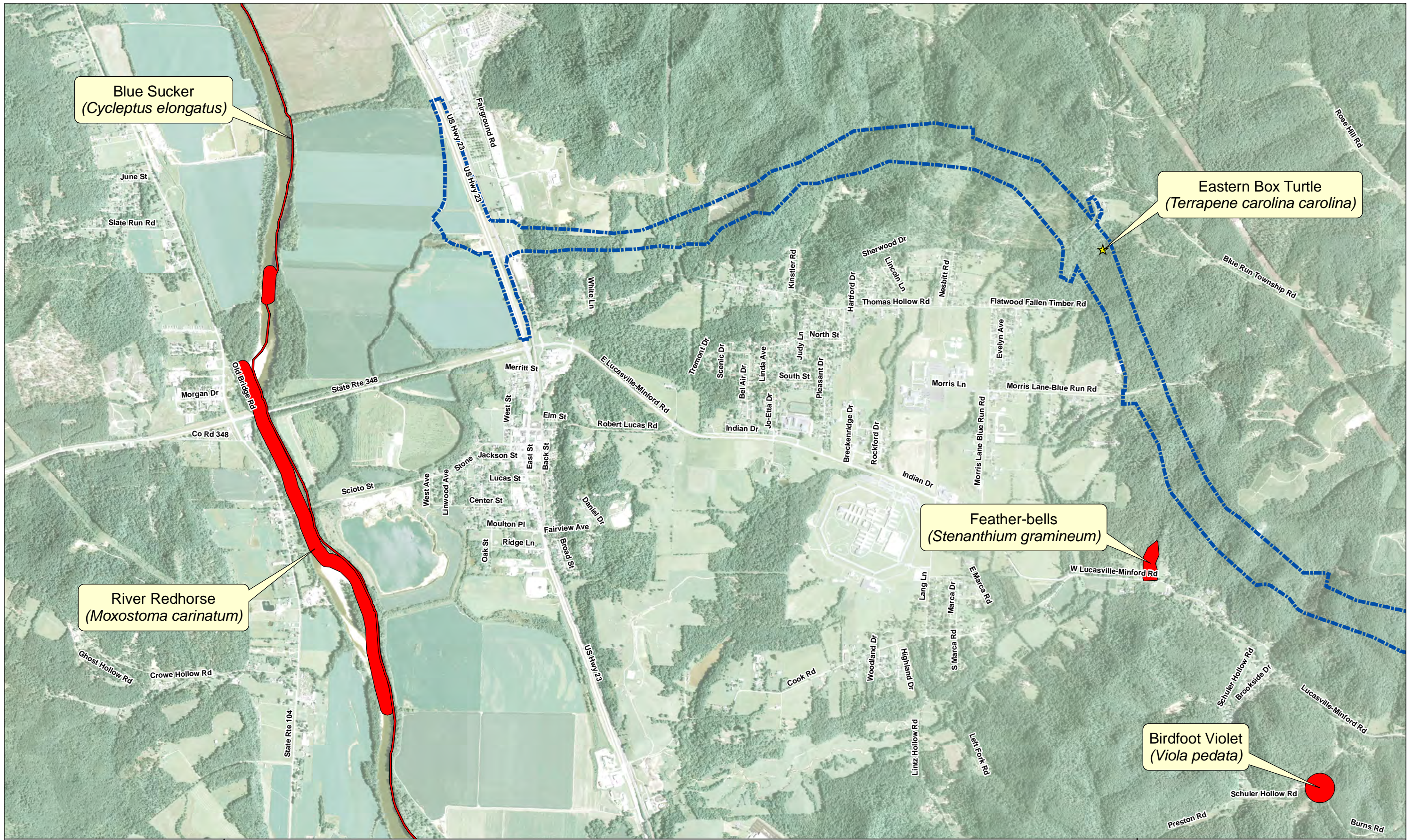
Sincerely,

A handwritten signature in blue ink that reads "Greg Schneider".

Greg Schneider, Administrator  
Ohio Natural Heritage Program

SNAME	SCOMNAME	NAME_CATEG	LAST_OBSER	STATE_STAT	FEDERAL_ST
Phacelia bipinnatifida	Fern-leaved Scorpion-weed	Vascular Plant	1990-05-09	P	
Simpsonaias ambigua	Salamander Mussel	Invertebrate Animal	1987-07	SC	FSC
Truncilla truncata	Deertoe	Invertebrate Animal	1987-07	SC	
Viola pedata	Birdfoot Violet	Vascular Plant	2000-04-06	T	
Viola pedata	Birdfoot Violet	Vascular Plant	2000-04-06	T	
Moxostoma carinatum	River Redhorse	Vertebrate Animal	1970-05-10	SC	
Cycleptus elongatus	Blue Sucker	Vertebrate Animal	2005-09-09	T	FSC
Stenanthium gramineum	Feather-bells	Vascular Plant	1976-06-25	P	
Elipsaria lineolata	Butterfly	Invertebrate Animal	2002-07-24	E	
Elliptio crassidens	Elephant-ear	Invertebrate Animal	2002-07-24	E	
Fusconaia ebenus	Ebonysshell	Invertebrate Animal	2002-07-24	E	
Ligumia recta	Black Sandshell	Invertebrate Animal	2002-07-24	T	
Megaloniaias nervosa	Washboard	Invertebrate Animal	2002-07-24	E	
Obliquaria reflexa	Threehorn Wartyback	Invertebrate Animal	2002-07-24	T	
Pleurobasus cyphus	Sheepnose	Invertebrate Animal	2002-07-24	E	FE
Pleurobema cordatum	Ohio Pigtoe	Invertebrate Animal	2002-07-24	E	
Quadrula metanevra	Monkeyface	Invertebrate Animal	2002-07-24	E	
Quercus falcata	Spanish Oak	Vascular Plant	2005-10-10	T	
Magnolia tripetala	Umbrella Magnolia	Vascular Plant	2011-05-18	P	
Viola primulifolia	Primrose-leaved Violet	Vascular Plant	2011-06-03	E	
Viola primulifolia	Primrose-leaved Violet	Vascular Plant	2011-06-03	E	
Viola primulifolia	Primrose-leaved Violet	Vascular Plant	2011-08-11	E	
Viola primulifolia	Primrose-leaved Violet	Vascular Plant	2011-08-11	E	





