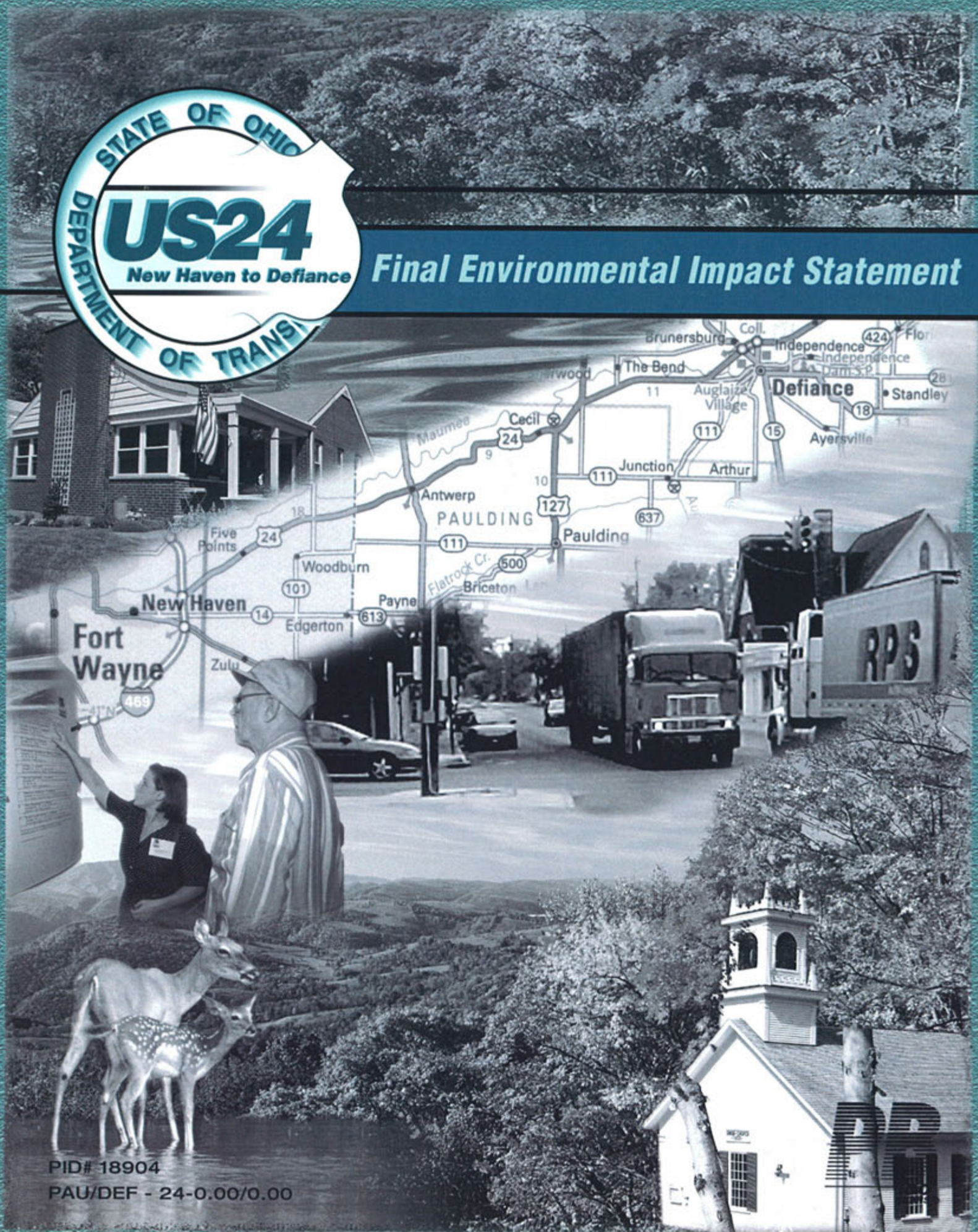
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DEPARTMENT OF TRANSP
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New Haven to Defiance
Final Environmental Impact Statement
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FHWA-OH-EIS-03-03-F

OCTOBER 2005

US 24
Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio

Final Environmental Impact Statement

Submitted Pursuant to 42 U.S.C. 4332 (2)(c), (and where applicable, 49 U.S.C. 303) by the

U.S. Department of Transportation – Federal Highway Administration
Ohio Department of Transportation and Indiana Department of Transportation

Cooperating Agencies:
U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Ohio Department of Natural Resources, and Ohio Environmental Protection Agency

10/26/05
Date of Approval

for Ohio Department of Transportation

10/26/05
Date of Approval

for Indiana Department of Transportation

10/26/05
Date of Approval

for Federal Highway Administration

The following people may be contacted for additional information concerning this document:

Mr. Gordon Proctor, Director
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223
(614) 466-7170

Mr. Dennis A. Decker, Division Administrator
Federal Highway Administration
200 N. High Street
Columbus, Ohio 43215-2048
(614) 280-6896

Mr. Mark Vonder Embse, P.E.
Federal Highway Administration
200 N. High Street
Columbus, Ohio 43215-2048
(614) 280-6854

This project consists of a proposal to upgrade existing US Route 24 to a four-lane limited access expressway between New Haven, Indiana and Defiance, Ohio. Twenty-eight alternatives were evaluated including the No-Build, an improved two-lane facility on existing location, an improved four-lane facility on existing location, and 25 alternatives on new alignment.

The Preferred Alternative minimizes impacts to the human and natural environments while meeting the project's purpose and need.

The Draft Environmental Impact Statement (DEIS) for the US 24 New Haven to Defiance project was approved by the Federal Highway Administration on August 19, 2003. Public hearings for the project and the DEIS were held on October 28, 29, and 30, 2003, with the official comment period ending on November 21, 2003.

Comments on this FEIS are due by **12/5/05** and should be sent to:

Mr. Kirk Slusher, P.E.,
Project Manager
Ohio Department of Transportation
1885 North McCullough Street
Lima, Ohio 45802

This document complies with § 5164(b) of the 1988 Omnibus Trade & competitiveness Act (Public Law 100-118)

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1.0 INTRODUCTION

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

United States Route 24 (US 24) is a major east-west transportation corridor through the Midwestern United States, linking Michigan and Colorado. The eastern portion of the corridor traverses northern Indiana and northwestern Ohio, and provides the most direct access between Fort Wayne, Indiana and Toledo, Ohio. US 24 also provides direct connections to I-69/I-469, I-80/I-90 and I-75, enabling the motoring public to reach destinations northward into the Great Lakes region and Canada as well as other large cities on the eastern seaboard. As a result of the direct linkage between the Fort Wayne, Indiana region and the Port of Toledo, US 24 has been nicknamed "Fort to Port" by local users and advocacy groups, such as the Fort to Port Organization.

The Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT), in cooperation with the Federal Highway Administration (FHWA) have undertaken a study of improvements to US 24 in northeast Indiana and northwest Ohio. The focus of this study is the approximately 64.5 kilometer (40-mile) segment of US 24 between New Haven, Indiana and Defiance, Ohio.

1.2 SUMMARY OF DRAFT ENVIRONMENTAL IMPACT STATEMENT

In accordance with 23 CFR 771.123 (Federal Transit Authority [FTA] and FHWA Environmental Impact Procedures), a "Draft Environmental Impact Statement (DEIS) shall be prepared when the Administration determines that the action is likely to cause significant impacts on the environment." On August 19, 2003, the FHWA approved the DEIS for the US 24 New Haven to Defiance project. A compact disc of the DEIS is included in this Final Environmental Impact Statement (FEIS) as an appendix. Following is a summary of each section of that DEIS. For more detail on the individual sections, see the DEIS.

The changes in the project since approval of the DEIS are presented in this FEIS. Specifically, Section 5.1 discusses changes to the Preferred Alternative alignment since the preliminary engineering development, which was presented in the DEIS. Section 5.2 discusses changes to calculated impacts because of either narrowing or expanding the potential area of impact presented in the DEIS. Section 5.2 also discusses any updated information that has been collected on threatened and endangered species in the project area since the approval of the DEIS.

1.2.1 PURPOSE AND NEED

The following is a summary of the project's Purpose and Need, as presented in the DEIS.

As a segment of the major east-west transportation corridor between Colorado and Michigan, US 24 between Fort Wayne, Indiana and Defiance, Ohio has experienced substantial traffic growth over the past several years, at a rate higher than normal for northwest Ohio and eastern Indiana. The major factors contributing to this growth include increased population, developing industry, and a greater reliance on intermodal transportation connections with the regional and national rail systems and the water-based shipping at the Port of Toledo.

US 24 is identified as a macro corridor in the *Access Ohio* plan. Macro corridors, are defined by ODOT as corridors of statewide importance upon which rests the economic vitality of Ohio. The US 24 corridor's importance was also nationally recognized when US 24 was identified as one of the 21 High Priority Corridors as part of the National Highway System (NHS) in the *Intermodal Surface Transportation Efficiency Act of 1991*.

The 64.5-kilometer (40-mile) segment of US 24 between New Haven, Indiana and Defiance, Ohio is a two-lane rural, winding arterial roadway as it follows the Maumee River. Frequent driveway cuts or access points for local residences, businesses, and other local roadway crossings are common. Sporadic development is directly adjacent to the roadway. The roadway has narrow, often discontinuous shoulders and numerous no-passing zones. The frequency of no-passing zones severely limits the flow of traffic and the capacity of the roadway.

Approximately 45 percent of the overall traffic on US 24 is trucks, and along some roadway segments, truck traffic is more than half of the total traffic. This high volume of trucks often results in platoons of trucks, three or more, making passing difficult and dangerous.

The facility does not meet current design criteria for travel lane widths, provision of shoulders, roadway curvature, sight distance, and travel speed. These characteristics contribute to increasing travel time delays, and a declining level of service along the roadway. The level of service (LOS) provided by US 24 in the year 2008 under the No Build scenario is a LOS E. This indicates the two-lane roadway does not have adequate capacity to meet anticipated future travel demand. If improvements are not made to US 24, the problems currently experienced on US 24 will only worsen if the operational characteristics of the roadway are not improved

The accident data for US 24 between New Haven and Defiance do not identify any intersections or roadway segments that qualify as high accident locations according to ODOT criteria. However, the severity of the accidents is an issue of concern. In examining specific statistics of accidents over a three year period, 60 percent of the total accidents involved heavy trucks and approximately 30 percent resulted in injuries or fatalities, including a collision between a car and a public bus that killed three people and injured nine. Many more accidents have been avoided in the recent past due to a concentrated effort by various policing agencies to enforcement of posted speed limits, combined with local users exercising extra caution. Additionally, school systems that previously included US 24 as part of their bus routing are searching for different alternatives to avoid heavy traffic volumes and numerous near collisions.