Blue Sucker  
(*Cyprinus elongatus*)

Eastern Box Turtle  
(*Terrapene carolina carolina*)

River Redhorse  
(*Moxostoma carinatum*)

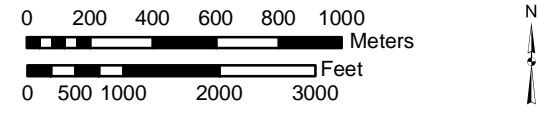
Feather-bells  
(*Stenanthium gramineum*)

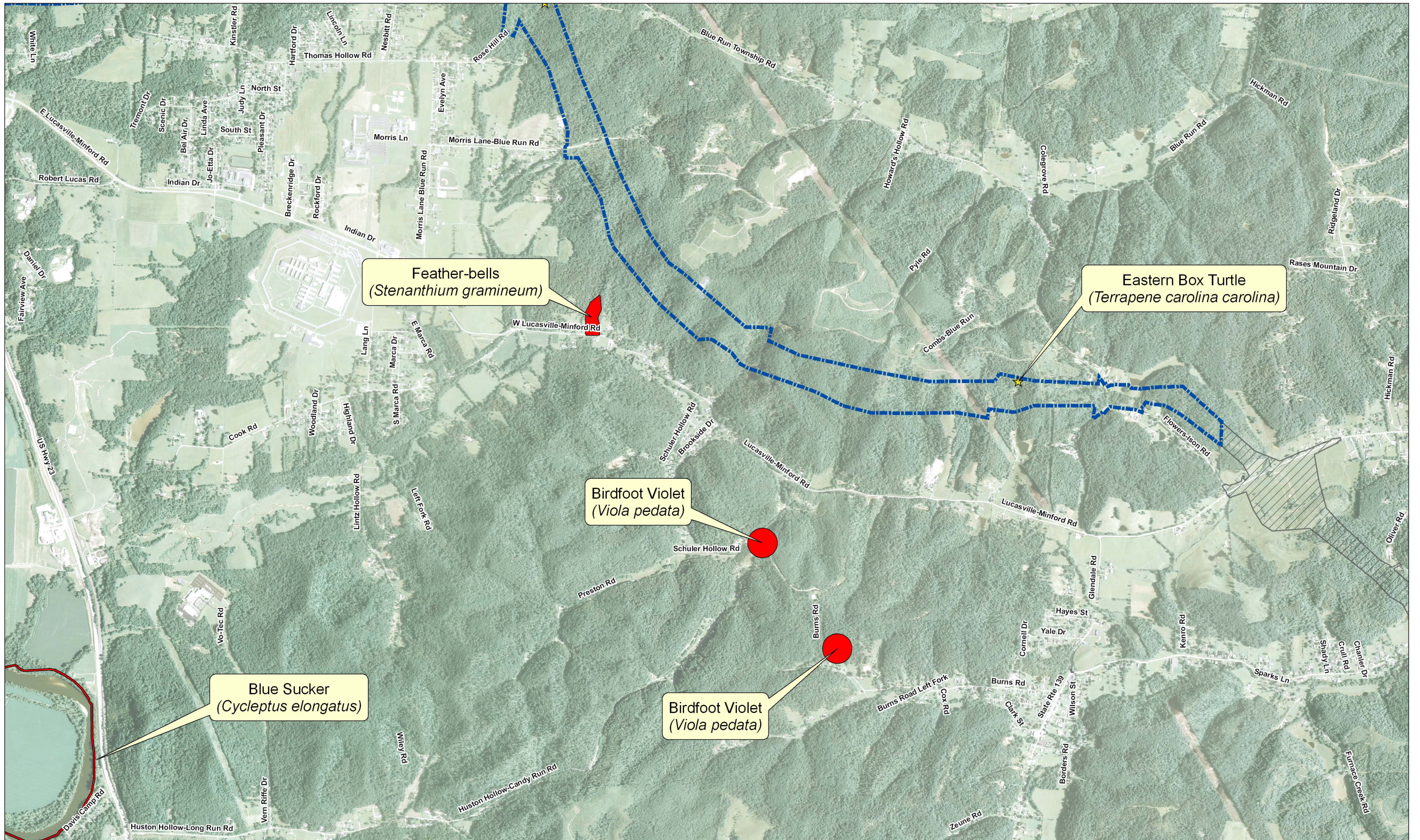
Birdfoot Violet  
(*Viola pedata*)



- State endangered species records from DNAP
- Phase 2 project area
- Phase 3 project area
- Approximate Phase 1 construction limits
- ★ Species identified during the survey

Base: Aerial photograph 2009





Feather-bells  
(*Stenanthium gramineum*)

Eastern Box Turtle  
(*Terrapene carolina carolina*)

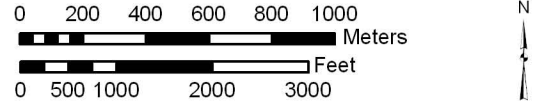
Birdfoot Violet  
(*Viola pedata*)

Blue Sucker  
(*Cycleptus elongatus*)

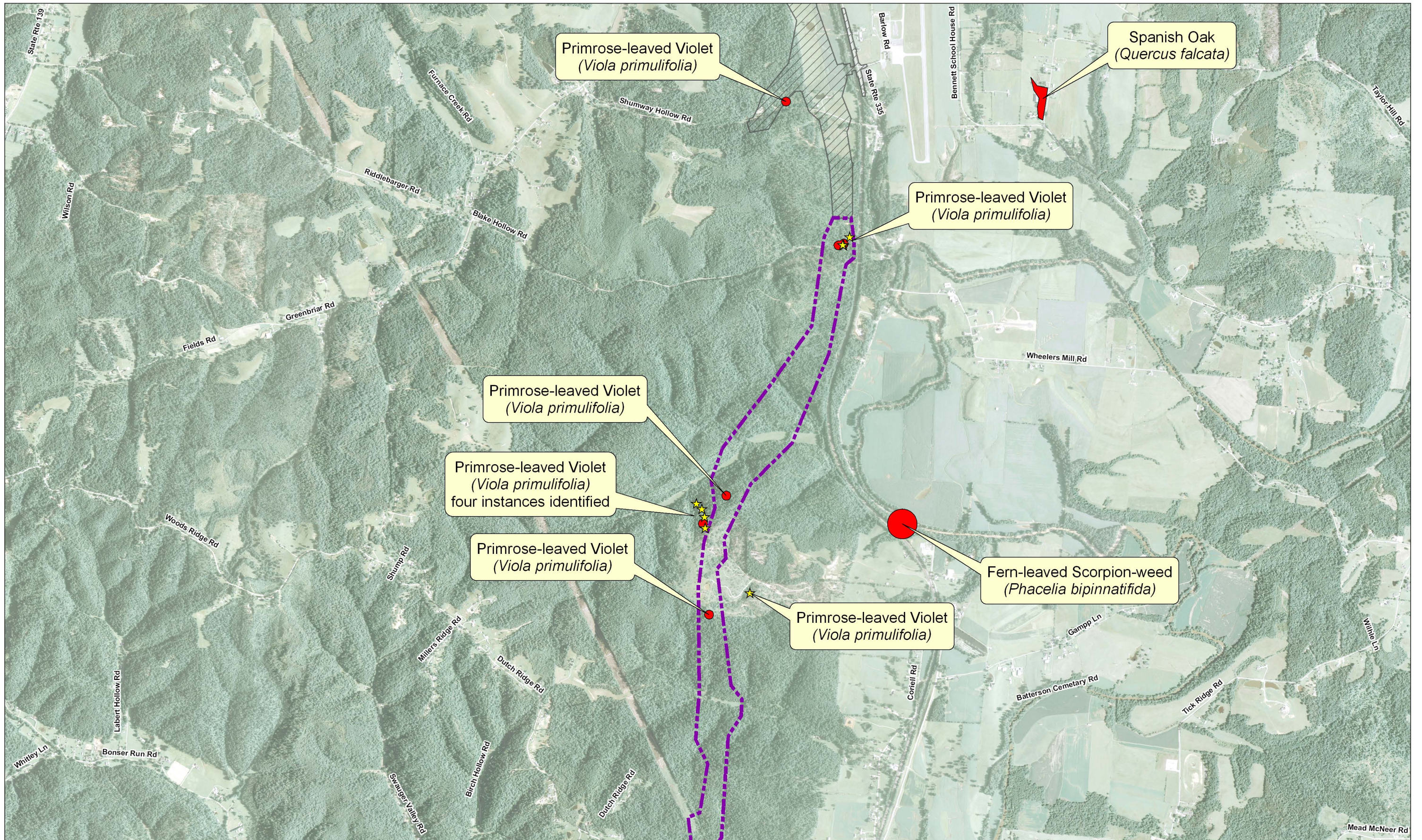
Birdfoot Violet  
(*Viola pedata*)



- State endangered species records from DNAP
- Phase 2 project area
- Phase 3 project area
- Approximate Phase 1 construction limits
- Species identified during the survey



Base: Aerial photograph 2009



Primrose-leaved Violet  
(*Viola primulifolia*)