In summary, US 24 is a two-lane road that suffers from congestion and safety-related issues as a result of inadequate capacity to accommodate current traffic demand. The operational deficiencies of US 24 are due to a combination of the following factors:

- Its design features include unlimited access, minimal shoulder widths, and a curvilinear alignment requiring multiple speed reductions and limited passing opportunities.
- Its location attracts high speed through traffic by providing direct access between Detroit, Ontario, and Indianapolis, while the same time serving as the primary local access through the center of many small towns.
- The number and diversity of its users ranging from school buses to a vehicle mix with about 45 percent heavy trucks.

For US 24 to continue to support the growing transportation demands being placed upon it, the roadway needs improvements that will address the goals of the purpose and need. ODOT and INDOT, in cooperation with FHWA, are proposing to improve the operational characteristics of US 24 for both local and through traffic in the Fort to Port area. The purpose of this major transportation project is to:

- improve traffic flow and the level of service,
- reduce travel times between project termini,

- improve roadway safety,
- enhance the regional transportation network, and
- accommodate future economic growth in the region to enhance the competitiveness of local and regional businesses.

The US 24 New Haven to Defiance study area is approximately 1262.1 square kilometers (500 square miles) in size. Beginning 0.8 kilometers (0.5 miles) west of the I-469 bypass in New Haven, Indiana, the study area extends northeast to the four-lane section of US 24 at its intersection of Ohio State Route (SR) 15, just west of Defiance.

1.2.2 ALTERNATIVES

A broad range of modal alternatives were considered for the US 24 New Haven to Defiance project. These alternatives include:

- No Build,
- Transportation System Management (TSM),
- Transportation Demand Management (TDM),
- transit,
- rail freight, and
- highway.

The modal alternatives were evaluated on their ability to address the current and future transportation needs and problems identified in the US 24 New Haven to Defiance study area.

The No Build alternative consists of only minor, short-term safety and maintenance improvements to US 24 that maintain its continuing operation. The No Build alternative does not meet the transportation needs of the study area, but is retained as the baseline condition to measure the potential impacts of the other alternatives.

TSM and TDM alternatives are made up of relatively low cost, small scale improvements that are designed to address transportation problems in an area by using the existing roadways more efficiently. TSM improvements are effective in addressing localized traffic problems, such as increasing capacity at specific congested intersections. However, the benefits of such improvements over the length of a long corridor can be sporadic. TDM aims to reduce travel demand, by shifting trips away from travel by single occupant vehicles (SOV) to transit or car pools, or shifting trips out of the peak travel time period. The TSM and TDM strategies by themselves would not reduce travel demand to the degree required to offset the need for additional capacity nor would they adequately address the design or safety problems associated with US 24. Additionally, the TSM or TDM measures would not adequately address the predicted future growth in traffic and the declining level of service (LOS). TDM measures are not cost-effective in a rural setting and are not expected to have a large enough impact to have positive measurable effects on the operational characteristics of US 24. Additionally, TDM measures have limited applicability to truck traffic and would not impact the anticipated growth in truck traffic in the US 24 corridor.

The transit alternative would involve the establishment of new fixed-route transit service between Defiance and Fort Wayne that could accommodate commuters. This alternative is neither feasible nor cost-effective for a rural area with low population, housing, and employment densities. In addition, the transit alternative does not address the design deficiencies associated with US 24 and does not address truck traffic or the movement of freight through the study area.

The rail freight alternative would seek to improve and or increase the capacity and competitiveness of the existing rail freight lines in the study area while decreasing the amount of truck traffic on US 24. This would entail shifting goods that are currently transported in and through the study area from trucks to rail, thus reducing truck traffic on US 24. The freight rail alternative requires the construction of a direct rail line between Fort Wayne and Toledo. Though this alternative could alleviate some of the truck traffic on US 24, it would not address the access, design, and safety issues associated with the highway.

Highway alternatives include various strategies to improve existing US 24 that are more substantial than the TSM and TDM alternatives. Proposed highway improvements include:

- improving the two-lane facility by adding turn lanes, widening shoulders, and improving intersections,
- upgrading the two-lane facility to a four-lane, limited access expressway, including a bypass around Antwerp, and
- constructing a four-lane, limited access expressway on new alignment.

The highway alternatives provide the highest degree of flexibility in meeting all the transportation needs identified in the study area. The highway alternatives would increase capacity, improve the LOS, and allow higher volumes of traffic to more safely use the facility. The provision of modern transportation infrastructure would enhance the economic competitiveness of the area and would improve the marketability of key economic development sites. Based on the results of the purpose and need study and modal analysis, only the highway alternatives adequately address the transportation problems and needs associated with US 24. Therefore, only the highway alternatives were carried forward for further study in the in-depth analysis presented in the DEIS.

Within the study area, 14 preliminary corridors 609.6 meters (2,000 feet) in width were initially developed for the US 24 New Haven to Defiance project between the I-469/US 24 interchange in New Haven and the Ohio SR 15/US 24 intersection west of Defiance. The preliminary corridors were evaluated individually with regards to environmental features, public comments, agency comments, and consistency with local and regional planning goals and objectives. Five of the 14 preliminary corridors were selected for further research based on a process of elimination. These were Corridors 4, 7, 10, 13 and existing US 24. Corridor widths used for the alternative development studies varied from 152.4 meters (500 feet) for the existing US 24 Corridor and 609.6 to 1219.5 meters (2,000 to 4,000 feet) for Corridors 4, 7, 10, and 13.

Within Corridors 4, 7, 10 and 13, feasible highway alternatives approximately 91.5 meters (300 feet) in width were developed. A total of 26 feasible highway alternatives were studied for the project. These included 24 expressways on new alignment alternatives (Alternatives A through X), the improved two-lane alternative on existing US 24 (Alternative Y), and the four-lane expressway along existing US 24 (Alternative Z). Feasible Alternatives A through X were comprised of combinations of 20 segments that were developed within the corridors, resulting in 24 highway alternatives on new alignment. The Feasible Alternatives in Indiana were not designed as freeways, but as expressways.

In both Indiana and Ohio, Alternatives A through X (expressway on new alignment alternatives) are designed as four-lane, divided, limited access facilities. The expressways provide for two lanes of travel in each direction separated by a 25.0 meter (82 foot) wide grass median in Indiana and 18.30 meter (60 foot) wide grass median in Ohio. Access to the Feasible Alternatives is limited to one interchange at SR 424 and

several at-grade intersections located at state routes, frequently traveled roads, and roads that provide access across the Maumee River. The design of Alternatives A through X includes an expanded right-of-way footprint between I-469 and the Indiana/ Ohio State Line to allow for freeway development in Indiana. The design speed used for determining the horizontal and vertical alignments is 112.9 kilometers per hour (70 miles per hour).

Within the existing US 24 Corridor, a two-lane alternative (Alternative Y) and a four-lane alternative (Alternative Z) were developed. The design of Alternative Y (the two-lane alternative) improves the existing road by adding shoulders, improving intersections, and adding turning lanes. This highway alternative would have unlimited access along the route. The design speed used for determining the horizontal and vertical alignments is 88.7 kilometers per hour (55 miles per hour).

Alternative Z is a four-lane divided, limited access expressway that follows along the existing route of US 24. Existing US 24 is incorporated into this alternative where possible and also used as a frontage road in some areas. This highway provides for two lanes of travel in each direction divided by a 25.0-meter (82-foot) wide grass median in Indiana and an 18.3-meter (60-foot) wide grass median in Ohio and median barriers. Access to this alternative is provided by at-grade intersections. A design speed of 112.9 kilometers per hour (70 miles per hour) was used for determining the horizontal and vertical alignments.

The 26 Feasible Alternatives were analyzed in a three-step screening process. First, the alternatives were analyzed to determine if they met the established purpose and need of the project. In the second step of the screening analysis, the potential environmental impacts were assessed for each alternative. The third step of analysis involved a more detailed examination of the environmental impacts and the consideration of other information such as public and agency comments, constructability, and right-of-way issues. Through this three-step analysis, Alternative C was identified as the Preferred Alternative.

The identification of Alternative C as the Preferred Alternative was the focus of public meetings held on May 1, 2, and 3, 2001. Citizens and local public officials in the Defiance area requested that Alternative D be reconsidered as the Preferred Alternative. Alternative D follows the same route as Alternative C from the intersection with I-469 in Indiana to Defiance County, Ohio. In Defiance County, Alternative C follows Segments 14 and 19, while Alternative D follows Segments 15 and 18.

Alternative C was also presented to the US Army Corps of Engineers (USACE) and OEPA during a field review on May 10, 2001. The focus of this meeting was the Category 3 wetlands within Alternative Segments 14, 15, 18, and 19. During the agency field review, the OEPA recommended that Alternative D be selected as the Preferred Alternative to eliminate impacts to Wetland S-4, which is located in Segment 19 of Alternative C. S-4 is a high-quality, forested wetland located in the floodplain of a tributary to the Maumee River. In correspondence dated May 24, 2001, the OEPA suggested that construction of an embankment through Wetland R-1 located within Alternative D (Segment 18) would result in less overall wetland impacts than culverting Wetland S-4 in Alternative C.

As a result of public and agency input, it was determined that detailed environmental studies (i.e. archaeology surveys, wetlands delineations, and threatened and endangered species surveys) would be conducted on both Alternatives C and D. Following completion of wetlands delineations, additional engineering designs were developed with the intention of minimizing impacts on wetlands. In Paulding County, the Preferred Alternative was

shifted to the north between US 127 and C-224, which reduced impacts to Wetland NO-15 from 1.8 hectares (4.5 acres) to 1.0 hectares (2.5 acres), a 64 percent reduction. Within Segment 18 in Defiance County, design refinements reduced impacts to R-1, a Category 3 forested wetland. These engineering refinements resulted in the development of a 27th alternative – Alternative D-1, which minimizes impacts to Category 3 wetlands.

On February 14, 2002 a meeting was held with the USACE and OEPA to discuss wetland impacts resulting from Alternatives C and D-1. In comparison, overall wetland impacts associated with Alternative D-1 are greater than Alternative C. But Alternative D-1 will impact a smaller area of Category 3 wetlands than Alternative C. In addition, the land adjacent to Wetland R-1 could provide for several mitigation options such as restoration, preservation, and creation. The area adjacent to Wetland S-4 is limited for wetland mitigation options.

Following the February 14, 2002 meeting, the USACE and the OEPA provided written comments regarding the wetland impacts and mitigation options associated with Alternatives C and D. The USACE commented that Alternative D is the least damaging practical alternative and recommended the minimization alignment (Alternative D-1) as the Preferred Alternative. The USACE also stated that preservation of Wetlands RC-1 and R-1 combined with wetland creation would be acceptable for mitigation.