Spanish Oak  
(*Quercus falcata*)

Primrose-leaved Violet  
(*Viola primulifolia*)

Primrose-leaved Violet  
(*Viola primulifolia*)

Primrose-leaved Violet  
(*Viola primulifolia*)  
four instances identified

Primrose-leaved Violet  
(*Viola primulifolia*)

Fern-leaved Scorpion-weed  
(*Phacelia bipinnatifida*)

Primrose-leaved Violet  
(*Viola primulifolia*)

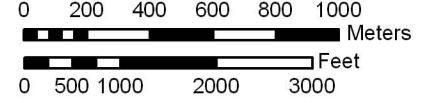


State endangered species records from DNAP  
Species identified during the survey

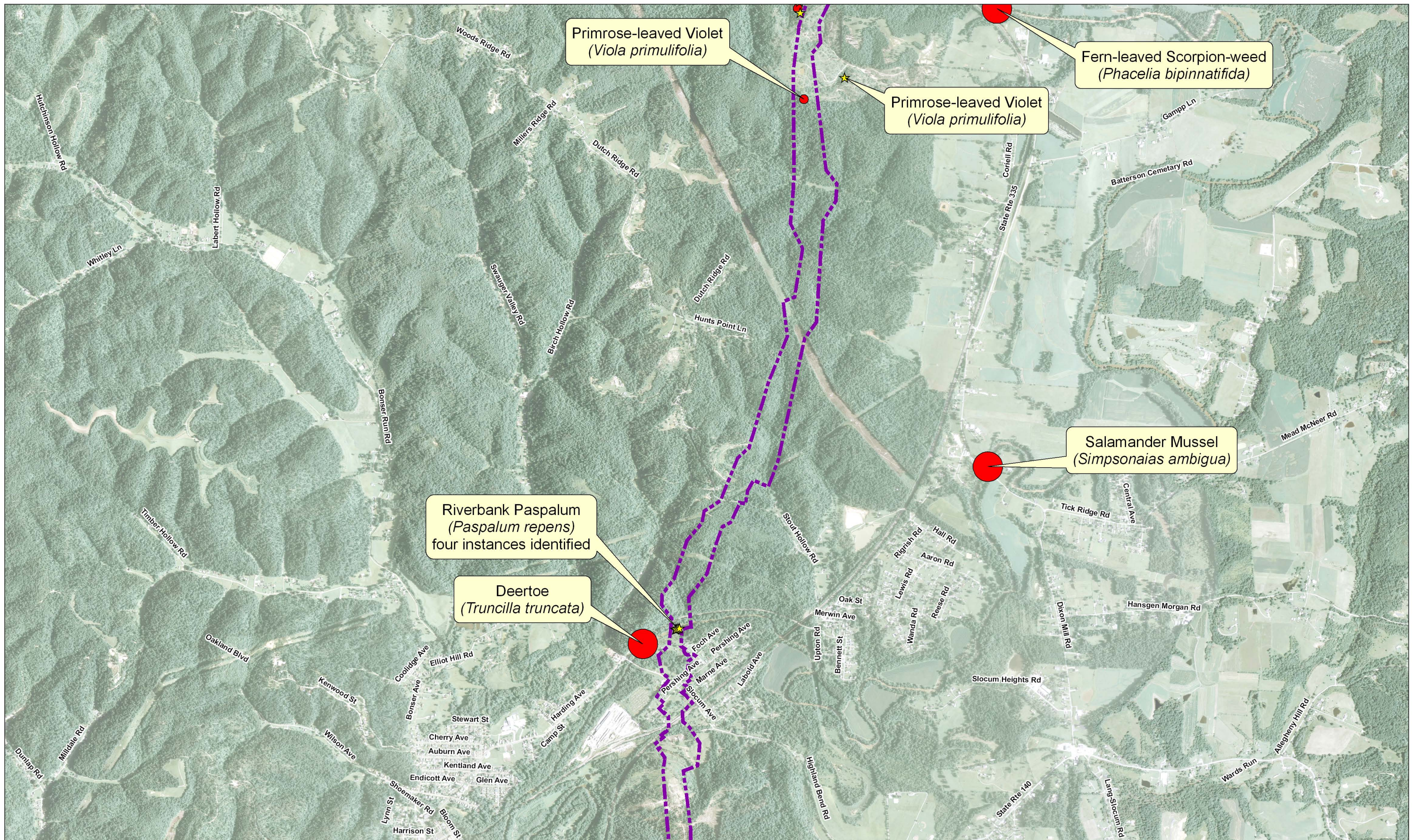
Phase 2 project area

Phase 3 project area

Approximate Phase 1 construction limits



Base: Aerial photograph 2009



Primrose-leaved Violet  
(*Viola primulifolia*)

Fern-leaved Scorpion-weed  
(*Phacelia bipinnatifida*)

Primrose-leaved Violet  
(*Viola primulifolia*)

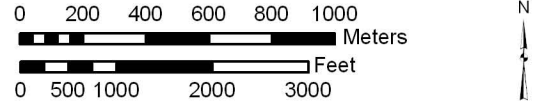
Salamander Mussel  
(*Simpsonias ambigua*)

Riverbank Paspalum  
(*Paspalum repens*)  
four instances identified

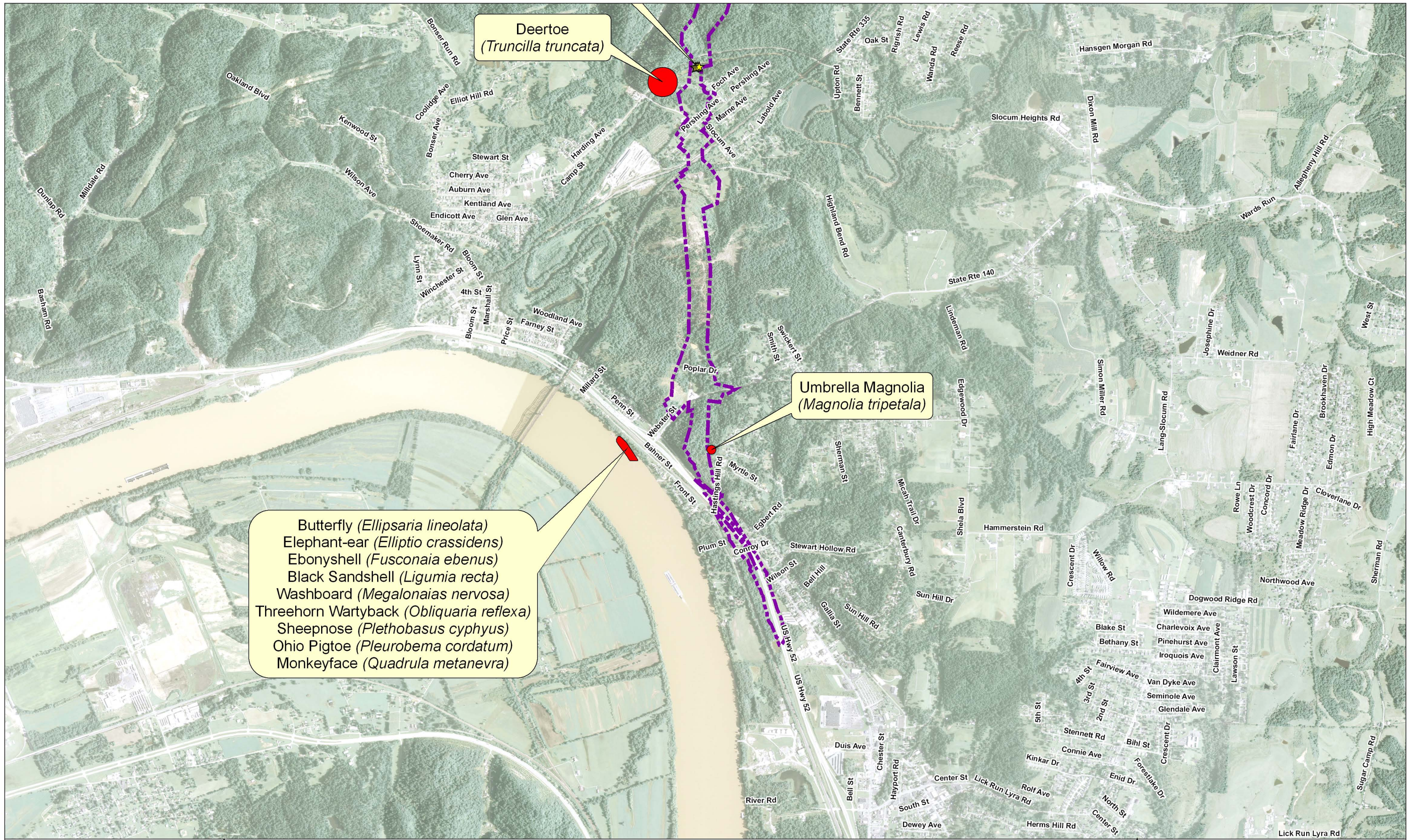
Deertoe  
(*Truncilla truncata*)



- State endangered species records from DNAP
- Phase 2 project area
- Phase 3 project area
- Approximate Phase 1 construction limits
- ★ Species identified during the survey



Base: Aerial photograph 2009



Deertoe  
(*Truncilla truncata*)

Umbrella Magnolia  
(*Magnolia tripetala*)

- Butterfly (*Ellipsaria lineolata*)
- Elephant-ear (*Elliptio crassidens*)
- Ebonyshell (*Fusconaia ebenus*)
- Black Sandshell (*Ligumia recta*)
- Washboard (*Megaloniaias nervosa*)
- Threehorn Wartyback (*Obliquaria reflexa*)
- Sheepnose (*Plethobasus cyphus*)
- Ohio Pigtoe (*Pleurobema cordatum*)
- Monkeyface (*Quadrula metanevra*)



■ State endangered species records from DNAP
   Phase 2 project area
   Phase 3 project area
   Approximate Phase 1 construction limits

★ Species identified during the survey



Base: Aerial photograph 2009

**From:** [DNR obdrequest](#)  
**To:** ["Jason Earley"](#)  
**Subject:** RE: Database Request  
**Date:** Wednesday, January 30, 2013 4:21:53 PM

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Nearest Bald Eagle nest is about 5 miles SW of center of Phase 2 and 9 miles west of north end of phase 3.