Based on public comments, the May 10, 2001 agency field review, the findings of the wetland delineation surveys, the February 14, 2002 agency meeting, and concurrence by the USACE and OEPA, Alternative D-1 was identified as the Preferred Alternative for the US 24 New Haven to Defiance project in May 2002.

Since the identification of Alternative D-1 as the Preferred Alternative, investigation into several design refinements were undertaken, which focused on:

- accommodation of the transportation needs of the Amish population residing in Allen County,
- identification of potential design changes for local road crossings to accommodate the transportation needs of farm operators affected by the Preferred Alternative,
- addition of service roads to provide access to properties landlocked by the Preferred Alternative,
- completion of detailed traffic analysis of operational characteristics at intersections and interchanges with crossroads,
- evaluation of options for median design,
- development of design refinements to minimize impacts on affected wetlands,
- development of interchange designs for SR 49 and US 127 crossings,
- evaluation of the potential use of the Maumee & Western Railroad right-of-way,
- inclusion of the Antwerp Bypass in the Preferred Alternative, and
- revisions to the design of the proposed interchange at SR 424 to avoid the displacement of residential housing in the Bohlman Trailer Park.

These investigations were undertaken in response to specific comments made by the public and/or resource agencies on the Preferred Alternative. The main objective of the investigations was to develop design refinements and mitigation strategies that result in the avoidance or minimization of impacts to sensitive resources.

The following design refinements were not analyzed in the DEIS:

- development of improvements to the I-469/US 24 and SR 15/18/US 24 interchanges,

- development of a connector road linking West High Street and SR 15/18,
- development of local roadway improvements, and
- development of a wetland mitigation plan.

The Preferred Alternative for the US 24 New Haven to Defiance project is Alternative D-1 Modified, resulting from design refinements, agency comments, public comments, and mitigation measures. Elements of Alternative D-1 Modified include Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area. Alternative D-1 Modified is presented in Figure 1. Because of the elements of the Preferred Alternative, the impacts and costs associated with Alternative D-1 Modified, deviate from those of Alternative D-1. These deviations would be reflected in any of the Feasible Alternatives recommended as the Preferred Alternative and developed in accordance with INDOT's and ODOT's Project Development Processes. Features of Alternative D-1 Modified are summarized below:

- Preferred Alternative D-1 Modified will be constructed as a freeway between I-469 and the Indiana/Ohio State Line and as an expressway between the state line and SR 15/18 in Defiance. In Indiana, interchanges will be constructed at Ryan/Bruick Road, Webster Road and SR 101. In Ohio, interchanges will be constructed at SR 49, US 127, and SR 424, with at-grade intersections constructed at other key crossroads.
- The estimated construction cost for Preferred Alternative D-1 Modified is $280.7 million.
- Preferred Alternative D-1 Modified has 35 total stream crossings, impacting 8056 meters (26,425) feet of streams.
- Preferred Alternative D-1 Modified impacts a total of 9.6 hectares (23.85 acres) of wetlands.
- Preferred Alternative D-1 Modified affects 84.9 hectares (209.9 acres) of forest land.
- Preferred Alternative D-1 Modified displaces 36 residences and four businesses.
- Preferred Alternative D-1 Modified impacts 32.4 hectares (80.0 acres) of floodplain area.
- Preferred Alternative D-1 Modified utilizes existing transportation corridors for approximately 43 percent of the total length.
- Preferred Alternative D-1 Modified impacts 640.8 hectares (1,582.9 acres) of agricultural land involving nine farm residences, and eight agricultural districts.
- Preferred Alternative D-1 Modified results in 164.9 hectares (407.2 acres) of landlocked property.

1.2.3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section provided an overview and description of the general setting of the US 24 New Haven to Defiance study area as well as detailed data describing the natural and man-made resources that could be potentially impacted by the Build and No Build alternatives.

The discussion for each impact category presented the subject, setting the stage with a discussion of the existing conditions found in the 1295 square kilometer (500 square mile) study area and feasible corridors. The discussion presented data starting from the westernmost county, Allen County, Indiana, and proceeded eastward through Paulding and Defiance counties in Ohio. Feasible corridors were generally 610 meters (2,000 feet) in width for new alignments. The feasible corridor width studied for existing US 24 was 152 meters (500 feet). Discussion of the methodologies, reference standards, regulations and resources used for the analysis followed the existing condition

discussions. Additionally, any avoidance, minimization, or enhancement efforts studied during the design process were described.

The project impact discussions referred only to those resources found within the rights-of-way identified for the alternatives. The rights-of-way for Alternatives A through X and Z were approximately 91 meters wide (300 feet) and the right-of-way for Alternative Y was approximately 13.41 meters (44 feet) in width. The impacts associated with each alternative served as a basis for comparison of the Build alternatives. A discussion of possible mitigation and mitigation techniques relative to the impact category followed the impact analysis and concluded the discussions.

Changes to project related impacts addressed in the Affected Environment and Environmental Consequences section of the July 2003 DEIS are discussed in Section 5.0 of this FEIS.

1.2.4 CONCLUSIONS AND RECOMMENDATIONS

In addition to summarizing the project impacts discussed throughout the Affected Environment and Consequences section, the DEIS provided a Preferred Alternative recommendation and discussed the proposed environmental commitments to be implemented.

Changes to the Preferred Alternative are discussed in Section 5.0 of this FEIS. The environmental commitments discussed in the DEIS and any new environmental commitments since approval of the DEIS are discussed in Section 6.0 of this FEIS.

1.2.5 COMMENTS AND COORDINATION

A public involvement program was developed and implemented for the US 24 project to include public participation along with federal, state and local agencies contributing throughout project development. A summary of public involvement and agency coordination activities throughout the development of the US 24 project was presented in the DEIS.

Section 2.0 of this FEIS presents public involvement opportunities available since August 2003. A series of public hearings were held on October 28, 29, and 30, 2003 to present the approved DEIS for comment. A public hearing summary is included in Appendix B of the FEIS. Agency coordination and correspondence since approval of the DEIS in August 2003 are documented in Section 3.0 and Appendix C of this FEIS.

2.0 PUBLIC INVOLVEMENT

2.0 PUBLIC INVOLVEMENT

This section discusses the public involvement opportunities available since the Draft Environmental Impact Statement (DEIS) was approved on August 19, 2003.

The following local agencies and organizations received copies of the DEIS for review, comment, and public availability.

- Allen County Department of Planning Services, Fort Wayne, Indiana
- Allen County Engineer, Fort Wayne, Indiana
- Allen County Fire Department, Fort Wayne, Indiana
- City of Fort Wayne, Fort Wayne, Indiana
- City of New Haven, New Haven, Indiana
- City of Woodburn, Woodburn, Indiana
- Jefferson Township, Allen County, Indiana
- Maumee Township, Allen County Indiana
- Maumee Township Volunteer Fire Department, City of Woodburn, Indiana
- Milan Township, Allen County, Indiana
- Milan Township Fire Department, Allen County, Indiana
- Northeastern Indiana Regional Coordinating Council, Fort Wayne, Indiana
- Antwerp Branch, Paulding County Carnegie Library, Antwerp, Ohio
- Carryall Township, Antwerp, Ohio
- Crane Township, Cecil, Ohio
- Emerald Township, Cecil, Ohio
- Harrison Township, Paulding County , Ohio
- Paulding County Engineer, Paulding, Ohio
- Payne Branch, Paulding County Carnegie Library, Payne, Ohio
- Village of Antwerp, Antwerp, Ohio
- Village of Cecil, Cecil, Ohio
- Village of Paulding, Paulding, Ohio
- City of Defiance, Defiance, Ohio
- Defiance County Engineer, Defiance, Ohio
- Defiance Public Library, Defiance, Ohio
- Defiance Township, Defiance, Ohio
- Delaware Township, Defiance, Ohio
- Maumee Valley Planning Organization, Defiance, Ohio
- Noble Township, Defiance, Ohio

On October 28, 29 and 30, 2003, the Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT) held a series of three public hearings to offer the general public an opportunity to comment on the DEIS for the US 24 New Haven to Defiance project. The project involves the proposed relocation, improvement and abandonment of portions of US 24 in Allen County, Indiana and Paulding and Defiance counties, Ohio. Also incorporated into the hearings was the removal of State Route Number US 24 from the portion of highway that is also numbered US 127 in Defiance County. The meetings were held from 5:30 to 8:00 PM. Approximately 400 people attended the three public hearings.

Legal advertisements for the public hearing were placed in the Journal Gazette and the News-Sentinel on October 12, 20, and 27, 2003, and in the Crescent News and Toledo Blade on October 14 and 21, 2003. These newspapers represent the widest readership within the vicinity of the project. The advertisements informed the public of three scheduled public hearings and of the availability of the DEIS for review and comment.

In addition to the legal advertisements, a newsletter and announcements of the public hearing were mailed to over 2,000 project stakeholders on October 17, 2003. Copies of the legal notices and announcements are found in Appendix B. Information about the public hearings was also posted on the project's website.

The Public Hearing Summary (Appendix B) documents the public hearing process and includes the following:

- history of the US 24 project,
- hearing legal notice, advertisements and announcements,
- hearing details (location and schedule of events), and
- hearing exhibits and handout materials.

The purpose of the public hearings was to give the public the opportunity to comment on the Preferred Alternative recommended in the DEIS, its impacts, and proposed mitigation strategies. The information presented and the format of each public hearing were the same at each location. An open house format began each meeting at which time the public was able to visit numerous "stations" of information. A formal presentation was given followed by a public comment session. After the presentation and comment session, the open house format resumed. All participants were encouraged to provide comments on the Preferred Alternative, its impacts, and proposed mitigation. Attendees were given the opportunity to provide written comments and verbal comments. A court reporter was present to record comments at the hearings. Comments were accepted until November 21, 2003. A total of 115 comments were received. Many of the comments addressed site-specific impacts of the Preferred Alternative, while others focused on general issues.

- West High Street Access: The vast majority of written comments received during the comment period focused on the access around West High Street in Defiance. Many of the comments were from residents in the area that supported Option 2. Option 2 involves grade separating the West High Street intersection with US 24 improving parts of the existing local roadways and constructing a new connector road to link West High Street with SR 15/18 (Ralston Avenue). Other individuals from the area indicated that they would prefer an interchange at US 24 and West High Street to encourage economic development opportunities in Defiance.
- Local Roadways: Some stated their concerns about the potential impacts to the local roadways as a result of the Preferred Alternative. A few individuals stated their desire to see access remain on all local roadways via additional overpasses or underpasses while others were concerned about traffic on specific roads such as Webster Road, Harper Road, and Bruick/Ryan Roads.
- Ecological Resources: Some individuals from Allen County were concerned about additional impacts to residential areas and farmland that would result from moving the alignment of the Preferred Alternative to avoid two large trees in the area.
- Farmlands: Several individuals expressed concern about impacts to farmlands. Farming concerns included impacts to drainage tiles, limiting access to fields and the loss of productivity.
- Project Schedule: A few individuals stated that construction should begin as quickly as possible because ongoing safety concerns are only expected to increase over time.