*Greg Schneider, Program Administrator  
Ohio Natural Heritage Program  
Division of Wildlife  
Ohio Department of Natural Resources  
2045 Morse Rd., Bldg. G-3  
Columbus, Ohio 43229-6693  
Phone: (614) 265-6452  
Fax: (614) 267-3096  
<<mailto:greg.schneider@dnr.state.oh.us>>*

---

**From:** Jason Earley [<mailto:jeasley@ascgroup.net>]  
**Sent:** Wednesday, January 30, 2013 2:16 PM  
**To:** DNR obdrequest  
**Subject:** RE: Database Request

ODNR Ohio Natural Heritage Program:

I am in need of the nearest bald eagle nest location for the Phases 2 and 3 of the Portsmouth Bypass. This information was not included in the original response letter, I have reattached the Shapefiles to assist you in your search.

An email response stating that the nearest bald eagle next is XXX miles in a direction from the project will suffice.

Thanks in advance.

Jason

Jason M. Earley  
Senior Environmental Specialist  
ASC Group, Inc.  
800 Freeway Drive North, Suite 101  
Columbus, Ohio 43229  
Work: (614) 643-3205  
Mobile: (614) 787-3454  
[jeasley@ascgroup.net](mailto:jeasley@ascgroup.net)

---

**From:** obdrequest [<mailto:obdrequest@dnr.state.oh.us>]  
**Sent:** Tuesday, November 06, 2012 1:59 PM  
**To:** [jeasley@ascgroup.net](mailto:jeasley@ascgroup.net)  
**Subject:** Re: Database Request

Mr. Early,

I am attaching the response letter to your Natural Heritage search request.

Please let me know if you have any questions.

Please note that we have changed the name of our program to: Ohio Natural Heritage Program

Future requests should be sent by mail or by email to this address.

[obdrequest@dnr.state.oh.us](mailto:obdrequest@dnr.state.oh.us)

Thanks!

*Greg Schneider, Program Administrator  
Ohio Natural Heritage Program  
Division of Wildlife  
Ohio Department of Natural Resources  
2045 Morse Rd., Bldg. G-3  
Columbus, Ohio 43229-6693  
Phone: (614) 265-6452  
Fax: (614) 267-3096  
<<mailto:greg.schneider@dnr.state.oh.us>>*

---

**From:** Woischke, Debbie  
**Sent:** Thursday, November 01, 2012 7:00 AM  
**To:** obdrequest  
**Subject:** FW: Database Request

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**From:** Jason Earley [<mailto:jeasley@ascgroup.net>]  
**Sent:** Wednesday, October 31, 2012 3:36 PM  
**To:** Woischke, Debbie  
**Subject:** Database Request

Good afternoon Debbie:

Please find the attached database request letter and form. This request is for Phases 2 and 3 of the Portsmouth Bypass for an Ecological Survey we are currently working on for ODOT.

Please let me know if there is anything else I can provide to assist you with this request.

Thanks in advance.

Jason

Jason M. Earley  
Senior Environmental Specialist  
ASC Group, Inc.

800 Freeway Drive North, Suite 101  
Columbus, Ohio 43229  
Work: (614) 643-3205  
Mobile: (614) 787-3454  
[jeasley@ascgroup.net](mailto:jeasley@ascgroup.net)





# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
4625 Morse Road, Suite 104  
Columbus, Ohio 43230  
(614) 416-8993 / FAX (614) 416-8994

March 12, 2012

Timothy M. Hill, Administrator  
Office of Environmental Services  
Ohio Department of Transportation  
P.O. Box 899  
Columbus, OH 43216-0899

TAILS: 03E15000-2012-I-0581 (PID 19415)

Attn: Michael Pettegrew, Matthew Raymond

RE: **SCI-823-0.00 Portsmouth Bypass**, Phase 1 (PID 19415), Phase 2, and Phase 3

Dear Mr. Hill,

This is in response to your November 9, 2011 letter received in our office on November 15, 2011 requesting U.S. Fish & Wildlife Service (Service) concurrence on your Endangered Species Act section 7(a)(2) effects determination for federally listed species in the SCI-823-0.00 Portsmouth Bypass project area. The project proposes to establish a 17-mile long bypass, to be constructed in three phases, with Phase 1 (the middle portion of the 3-phase project) to be built first. The construction schedule for the entire project is approximately 13 years. The Ohio Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) have determined that each phase of the project has independent utility. Phase 1 includes interchanges with TR 234 (Shumway Hollow Road) and CR 28 Lucasville-Minford Road) and is approximately 3 miles long. According to Public Notice 2011-00646-OHR, recently issued by the U.S. Army Corps of Engineers (USACE) (Huntington District), the proposed work on Phase 1 would result in permanent discharge of approximately 1,381 cubic yards of fill material into 9,525 linear feet (1.22 acre) of streams; 5,076 cubic yards of fill material into 3.89 acres of emergent wetlands, and 26,137 cubic yards of fill material into 2.70 acres of ponds. Approximately 1,175 cubic yards of temporary fill material will be discharged 300 linear feet (0.26 acre) of stream for bridge construction access and staging areas.