Table 2.1 summarizes the comments received from the October 2003 public hearings.

Since the October 2003 public hearings, ODOT has continued public involvement efforts for the project. The following summarizes continued public involvement activities undertaken since the approval of the DEIS.

- Toll Free Hotline remained open until January 2005.
- The www.us24.org website continues to be updated and will be maintained through construction.
- The fifth newsletter was published and circulated to over 1,800 individuals, October 2003.
- At the request of local citizens, ODOT held a special outreach meeting on November 17, 2003, to discuss the four alternatives developed for the West High Street/Switzer Road area. At the meeting, ODOT representatives presented the four alternatives and answered questions regarding design and traffic impacts. Many citizens voiced their opinions regarding the alternatives, traffic, and potential development in the area. The comments received at the meeting assisted ODOT in developing an alternative for access to US 24 at West High Street/Switzer Road that was acceptable to the majority of local citizens, officials, and stakeholders.
- On January 8, 2004, ODOT met with local officials, stakeholders and concerned citizens to discuss the alternatives developed for West High Street/Switzer Road. Option 2 was identified as the preferred alternative by ODOT. The discussion focused on the location of a connector road, which would link West High Street with SR 15/18. ODOT agreed to develop Option 2 in accordance with recommendations received from the stakeholders, public officials, and concerned citizens.
- On April 1, 2004, ODOT met with local officials and representatives from Defiance Regional Medical Center to discuss details of the design and location of the connector road between West High Street and SR 15/18.
- On September 9, 2004, ODOT met with affected property owners in Paulding County to discuss acquisition.
- On October 21, 2004, ODOT met with affected property owners in Paulding County to discuss acquisition.
- On November 10, 2004, ODOT met with affected property owners in Defiance County to discuss acquisition.
- On December 9, 2004, ODOT met with affected property owners in Defiance County to discuss acquisition.
- On January 20, 2005, ODOT met with affected property owners in Paulding and Defiance counties to discuss acquisition.
- On May 26, 2005, ODOT met with residents of the Bohlman Trailer Park to discuss noise mitigation measures.
- On August 3, 2005, INDOT met with local elected officials and economic development officials of the Fort Wayne District to discuss the importance of US 24 to the region.

TABLE 2.1
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Representative Steve Buehrer (October 2003) Stan Guilliam on behalf of Lynn Lantz (October 2003) Darrell Handy (October 2003) Commissioners Thomas Kime, Otto Nicely, and Richard Cromwell (November 2003) James Roach (November 2003) Stephen Boomer (November 2003) Bill Mack (November 2003) Jerry Hayes (November 2003) Web and Scott Olsen (October 2003) Casey Wertz (November 2003) Jim Hitchcock Elias Samaan (October 2003) Deborah Hasselswerth (October 2003) Bob Simpson (October 2003) Gail Olson (October 2003) Steven Graf (October 2003 and November 2003) Gary Butler (October 2003) John Horns (October 2003) Mary Sebring (October 2003) George Masterson (October 2003) Stan Guilliam (October 2003) Gaylon Davis (October 2003 and November 2003) Jerry Hayes (October 2003) Bill Koester (October 2003) Rich Cromwell (October 2003) Jerry Monim (October 2003) Joe Eureste (October 2003) Ted Penner (October 2003) Koester Corporation (November 2003) Mark Hench (October 2003) Mayor Frederick Schultz (October 2003 and November 2003) Gaylon Davis (November 2003) Mayor-Elect Bob Armstrong (November 2003) Charles Swisher (November 2003) Warren Schlatter (October 2003)	Supports Option 3 which is an interchange at US 24 and West High Street.	An interchange will not be constructed at US 24 and Switzer Road/West High Street. Option 2 with modifications was selected as the preferred alternative. A connector road will link West High Street with SR 15/18.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Michael Fronk (October 2003) Mary Fronk (October 2003) Jane and Joseph Clemens (October 2003) Rebecca Hoschak (October 2003) David Hoschak (October 2003) Gertrude Hoschak (October 2003) Robert Hoschak (October 2003) Frances Imber (October 2003) Donald Hindy (October 2003) Timothy A Hogan (October 2003) Timothy R.T. Hogan (October 2003) Fred and Lisa Squires (October 2003) Julia Squires (October 2003) John Squires (October 2003) Fred Squires (October 2003) Eric Squires (October 2003) Gary Smith (October 2003) Jacki Wells (October 2003) Elizabeth Hogan (October 2003) Patsy and Edward Osborn (October 2003 and November 2003) Terri Leonard (October 2003) Joyce Herr (October 2003) Jody Smith (October 2003 and November 2003) Victor and Ruth Relue (October 2003) Mary Ann Hall (October 2003 and November 2003) Mark Snyder (October 2003) R.S. Sabo (October 2003) Darlene Sabo (October 2003) Ilene Spacht (October 2003) John Spacht (October 2003) Dianna Lynn Snyder (October 2003) Nelson Smith (October 2003 and November 2003) Marvin and Maxine Thieroff (October 2003 and November 2003) Naomi Blosser (October 2003) Gale Davis (November 2003) Diane Davis (November 2003) Tammy Imber (November 2003) Mary Ann and Dennis Smith (October 2003 and November 2003) Kelly Smith Masterson (October 2003) Kim Rhodes (October 2003) Debra Smith (October 2003)	Opposed to an interchange at West High Street and supports Option 2.	An interchange will not be constructed at US 24 and West High Street. Option 2 with modifications was selected as the preferred alternative. A connector road will link West High Street and SR 15/18.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Robert and Irene Scrantlen (October 2003) Mahlon and Jean Hall (October 2003) David and Nancy Bok (October 2003) Lisa Smith (October 2003) Veronica Matvey (October 2003) Robin Smith (October 2003) Virginia Smith (October 2003) Michael and Tammy Imber (October 2003) Diane Hall (October 2003) Ruth Kaufman (October 2003) Douglas Kaufman (October 2003) Tim Clevenger (October 2003) Jenny Wedekind (October 2003) Robert Layman (October 2003) Connie Stover (October 2003) Gerald Otte (October 2003) W.S. Duerk (October 2003) Staci Kaufman (October 2003)	Opposed to an interchange at West High Street and supports Option 2.	An interchange will not be constructed at US 24 and West High Street. Option 2 with modifications was selected as the preferred alternative. A connector road will link West High Street and SR 15/18.
Avery Troy Zeller (October 2003) Justin Niles (October 2003) James and Martha Long (October 2003) Norma Pinney (October 2003)	Noted that parcel information was incorrect on hearing displays.	Following the public hearings, parcel information was corrected.
James and Martha Long (October 2003)	Inquired about access onto their property on Bremer Road.	Access to Bremer Road will remain available to their property.
Betty Akers (October 2003) Mr. and Mrs. John Fortman (November 2003)	Unsatisfied with proposed access road on their property.	The interchange at Ryan/Bruick Road will eliminate the existing access to the Akers' property. A new access road will be provided off Bremer Road for the Akers. This access road will affect a small portion of the Fortman property.
David Bidlack (October 2003)	Unsatisfied with current alignment on his property.	Less than 0.2 acres will be affected by relocated C-206. ODOT will minimize impacts to this property during final design.
Dan Froelich (October 2003)	Indicated that taking a portion of his land would reduce the number of horses his farm could support.	Comment noted.
John Fortmen (October 2003)	Suggested leaving US 24 as is and eliminating the toll from I-80 to encourage trucks to use I-80.	This alternative was studied and determined not to be feasible.
Gary Schaaf (October 2003) Robert Hadley (October 2003)	Suggested making the alignment in Indiana parallel the railroad corridor.	This alignment was studied in the preliminary design phase and determined not to be feasible because it is located too far to the south.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Jan and Lynn Ehle (October 2003)	Suggested a realignment between Berthaud and Rousey roads to minimze the number of landlocked parcels.	The Preferred Alternative D-1 Modified was developed with consideration of a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts.
Joyce Schaaf (October 2003)	Suggested relocating the alignment south to reduce the number of landlocked parcels.	Southern alignments were studied during the project development process and eliminated from further consideration. The Preferred Alternative D-1 Modified was developed with consideration of a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts.
Gary Wellman (October 2003)	Indicated satisfaction with removing trees from his property.	Comment noted.
Donn Werling (October 2003)	Suggested shifting the alignment to avoid the historic oak trees in Allen County.	INDOT has investigated several options which avoid the oak tree. In the detailed design phase, INDOT will continue to study measures to minimize impacts to the trees.
Raymond Schaper (October 2003)	Suggested moving the alignment southeast to avoid his drainage tiles and to minimize impacts to his fields.	The Preferred Alternative D-1 Modified was developed with consideration of a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts. Impacts to drainage tiles will be mitigated during construction.
Robert Schaper (November 2003)	Suggested moving the alignment east to maintain proper drainage; and inquired about overpass or underpass heights for farm equipment.	The Preferred Alternative D-1 Modified was developed with consideration of a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts. Bridge structures are typically 17 feet in height. In Indiana overpasses or underpasses will be located at Doyle, Sampson, Woodburn, Bull Rapids, and State Line roads.
Jon Hoeppner (October 2003)	Recommended that dry hydrants should be installed during construction.	The determination to install dry hydrants is made by local officials and not ODOT or INDOT.
Karl Hockemeyer (October 2003)	Suggested that existing US 24 remain open after construction.	Existing US 24 will remain open as a local road.
Steven Schrenk (October 2003) Karen Stir (November 2003) Sharon Waterman (November 2003) Dennis and Jan Huguenard (November 2003) Carol Burke (October 2003) Mr. Stern (October 2003) Roland Yoder (October 2003) Faye Roemke (October 2003)	Suggested not rerouting the alternative to avoid trees.	In the detailed design phase, INDOT will study measures to minimize impacts on the two large oak trees within the right-of-way limits of the new highway.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Steven Schrenk (October 2003)	Preferred US 24/I-469 Alternative 12 interchange; suggested leaving CR 180 open for local traffic.	Based on engineering, traffic, costs, environmental studies, and public involvement, a modified version of Alternative 13 was selected as the preferred interchange alternative. C-180 is a two-lane road that runs in the east-west direction. C-180 provides the same function as C-176 but does not meet ODOT's current design standards for local roads. Therefore, C-180 will be closed as a result of the new highway and C-176 will remain open.
James Weaver (October 2003)	Indicated that project should be completed to provide economic development opportunities for the area.	Comment noted.
Scott Krieg (October 2003) Joel Tye (October 2003) Dan Gray (October 2003) Ruth Yarb (October 2003) Elias Samaan (October 2003) Brian Bergsma (October 2003) Representative Steve Buehrer (October 2003) Norma Pinney (October 2003)	Indicated that the project should be completed as quickly as possible.	The anticipated completion of the environmental phase of the project is 2005; construction will begin in 2006.
John Marcellus (October 2003) James Hitchcock (October 2003)	Indicated that US 24 is unsafe and construction should begin.	Construction is scheduled to begin in 2006.
John Horn (undated letter)	Supported working with ODOT to achieve a solution to the US 24 and West High Street access problem.	ODOT has coordinated with the public on an alternative that will provide access to West High Street from US 24 via a connector road.
John and Sandra Miller (October 2003)	Concerned that the new US 24 would limit local access and increase existing roadway drainage problems; inquired about the plans for Doyle and Bruick roads.	Local access is provided along the new highway in Ohio, but not Indiana. The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs. Doyle Road will remain open with an overpass and an interchange will be constructed at Ryan/Bruick Road.
Karen Stir (November 2003)	Opposed interchange at Bruick and Ryan roads and instead favored an overpass.	An interchange will be constructed at Ryan/Bruick Road. The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs.
Steven Schrenk (November 2003)	Suggested not closing CR 69 and CR 180.	The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs. Due to the minimal traffic volumes on C-69, the road will be closed. Access to properties along C-69 will be provided by the Antwerp Bypass Connector. C-180 is a two-lane road that runs in the east-west direction. C-180 provides the same function as C-176 but does not meet ODOT's current design standards for local roads. Therefore, C-180 will be closed as a result of the new highway and C-176 will remain open.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Keith Derck (October 2003)	Concerned that closing CR 180 would increase emergency response time.	The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs. C-180 provides the same function as C-176 but does not meet ODOT's current design standards for local roads. Therefore C-180 will be closed as a result of the new highway and C-176 will remain open.
James Sherwood (October 2003)	Concerned that eliminating access to I-469 at existing US 24 would increase fire service response time.	Access will remain at I-469 and will be improved under the Preferred Alternative D-1 Modified.
Mike Koeneman (October 2003) Jon Koeneman (October 2003) Linda Koeneman (October 2003)	Concerned about deliveries to their businesses if Berthaud Road is closed.	Berthaud Road will remain closed but access will be provided via Ryan and Webster roads.
Tom Tracey (October 2003) Carl Ehinger (October 2003)	Preferred an overpass at Harper Road instead of closure.	Construction of the Preferred Alternative D-1 Modified will result in the closure of Harper Road because of its close proximity to the I-469 interchange. The western terminus of Harper Road is directly south of the I-469 interchange ramp to US 24.
James Hirschy (October 2003)	Suggested an at-grade crossing at US 24 and Rousey Road so local road can remain open.	Due to minimal traffic volumes Rousey Road will be closed due to construction of the new US 24 highway.
Robert Simpson (November 2003)	Requested that all local roads remain open.	US 24 in Indiana is designed as a freeway with full access control. Access to local roads will be provided via interchanges at Ryan/Bruick Road, Webster Road, and SR 101. The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs and are acceptable to these stakeholders.
Paul Melin (October 2003)	Concerned trucks will use existing US 24 as an overnight resting area.	Comment noted. US 24 will remain open as a local roadway.
Lynn Werling (October 2003)	Suggested that a 90-degree turn from Ryan Road to Bruick Road could be problematic for large trucks.	INDOT will study this intersection in the detailed design phase.
Dan Avery (November 2003)	Suggested realigning Webster Road to eliminate the existing three-way stop and the 90-degree turn.	INDOT will study this intersection in the detailed design phase.
Bruce Goebel (October 2003)	Suggested that impacts to homes and communities should be a greater priority than construction costs.	Avoidance or minimization of impacts to residential development and communities was considered throughout the project development process and documented in the DEIS. The Preferred Alternative D-1 Modified was developed with consideration paid to a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts.

TABLE 2.1 (CONTINUED)
PUBLIC COMMENTS FROM THE PUBLIC HEARINGS

Commenter	Comment	Response
Carolyn Langdon (November 2003) Sally Skillen (November 2003) David Nice (November 2003)	Suggested that property takes from their farms would permanently reduce productivity, efficiency and marketability of their land.	The project's impacts to farmlands are recognized as important in this rural area. The Preferred Alternative D-1 Modified has been developed with strong consideration paid to minimizing impacts to farms. Because of the rural nature of the project area, it was not possible to avoid all farm impacts.
Samuel Schlatter (October 2003)	Requested additional overpasses between Antwerp and Krouse roads in Defiance.	Between Antwerp and Krouse Road only eight roads are closed. Access is provided at 16 roads between Antwerp and Krouse Road. The access features of the Preferred Alternative D-1 Modified have been developed in close coordination with state, county, and local officials as well as local EMTs.
James Passwater (October 2003)	Suggested that the impacts to the natural environment should be balanced with safety.	The Preferred Alternative D-1 Modified was developed with consideration paid to a wide range of impacts and is considered to be the most balanced solution to avoid or minimize project impacts.
Ken Poling (October 2003)	Requested copies of the US 24/I-469 options.	Copies of the US 24/I-469 feasible interchange alternatives were provided to Mr. Poling.
Staci Kaufman (October 2003)	Inquired as to whether ODOT accepts private donations to build projects.	ODOT does not accept private donations to build projects.
Carl Gallup (October 2003)	Inquired if the barn on parcel 208 would be taken.	On parcel 208 the house and small out buidling will be displaced but the barn will remain on the property.
Norma Pinney (October 2003)	Concerned about the impacts of Doyle Road from the project.	Doyle Road will remain open and an overpass will be constructed over the new highway.

3.0 AGENCY COORDINATION

3.0 AGENCY COORDINATION

3.1 ACTIVITIES COMPLETED FOR REVIEW OF THE DEIS

The majority of this project has been completed following the Ohio Department of Transportation's (ODOT's) Nine-Step Transportation Development Process for agency concurrence points. Three of the four Agency Concurrence Points in the Nine-Step Manual have been completed. In 2004, ODOT initiated a new Major Project Development Process, which modifies the fourth concurrence point from the Nine-Step Transportation Development Process and adds a fifth Concurrence Point. Concurrence Point #4 in the 2004 ODOT Project Development Process represents the circulation of the Draft Environmental Impact Statement (DEIS) to agencies and solicitation of comments on the Preferred Alternative. Concurrence Point #4 has been completed for the US 24 project. Concurrence Point #5 will be fulfilled by the circulation of the Final Environmental Impact Statement (FEIS) to the agencies and the public for the purpose of explaining how any comments on the DEIS were addressed. The Preferred Alternative, with modifications, is the Preferred Alternative D-1 Modified presented in this FEIS.

Agency Coordination for Concurrence Points #1 and #2 were conducted simultaneously. These concurrence points represent the completion of initial project planning and programming efforts, development of the project purpose and need, and initiation of the environmental scoping process. These concurrence points also represent the first consultation step in the National Environmental Policy Act (NEPA)/404 Permit Process, as defined in *NEPA/404 Process for Transportation Projects* (Federal Highway Administration [FHWA], US Army Corps of Engineers [USACE], US Environmental Protection Agency [USEPA], and US Fish and Wildlife Service [USFWS]). This concurrence point also includes coordination with the Ohio Environmental Protection Agency (OEPA) (relative to Section 401 of the Clean Water Act) and the Ohio Department of Natural Resources (ODNR). Concurrence Point #3 represents the circulation of the Preliminary Draft Environmental Impact Statement (PDEIS) to agencies, which presents the Feasible Alternatives. State and federal agencies were asked to review the Feasible Alternatives and their associated impacts presented in the *US 24 New Haven to Defiance Preliminary Draft Environmental Impact Statement*, and to provide a recommendation for a Preferred Alternative.

Concurrence Point #4 – On October 3, 2003 a notice of availability (NOA) of the DEIS was published in the *Federal Register*, initiating a 45-day comment period. A copy of the NOA is provided in Appendix B. The approved DEIS was circulated to federal, state and local agencies. The agencies were requested to concur on the recommendation of the Preferred Alternative as presented in the DEIS, its impacts and proposed mitigation. The following nine agencies submitted comments on the Preferred Alternative as presented in the DEIS:

- US Department of Commerce, National Oceanic and Atmospheric Administration,
- US Department of Health and Human Services-Centers for Disease Control and Prevention,
- US Department of Housing and Urban Development,
- US Department of the Interior,
- US Environmental Protection Agency, Region 5,
- Ohio Department of Natural Resources,
- Ohio Environmental Protection Agency, Division of Surface Water,
- Indiana Department of Environmental Management,
- Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology
- Indiana Department of Natural Resources, Division of Water, and
- Northeastern Indiana Regional Coordinating Council.

A summary of the agency comments received is provided in Table 3.1 and copies of the correspondence are provided in Appendix C.

TABLE 3.1
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency US Department of Commerce, National Oceanic and Atmospheric Administration (December 3, 2003)	
Comment	**Response**
If there are any planned activities which will disturb or destroy the National Geodetic Survey's horizontal and vertical geodetic control monuments, the National Ocean Service (NOS) requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project include the cost of any relocation(s) required.	If control monuments are affected by construction of the proposed highway, Indiana Department of Transportation (INDOT) and/or ODOT will coordinate with NOS and will fund their relocation.