This project lies within the range of the **Indiana bat** (*Myotis sodalis*), **sheepnose mussel** (*Plethobasus cyphus*), **running buffalo clover** (*Trifolium stoloniferum*), **snuffbox mussel** (*Epioblasma triquetra*), **rayed bean** (*Villosa fabalis*), **fanshell** (*Cyprogenia stegaria*), **northern riffleshell** (*Epioblasma torulosa rangiana*), **pink mucket pearlymussel** (*Lampsilis abrupta*), **clubshell** (*Pleurobema clava*), all federally endangered species; **small whorled pogonia** (*Isotria medeoloides*) and **Virginia spiraea** (*Spiraea virginiana*), both federally threatened plant species; and the **bald eagle** (*Haliaeetus leucocephalus*), **timber rattlesnake** (*Crotalus horridus*), and **eastern hellbender** (*Cryptobranchus a. alleganiensis*), federal species of concern.

Although only activities associated with Phase 1 have been public noticed for permitting by the USACE, ODOT chose to consult with the Service and address potential impacts to federally listed species within the entire bypass project corridor. Therefore, those impacts are addressed in this letter. However, if construction of the subsequent phases of the project is delayed for three or more years, ODOT/FHWA should re-initiate consultation with the Service to address any potential changes in species distributions or occurrence records within the Phase 2 and Phase 3 project areas.

As discussed during an interagency meeting held on February 10, 2011 between the Service, FHWA, ODOT, and USACE, suitable habitat streams for sheepnose, pink mucket, fanshell, snuffbox, and northern riffleshell mussels are not present within the bypass project area. Therefore, no impacts to these species are anticipated. During the February 2011 meeting, the Service also informed ODOT/FHWA that no surveys, in addition to those conducted in 2004, would be required for the timber rattlesnake or Virginia spiraea, as the earlier survey results are still valid.

A survey for federally listed mussel species was conducted in the Little Scioto River by Dr. Michael Hoggarth, a federally permitted malacologist, during the 2011 summer season. None of the federally listed mussel species were found during this survey. Based on the results of this survey and other less intensive surveys conducted in the other streams within the project area, as well as current records of species occurrence, impacts to the clubshell are not anticipated. Although no rayed bean mussels were discovered during Dr. Hoggarth's survey or the other less intensive surveys, suitable habitat for the species was present in the Little Scioto River. Therefore, it is possible that the species could occur in other reaches of the stream. Based on this information, ODOT has determined that the bypass project *may affect but is not likely to adversely affect* the rayed bean. The Service concurs with this determination.

Surveys for running buffalo clover and small whorled pogonia were conducted in May and June 2011. No individuals of either species were identified during these surveys; however, suitable habitat for each species was present within the project corridor. Therefore, ODOT has determined that the bypass project *may affect but is not likely to adversely affect* running buffalo clover and small whorled pogonia. The Service concurs with this determination.

On August 16, 2011, Greg Lipps, a professional herpetologist, surveyed the reach of the Little Scioto River that will be impacted by the bypass project for suitable habitat for the eastern hellbender. Although the hellbender is known to occur in the Little Scioto, no suitable habitat for the species was identified at or near the proposed crossing for the bypass. Therefore, no impacts to this species are anticipated.

The corridors associated with the proposed alignment of the bypass, both currently and in 2003, were surveyed for Indiana bat. Twenty-one net sites were surveyed in 2003 and Nineteen net sites were surveyed in 2011. No Indiana bats were captured during either survey, suggesting that the species is not present in the project area or occurs at very low density. Therefore, ODOT has determined that the project *may affect but is not likely to adversely affect* the Indiana bat. The Service concurs with this determination. We also appreciate ODOT's commitment to conduct tree clearing activities only between September 30 and April 1 to avoid direct take of bats during their summer brood-rearing season.

Although the bald eagle is known to occur in Scioto County, the nearest nest to the project construction limits is 3.9 miles from the northwestern project terminus along the Scioto River. Therefore, no impacts to this species are anticipated.

Our office has received copies of all the survey reports for the surveys conducted in 2011. As stated above, additional surveys may be necessary if construction on some or all of the bypass project does not occur for three or more years. Although no federally listed species were identified, the Service

recommends that best management practices (BMPs) be implemented to minimize impacts to water quality. We support and recommend mitigation activities that reduce the likelihood of invasive plant spread and encourage native plant colonization. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats. All disturbed areas in the project vicinity should be mulched and revegetated with native plant species. Also, **Please note that if** the applicant plans to clear trees prior to issuance of a 404 and/or 401 permit: 1) Section 7 consultation with the Service must be completed; and 2) No tree clearing on any portion of the project should occur until both the U.S. Army Corps of Engineers and Ohio EPA anticipate that issuance of both a 404/NWP and a 401 permit authorizing the project as a whole is imminent. This will ensure that clearing will be limited to the footprint of the alternative that is ultimately permitted, and that no unnecessary clearing will occur.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the Endangered Species Act, of 1973, as amended, and are consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy. This concludes consultation on this action as required by section 7(a)(2) of the Endangered Species Act. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

If you have questions, or if we may be of further assistance in this matter, please contact Karen Hallberg at extension 23 in this office.