Agency US Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) (November 3, 2003)	
Comment	**Response**
The CDC has reviewed this document for potential adverse health and safety effects on human populations. Overall, we agree that the proposed project will improve roadway safety, enhance the regional transportation network, and improve levels of service between New Haven, Indiana and Defiance, Ohio. The project will result in a more efficient and safer roadway that meets current design standards and should have a positive effect with the improvements that are proposed and the mitigation measures planned.	Comment noted.
The Centers for Disease Control and Prevention noted that no well head protection plans have been endorsed by the Ohio Environmental Protection Agency for the US 24 study in Paulding county, Ohio and no well head protection plans have been submitted for Defiance County, Ohio. Additionally, well head protection plans for the Allen County portion of the US 24 Study area have not been submitted to the Indiana Department of Natural Resources. The FEIS should include these plans.	Comment noted. Wellhead protection plans have not been endorsed by the IDEM for portions of the study area in Allen County, Indiana, and OEPA for Paulding and Defiance counties, Ohio.
In similar projects, experienced Environmental Inspectors are assigned to monitor construction activities and ensure that all appropriate construction activities are in compliance with applicable federal, regional, state, and local environmental permits and approvals. Please clarify how environmental inspections and construction monitoring will be accomplished.	In ODOT's and INDOT's project Project Development Process, environmental monitoring is an integral part of the construction activities. Environmental monitoring will be conducted through construction and after construction for the US 24 project in accordance with ODOT's *Construction Materials Specifications Handbook* (2005) and INDOT's *Construction Activity Environmental Manual* (2002). INDOT's and ODOT's Engineers are responsible for ensuring that the contractors comply with environmental regulations and commitments detailed in their construction specifications such as sections 105.16 (Borrow and Waste Areas) and 107.19 (Environmental Protection) of ODOT's *Construction Materials Specifications Handbook* (2005).
The DEIS states that a Storm Water Pollution Plan will be prepared. However, the CDC believes that the FEIS should address spill potential during construction with a Spill Prevention and Control Plan. The plan should include, but not be limited to: precautionary measures to prevent spills; sources of spills, such as equipment failure or malfunction; standard operating procedures in case of a spill and appropriate training for all construction personnel.	Section 3.6 of the DEIS discusses construction impacts including the potential for spills. A Spill Prevention Control and Countermeasure Plan (SPCCP) will be prepared prior to construction and implemented during construction. The plan will follow USEPA Oil Planning and Response guidelines and include prevention control measures, sources of spills, standard operating procedures in case of spills, and training for all construction personnel. The SPCCP will be made available at the project office.
The FEIS should contain a statement of compliance with appropriate criteria and guidelines to ensure safety and health for both workers and the general public.	Section 3.6 of the DEIS addresses health and safety considerations.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency US Department of Housing and Urban Development, Ohio State Office (November 24, 2003)	
Comment	**Response**
The US Department of Housing and Urban Development (HUD) has determined that the project does not present any special interests or concerns to HUD.	Comment noted.

Agency US Department of the Interior, Office of the Secretary (December 4, 2003)	
Comment	**Response**
The Draft EIS and Section 4(f) Evaluation conclude that only two resources meet the criteria for Section 4(f) resources, the Maumee River Public Fishing Area and Riverside Park. The Department, however, believes that the Maumee State Scenic and Recreational River also meets the criteria as a Section 4(f) resource. The Department notes that in the letter from ODNR dated June 18, 2001, the ODNR was willing to "exempt" the project from Section 4(f) review. Unfortunately, the ODNR does not have the authority to "exempt" a resource from review, only to determine that the resource is "not significant". Absent a determination from the ODNR that the Maumee River is not a significant resource, it must be included in the Section 4(f) Evaluation. Since all of the alternatives cross the river, complete avoidance may not be possible. Accordingly, if a determination that there is no feasible and prudent alternative to the use of land from the property is made, the action shall include all possible planning to minimize harm to the property resulting from such use.	The FHWA has thoroughly investigated the recreational status of the Maumee River in relation to the US 24 project. In addition, FHWA conducted multiple interviews with ODNR officials. Through these efforts it was determined that the nearest recreational area on the Maumee River is located three miles downstream of the existing US 24 bridge. Any relationship between the recreational status of the Maumee River and the existing river crossing is the convenience of the latter as a familiar landmark along the Maumee River. The bridge does not demarcate a specific point in the river whose primary function is recreation, but rather serves merely as a point of general reference. Based on FHWA's coordination with ODNR and ODOT, review of the applicable documentation, and FHWA's knowledge of the project, FHWA has determined that Section 4(f) is not applicable to the Maumee River in the vicinity of the existing US 24 bridge. Correspondence regarding Section 4(f) is provided in Appendix C.
The Department notes that the preferred alternative (D-1) will impact another Section 4(f) resource, the Meyer/Gallmeyer Farm. A determination that there are no feasible and prudent alternatives to the use of land from this historic property was presented in Appendix 4 of the review documents. To support this determination, the Section 4(f) Evaluation presents comparative information on the impacts associated with all of the alternatives, including those not selected as the preferred (e.g., alternatives E, F, G and H), concluding that none of these alternatives are feasible or prudent. The documentation does not demonstrate that these alternatives meet what is known as the Overton Park criteria (*Citizens to Preserve Overton Park v. Volpe,* 401 US 402 [1972]) which establishes that Section 4(f) lands are "...not to be lost unless there are truly unusual factors present...or...the cost of community disruption resulting from alternative routes reaches extraordinary magnitudes." Those thresholds of impact for the selection of this segment are not demonstrated here. In addition, the four other alternatives E, F, G and H, are argued to have impacts on productive farmlands and on woodlots although the preferred alternative D-1 is quite comparable in the amount of impacted farmlands and woodlots for the entire project. Alternative D-1 does have consistently less impacts on forested wetlands over the entire project length, but these impacts on the other alternatives could be mitigated to reduce or minimize some of these impacts. For these reasons, the DOI cannot concur with FHWA that there are no feasible and prudent alternatives to the proposal as presented, that would result in impacts to Section 4(f) properties. We also cannot concur that all possible planning needed to minimize potential harm to these resources has been employed.	The National Register of Historic Places boundary for the Meyer/ Gallmeyer Farm was reassessed and revised by the FHWA, INDOT and Indiana Division of Historic Preservation and Archaeology (DHPA) in February 2005. It was determined that the historic boundary should only include the land immediately surrounding the farm house and associated outbuildings and not the entire 31.1 hectares (76.8 acres) of the farm. Therefore, there no longer is a Section 4(f) impact on the Meyer/Gallmeyer Farm.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency US Department of the Interior, Office of the Secretary (continued) (December 4, 2003)	
Comment	**Response**
We encourage ODOT to minimize impacts to upland forested habitat areas by implementing, to the extent feasible, such measures as reducing the median width and limiting the cleared right-of-way to only what is necessary to facilitate construction. We also recommend that the ODOT take opportunities to replace the project-caused loss of the 68.7 acres of woodland habitat, where feasible, to develop meaningful forest habitat over time. We recommend the planting of native trees in blocks of assorted varieties on "odd areas" along the rights-of-way, as buffers around preserved and mitigation wetlands, and adjacent to stream corridors within and near the project area.	During detailed design, impacts to forested habitat will be minimized to the extent possible. ODOT will look for opportunities to plant trees in areas that will not compromise highway maintenance activities and driver safety. As part of project mitigation, ODOT is proposing to purchase a woodlot approximately 53.8 hectares (133 acres) in size. A portion of the woodlot is a Category 3 forested wetland and Stevens Ditch. Adjacent to the woodlot a 10.53- hectare (26-acre) wetland will be restored and planted with trees and shrubs.
We recommend modifications to the Ohio portion of the project to further avoid and minimize wetland (and specifically forested wetland) impacts. Specific wetlands of concern include NO-15, W-4, R-4, R-1(A), and RC-1, due to the proposed amount of impact and significance of the ecological community. We understand that, due to the physical constraints in the study area, some impacts to these resources cannot be completely avoided. We encourage minimization of impacts to these areas by including such measures as reducing the median width; limiting the cleared right-of-way to only what is necessary to facilitate construction; and utilizing bridges over significant habitat areas, where feasible and appropriate.	During detailed design, these impacts will be minimized to the extent possible. As part of project mitigation, ODOT is proposing to purchase a woodlot approximately 53.8 hectares (133 acres) in size. A portion of the woodlot is a Category 3 forested wetland and Stevens Ditch.
The FWS believes that in some instances, such as this project, further analysis of potential impacts to the Indiana bat is necessary before determining whether abiding by the tree cutting guidelines alone will adequately avoid and minimize impacts. Currently, the letter of agreement is being revised to more specifically outline when adherence to tree cutting restrictions would be sufficient to avoid impacts to the bat, and when further studies (such as habitat suitability evaluation and/or mist net survey) may be necessary. For this specific project, the FWS wants to gather more information to determine the quantity and quality of Indiana bat habitat among the potentially impacted woodlots.	A Biological Assessment was prepared for the project and Section 7 consultation initiated on May 18, 2005. The USFWS issued a Biological Opinion on the construction, operation, and maintenance of the US 24 New Haven, Indiana to Defiance, Ohio project for the Indiana bat on September 30, 2005.

Agency US Environmental Protection Agency, Region 5 (November 20, 2003)	
Comment	**Response**
USEPA commends the Federal Highway Administration (FHWA), INDOT and ODOT for their attention to minimizing impacts to wetlands as much as possible and for working extensively with affected citizens and communities.	Comment noted.
Based on our review of the information provided in the DEIS, we have rated the present DEIS as EC-2. The "EC" means that we have environmental concerns with the proposed action, and the "2" means that additional information needs to be provided in the Final Environmental Impact Statement (FEIS).	Comment noted.
Please clarify why Alternative D was reconsidered over the previously-selected Alternative C.	This decision is explained in detail in Chapter 2 of the DEIS and Section 1.2.2 of this FEIS. The decision was based on agency field reviews, meetings and comments; findings of the wetland delineation survey; public comments; and concurrence by USACE and OEPA.
Please describe wetlands mitigation more completely in the FEIS.	Wetland mitigation is discussed in Sections 3.2.1 and 6.3 of this FEIS.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency US Environmental Protection Agency, Region 5 (continued) (November 20, 2003)	
Comment	**Response**
Please discuss stormwater runoff management in the FEIS. We would expect that FHWA, ODOT and INDOT will utilize BMPs to ensure that the stormwater runoff does not adversely impact any wetlands or waterbodies.	Stormwater management is discussed throughout Section 3 of the DEIS. BMPs will be used by INDOT and ODOT for temporary and permanent stormwater management.
The FEIS should include additional information in its noise analysis and address abatement.	Section 5.2.22 of this FEIS discusses the additional noise studies that were conducted for the Preferred Alternative D-1 Modified. Noise abatement will be provided for the Bohlman Trailer Park. Noise abatement is discussed in Section 5.2.22 and Section 6.3 of this FEIS.
Delineated Wellhead Protection Areas should be identified on relevant maps. We recommend the FEIS include protective measures for these areas as well.	There are no wellhead protection areas within the study area. Wellhead protection is discussed in Section 3.1.2 of the DEIS.