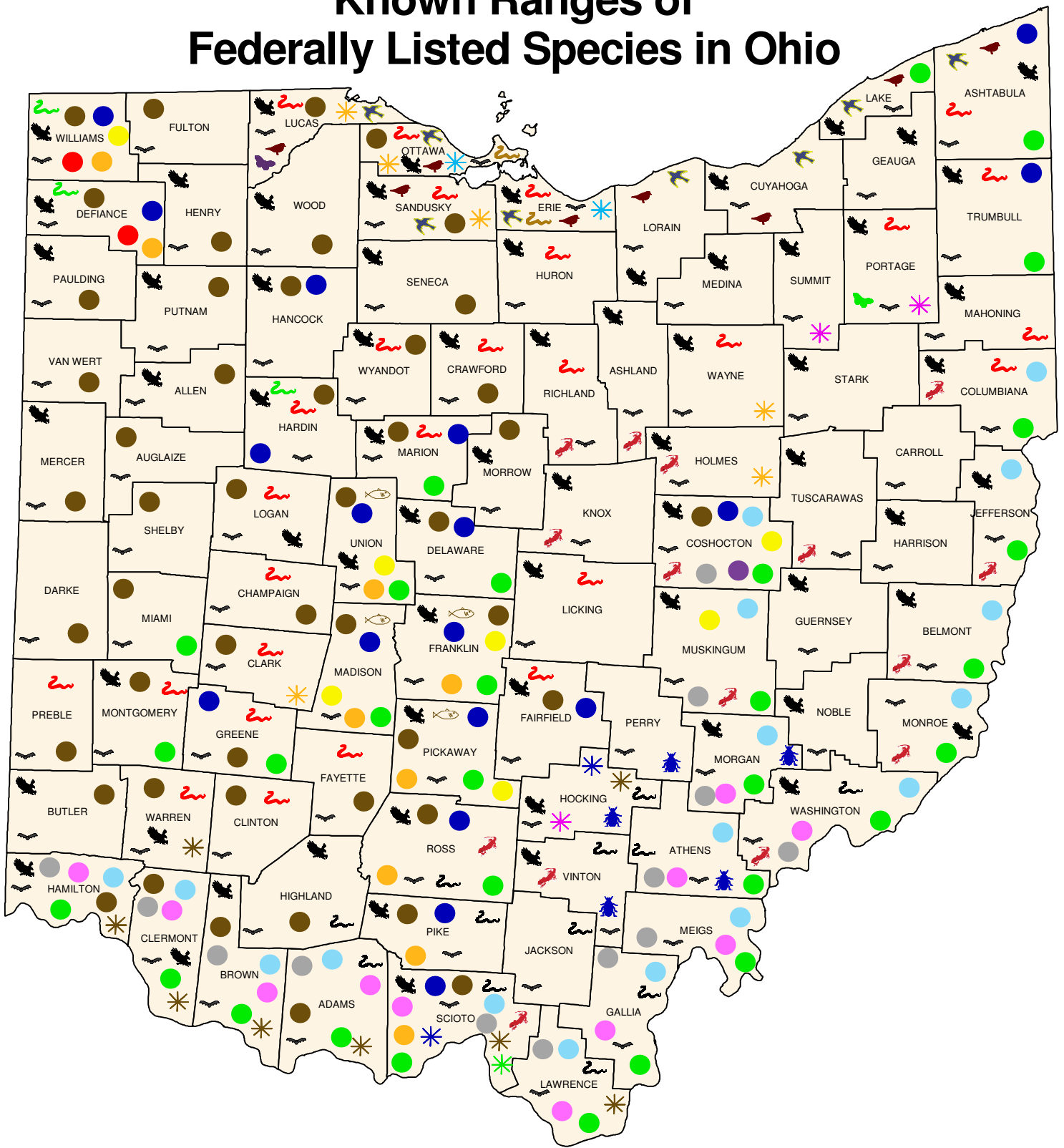
Sincerely,



Mary Knapp, Ph.D.  
Field Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH (*email only*)  
USACE, Ohio Regulatory Transportation Office, Columbus, OH (*email only*)  
OEPA, Columbus, OH (*email only*)

# Known Ranges of Federally Listed Species in Ohio



ENDANGERED			THREATENED			CANDIDATE		
	Indiana Bat		Running Buffalo Clover		Copperbelly Watersnake		Eastern Massasauga Rattlesnake	
	Kirtland's Warbler		Clubshell Mussel		Eastern Prairie Fringed Orchid			
	Piping Plover		Fanshell Mussel		Lakeside Daisy			
	Scioto Madtom		Northern Riffleshell Mussel		Northern Monkshood	<b>SPECIES OF CONCERN</b>		
	Karner Blue Butterfly		Pink Mucket Pearly Mussel		Small Whorled Pogonia			
	Mitchell's Satyr		Purple Cat's Paw Pearly Mussel		Virginia Spiraea		Bald Eagle	
	American Burying Beetle		Rayed Bean Mussel	<b>PROPOSED THREATENED</b>			Eastern Hellbender	
						Rabbitsfoot Mussel		Lake Erie Watersnake