Agency Ohio Department of Natural Resources (November 14, 2003)	
Comment	**Response**
The description of corridor geology in Section 3.1.1 of the DEIS does not provide a complete overview of geologic conditions in the study area. A description of all major, unconsolidated surficial-material units (as can be distinguished using water-well logs, existing engineering borings, etc.) from the surface down to bedrock is necessary to more fully characterize glacial and recent alluvial sediments in the project area. In addition, there is no description or discussion in this section of bedrock geology underlying the glacial drift.	Since the circulation of the DEIS and designation of the Preferred Alternative D-1 Modified, soil borings have been undertaken through the Stage One Engineering process. The findings are documented in reports available from ODOT.
The description of ground-water geology in Section 3.1.2 uses bedrock stratigraphic nomenclature that is very badly out of date.	Comment noted. Since the circulation of the DEIS and designation of the Preferred Alternative D-1 Modified, soil borings have been undertaken through the Stage One Engineering process. The findings are documented in reports available from ODOT.

Agency Ohio Environmental Protection Agency, Division of Surface Water (November 12, 2003)	
Comment	**Response**
We believe Preferred Alternative D-1 warrants further consideration as a viable alternative. We would like to see further refinements of the Preferred Alternative to minimize habitat fragmentation and impacts to wooded habitat and wetlands scattered within the project boundary.	The DEIS Preferred Alternative D-1, with modifications, is the Preferred Alternative D-1 Modified. The modifications include reduced impacts to wetlands. To mitigate impacts, ODOT is proposing to purchase a Category 3 forested wetland in Ohio for preservation. Further refinements will occur in the final design stage to minimize impacts to natural resources.
We encourage ODOT to consider methods to reduce or avoid direct and secondary impacts to the linear swales/ditches and associated/ adjacent wetlands and riparian vegetation (e.g., RC-14, RC-2, RC-5, RC-1[a]) running along railroad and road corridors. The impacts could disrupt amphibian populations and preclude their migration between adjacent wooded habitats.	During the final engineering design, such impacts will be minimized to the extent possible.
If Wetland RC-2 is impacted by Alternative D-1, could this potentially affect the hydrology of Wetland R-4? If the hydrology of Wetland R-4 is disturbed, will the hydrological connection be reestablished to this wetland?	The Preferred Alternative D-1 Modified will impact 0.01 hectares (0.035 acres) of Wetland RC-2, which will not affect the hydrology of Wetland R-4.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency Ohio Environmental Protection Agency, Division of Surface Water (continued) (November 12, 2003)	
Comment	**Response**
Page 3-32 states that approximately 75.4 acres and 20 individual woodlots will be impacted by Preferred Alternative D-1. Would it be possible to elaborate on these impacts in the context of habitat fragmentation in a format similar to that described in Pages III-54 to III-61 in the HOC/ATH PDEIS (HOC/ATH-33-17.00/0.00, PID 14040)? We are primarily interested in the extent and significance of habitat fragmentation from a cumulative perspective, and its influence on wildlife and community dynamics (e.g., interior forested/wooded community). If such an analysis is conducted, would it be possible to provide a discussion on the significance of "edge effects" and its influence on the propagation of invasive species?	The landscape of the US 24 project is predominantly agricultural and is already severely fragmented. The landscape of the HOC/ATH-33-17.00/0.00, PID 14040 is situated partially within the Wayne National Forest and is predominantly forested. Habitat fragmentation was analyzed in the Biological Assessment prepared for the US 24 project.
Will Preferred Alternative D-1 directly impact remnants of the Wabash and Erie Canal near Antwerp and CR-180? Are there any efforts you are aware of to protect or restore this feature?	The Preferred Alternative D-1 Modified will directly impact the Wabash and Erie Canal where it crosses it along CR 180 east of Antwerp. This location was reported as an archaeological site (33-PA-153) in the Phase I archaeology investigations for the project. The investigations found a remnant of the canal prism which is now used to drain the adjacent farmland. Also, most of this section of the canal has been disturbed by the construction of C-180, culverts, and drainage tile. It was determined that this site did not meet the eligibility criteria for the NRHP because it had been subjected to disturbance and other, better preserved sections of the canal survive in the vicinity.
Both the Wetland R-1 complex and Wetland S-4, collectively, may provide water quality improvements to the Maumee River. In addition, Stevens Ditch, in Paulding and Defiance counties, may be an important source of hydrology for these wetlands. We believe it is important to maintain the integrity of these wetlands and Stevens Ditch, to the best extent practicable. Do you believe this is a valid observation? Please explain.	The integrity of wetlands will be maintained to the extent possible. The wetland mitigation plan for the project includes the purchase of a 53.8-hectare (133-acre) woodlot containing a Cateogry 3 forested wetland and Stevens Ditch. Additionally, a 10.53-hectare (26-acre) will be restored adjacent to this woodlot.
We would like to make you aware that the Black Swamp Conservancy is developing plans to restore a parcel of the original Great Black Swamp in Marie Delarme Creek near Antwerp, Ohio. The contact person on this project, and similar efforts in the area, is Tim Schetter, Executive Director.	Comment noted. Additonal correspondence with the Black Swamp Conservancy is in Appendix C.
We find your tentative mitigation proposal to acquire and preserve Wetlands R-1, RC-1, S-4, and associated buffer habitats, appropriate and encourage further consideration of this action.	Comment noted.
Under Section 4.2 (Design Refinements), ODOT is considering the evaluation of the potential use of the Maumee & Western Railroad right-of-way. Could you elaborate on what ODOT is considering as potential use applications for the right-of-way?	This issue is explained in Section 2.6.7 of the DEIS. Based on input from the Ohio Rail Development Commission (ORDC), conversion of the railroad right-of-way for highway use is not feasible. ODOT consequently removed this option from further consideration.

Agency Indiana Department of Environmental Management (October 31, 2003)	
Comment	**Response**
Generally, the Indiana Department of Environmental Management (IDEM) believes that the impact of transportation projects on water quality (streams and wetlands) should be minimized. Therefore, we are pleased that alternatives C, D, and D-1, all of which focus on avoiding wetlands, will be strongly considered during the selection of a preferred alternative for this project.	Comment Noted.
Ensure that no wetlands are disturbed without the proper permit.	All required permits will be secured prior to project construction.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency Indiana Department of Environmental Management (continued) (October 31, 2003)	
Comment	**Response**
A valid jurisdictional wetlands determination can only be made by the Corps of Engineers, using the 1987 Wetlands Delineation Manual.	March 30 and August 3, 2004 field reviews were held with the USACE to identify jurisdiction wetlands in Ohio. INDOT will ensure that jurisdictional determinations will also be made in Indiana.
IDEM recommends that, to the extent possible, impacts to wetlands and other resources simply be avoided.	Impacts will be avoided to the extent possible, and minimized or mitigated when avoidance is not possible. The cutting of riparian vegetation will be mitigated to the extent possible.
In the event a Section 404 wetlands permit is required from the Corps of Engineers, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality. If your project will involve over a 0.5 acre of wetland impact, steam relocation, or other large-scale alterations to waterbodies such as the creation of a dam or a water diversion, you should seek additional input from Section 401 Water Quality Certification staff. For projects involving construction activity that results in the disturbance of five or more acres of total land area, contact the Office of Water Quality – Permits Branch regarding the need for a Rule 5 Storm Water Permit. For projects involving work within floodways of waterbodies, contact the Department of Natural Resources – Division of Water regarding the need for permits. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources – Division of Fish and Wildlife for additional project input. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality-Drinking Water Branch regarding the need for permits. For projects involving effluent discharges to water of the State of Indiana, contact the Office of Water Quality – Permits Branch regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality – Permits Branch regarding the need for permits. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ).	Comments noted. The project will be coordinated, as applicable, with the appropriate IDEM Departments and the USACE.
The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected waterbodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.	Comment noted.
IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize soil erosion.	The project will be constructed in accordance with ODOT's *Construction and Material Specifications* (2005) and INDOT's *Construction Activity Environmental Manual* (2002). INDOT's and ODOT's Engineers are responsible for ensuring that the contractors comply with environmental regulations and commitments detailed in their construction specifications such as sections 105.16 (Borrow and Waste Areas) and 107.19 (Environmental Protection) of ODOT's *Construction Materials Specifications Handbook* (2005).
Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed under specific conditions. You also can seek an open burning variance from IDEM. However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted). You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems.	The project will be coordinated with IDEM and OEPA in the construction phase. All applicable regulations, laws, and ordinances will be adhered to during construction.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency Indiana Department of Environmental Management (continued) (October 31, 2003)	
Comment	**Response**
Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. Dirt tracked onto paved roads from unpaved areas should be minimized.	The contractor will be required to adhere strictly to dust control measures as outlined in the lasted edition of the INDOT *Standard Specifications* and ODOT *Construction and Material Specifications*. Measures to be implemented are discussed in Section 3.6 of the DEIS.
If construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years, precautionary measures should be taken to avoid an outbreak of histoplasmosis.	Comment noted. All necessary safeguards to protect employees and the public will be taken.
Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months of April through October.	Comment noted.
With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If there are any asbestos disposal issues related to the project, contact the Industrial Waste section of the Office of Land Quality for information regarding the management of asbestos wastes.	Comment noted.
In all cases where a demolition will occur, even if no asbestos is found, the owner or operator must still notify IDEM ten working days prior to the demolition.	Comment noted. The contractor will notify IDEM at least 10 days prior to demolition of structures.
With respect to lead-based paint removal, IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust.	Testing will be done prior to demolition. Remediation will be completed in accordance with applicable laws, ordinances and regulations.
In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that: 1). If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ). 2.) If any contaminated soils are discovered during this project, they may be subject to disposal as either special or hazardous waste. Please contact OLQ for information on proper disposal procedures. 3. If PCBs are subsequently found at this site, please contact the Industrial Waste Section of OLQ for information regarding management of any PCB wastes.	Comment noted. Coordination with OLQ will occur as required.
The IDEM Office of Land Quality reserves the right to provide additional comments, or to undertake other appropriate actions, if additional information becomes available that reveals potential waste disposal or contamination problems at the site.	Comment noted.
Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days of your submittal of each permit application.	Comment noted.

Agency Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (November 13, 2003)	
Comment	**Response**
Thank you for providing the Indiana SHPO an opportunity to comment on the environmental assessment. Based upon the information provided, and as long as archaeological concerns are addressed as per the document, we do not have any additional comments.	Comment noted.

TABLE 3.1 (CONTINUED)
CONCURRENCE POINT #4 AGENCY COMMENTS ON DEIS PREFERRED ALTERNATIVE

Agency Indiana Department of Natural Resources, Division of Water (October 14, 2003)	
Comment	**Response**
The review of the US 24 project is in process. Please send any future Environmental Review requests to Christie Kiefer, Environmental Coordinator, and include three copies.	Comment noted.

Agency Northeastern Indiana Regional Coordinating Council (Fort Wayne, Indiana MPO) (November 24, 2003)	
Comment	**Response**
A concern has arisen over the alignment of Webster Road in Allen County, Indiana north of the selected route for the US 24 "Fort to Port" Project. The current alignment of Webster Road at its transition to Woodburn Road consists of a 90-degree angle. This transition occurs approximately 3,200 feet north of the planned interchange of US 24 and Webster Road. The interchange will increase the volume of traffic on Webster Road and the existing alignment will not be conducive to safe and efficient traffic flow.	INDOT will investigate this issue further during the design phase of the project.

3.2 SUMMARY OF AGENCY COORDINATION SINCE APPROVAL OF THE DEIS, AUGUST 2003

Additional studies and agency coordination continued after approval of the DEIS for streams and wetlands, scenic rivers, threatened and endangered species, cultural resources, and Section 4(f) resources. The following summarizes the activities and coordination completed for these resources.

3.2.1 STREAMS AND WETLANDS

Stream surveys and wetland delineations were conducted in the expanded right-of-way areas for the Preferred Alternative D-1 Modified in 2004. The results of the 2004 stream surveys and wetlands delineations are presented in the *Addendum to the Ecological Survey Reports and Wetlands Delineation Study for Allen County, Indiana and Defiance and Paulding Counties, Ohio* (October 2004).

On March 30 and August 3, 2004, field reviews of the streams and wetlands in Ohio were conducted by the USACE and OEPA. The purpose of the field reviews was to make jurisdictional determinations on the streams and wetlands affected by the Preferred Alternative D-1 Modified in Ohio. Following the field reviews, the OEPA and USACE issued jurisdictional determinations for the streams and wetlands in Paulding and Defiance counties, Ohio. Jurisdictional determination correspondence from the OPEA and USACE is provided in Appendix C.

Jurisdictional determinations have not been completed for streams and wetlands in Indiana. They will be completed during the design phase of project development in Indiana.

The construction of the Preferred Alternative D-1 Modified will result in unavoidable stream and wetland encroachments. A total of 8056 meters (26,425 feet) of stream and 9.6 hectares (23.85 acres) of wetlands will be impacted. The Preferred Alternative D-1 Modified in Allen County, Indiana impacts 5634 meters (18,481 feet) of stream channel and 0.7 hectares (1.8 acres) of wetlands. The Preferred Alternative D-1 Modified in Paulding and Defiance counties, Ohio impacts 2422 meters (7,944 feet) of stream channel and 8.9 hectares (22.05 acres) of wetlands.

ODOT prepared and submitted a Section 404 permit application, a Section 401 Water Quality Certification application, and an Isolated Wetland permit application to the USACE and OEPA in June 2005. INDOT will prepare waterway permit applications and mitigation measures after jurisdictional determinations are made by the USACE during the final design phase of the project development process.

Mitigation measures presented by ODOT in the permit applications for stream and wetland impacts include conservation easements, creation, and preservation. ODOT has identified a potential stream and mitigation site in Defiance County. The property is located south of the existing US 24/SR 424 intersection, east of Krouse Road and north of the Maumee & Western Railroad (Figure 1). This site is 64.4 hectares (159 acres) in size and offers the following:

- preservation of 24.70 hectares (61 acres) of forested Category 3 wetlands and a 29.14-hectare (72-acre) mature forested, upland buffer;
- creation/restoration of 10.53 hectares (26 acres) of wetlands; and
- preservation of 1319.5 meters (4,328 feet) of undisturbed stream channel.

ODOT's stream mitigation also includes constructing 617.38 meters (2,025 feet) of natural stream channel with vegetative buffer onsite and a perpetual conservation easement along 1504 meters (4,932 feet) of the Maumee River.

3.2.2 SCENIC RIVERS

Throughout the development of the US 24 project, ODOT has coordinated with the ODNR regarding the effects that the proposed new highway will have on the Maumee River. The Maumee River is considered a State Scenic and Recreational River and a State Resource Water in Ohio. The scenic portion of the river starts at the Indiana/Ohio state line and proceeds east for a distance of approximately 69.4 kilometers (43 miles) to the US 24 Maumee River Crossing. The recreational portion of the river is 85.5 kilometers (53 miles) long and begins at the US 24 river crossing at Defiance and continues east to the SR 20/25 bridge at Perrysburg and Maumee, Ohio. The relationship between the recreational status of the Maumee River and the existing US 24 river crossing is the convenience of the bridge as a landmark along the Maumee River. The bridge does not demarcate a specific point in the river whose primary function is recreation, but rather serves merely as a point of general reference.

On March 24, 2004, ODOT and ODNR representatives held a field review to discuss the proposed design and construction of the new US 24 bridge over the Maumee River. Following the field review, ODNR provided comments on the proposed crossing, which are summarized in Table 3.2.

At the request of ODNR, ODOT investigated several bridge alternatives for the Maumee River. Through a comparative analysis, the bridge alternatives were reduced to two possible options: a three-span girder superstructure on new concrete substructures and a four-span prestressed concrete I-beam superstructure on concrete substructures. The four-span bridge design option was ODOT's preferred option. The two alternatives were provided to ODNR for review and comment in August 2004.

The ODNR provided comments on the four-span bridge option in September 2004. In an email to ODOT, the ODNR stated that "...we have decided to allow ODOT to pursue the preferred option even though it is our policy not to have bridge piers in the center of a river channel. There were several reasons for our decision: the cost increase for a three-span as opposed to a four-span structure; the size of the structure considering the width of the river and the high/steep slopes of the riverbank, and the fact that there will be instream work no matter what structure is going to be built."

TABLE 3.2
AGENCY COMMENTS ON THE MAUMEE STATE SCENIC AND RECREATIONAL RIVER

Agency Ohio Department of Natural Resources (March 25, 2004)	
Comment	**Response**
The Preferred Alternative, D-1, will be located far enough south of the Maumee River that there will be little or no impact to the river. However, I am submitting comments concerning the new Maumee River bridge crossing west of Defiance. The bridge crossing shall use the existing right-of-way.	Comment noted.
A sediment and erosion control plan shall be developed for the site and implemented before earthwork commences. Particular attention shall be given to any drainage ways, ditches and streams that could convey sediment-laden water directly to the Maumee River. Properly installed (framed and entrenched) sediment fence shall be utilized around the work site perimeter and storm water inlets. Appropriately designed rock-check dams and other erosion controls shall be utilized in ditches and drainage ways. All controls shall be properly maintained until final site stabilization is achieved. All sediment and erosion controls shall be removed upon stabilization of the project area with vegetation. Straw bales shall not be permitted as a form of erosion control. All denuded areas, including ditches, culverts and river/stream banks, shall be permanently seeded and mulched (or fiber mat) immediately upon completion of earthwork or temporarily seeded and mulched (or fiber mat) within seven days if the area is to remain idle for more than thirty days. Access roads constructed on slopes shall be graveled to prevent any erosion from occurring.	A sediment and erosion control plan will be developed for the site and implemented before construction begins. In addition, all denuded areas, including ditches, culverts and river/stream banks, will be permanently seeded and mulched (or fiber mat) upon completion of earthwork or temporarily seeded and mulched (or fiber mat).
Idle equipment, petrochemicals and toxic/hazardous materials shall not be stored in the floodplain or near any drainage ways, ditches or streams. Petrochemicals and toxic/hazardous materials shall not be discharged into the Maumee River, its floodplain or any drainage ways, ditches or streams. Refueling of equipment shall not occur in the floodplain or near any drainage ways, ditches or streams. A spill containment and cleanup plan shall be generated prior to the start of the project.	The project will be constructed in accordance with ODOT's *Construction and Material Specifications* (2005) and INDOT's *Construction Activity Environmental Manual* (2002). INDOT's and ODOT's Engineers are responsible for ensuring that the contractors comply with environmental regulations and commitments detailed in their construction specifications such as sections 105.16 (Borrow and Waste Areas) and 107.19 (Environmental Protection) of ODOT's *Construction Materials Specifications Handbook* (2005). A Spill Prevention Control and Countermeasure Plan (SPCCP) will be prepared prior to construction and implemented during construction. The plan will follow USEPA Oil Planning and Response guidelines and include prevention control measures, sources of spills, standard operating procedures in case of spills, and training for all construction personnel. The SPCCP will be made available at the project office.
All components of the existing structure (piers, abutments, etc.) shall be completely removed. Piers shall be removed down to the same elevation as the surrounding riverbed. Every effort shall be made to keep deck material and other debris out of the river during removal. Asphalt deck material shall be removed before any portion of the bridge is removed. If any material falls into the water, it shall be removed immediately. All debris, excess fill material and material excavated from the river bottom shall be disposed of at an approved upland site (above 100 year flood elevations). Disposal in wetlands, floodplains or within 1,000 feet of the Maumee River is prohibited.	Construction debris will be removed in accordance with ODNR recommendations.
All in-stream work shall be conducted during low flow period (August 1 through October 31). Any disturbed areas in the stream bottom shall be returned to pre-construction contours. Stream bottom elevations shall be determined before in-stream work commences to ensure that all fill material and debris is completely removed before construction is completed.	In accordance with ODNR correspondence dated March 24, 2005, instream work will not be conducted between March 15th and June 30th. Disturbed areas in the river bottom will be returned to pre-construction contours.

TABLE 3.2 (CONTINUED)
AGENCY COMMENTS ON THE MAUMEE STATE SCENIC AND RECREATIONAL RIVER

Agency Ohio Department of Natural Resources (continued) (March 25, 2004)	
Comment	**Response**
Rip-rap used around piers and abutments shall be kept to the minimum amount needed to prevent scour and shall consist of clean rock only (free of any toxic or fine material). All fill material used as rip rap, work platforms or cofferdams shall be a minimum of three inches in diameter and be washed to remove fine particulate matter (clay, silt, sand and soil). Work platforms shall be kept to the absolute minimum size needed to facilitate in-stream work. In-stream work shall be conducted through the use of water diversions not requiring the placement of earthen fill (sheet piling, membrane dams, etc.) wherever possible. Any fill shall be completely removed from the streambed as soon as possible after its purpose has been served. If feasible, the use of Aqua Barriers and barges is recommended.	The use of riprap and fill for bridge construction will be used in accordance with ODNR's recommendations.
If dewatering is necessary to facilitate in-stream work, all wastewater shall be pumped onto a vegetated area a sufficient distance from the Maumee River to allow for complete infiltration. No wastewater of any kind shall be discharged directly into the Maumee River or any other drainage ways, ditches or streams. All storm water drainage shall be directed onto a vegetated area to allow for complete infiltration. If discharge to a vegetated area is not feasible, then wastewater shall be discharged into a sediment filter bag or into a temporary detention/ retention pond.	During construction, wastewater will not be discharged into the Maumee River or other watercourses. Storm water will be controlled using BMPs.
All stream bank vegetation shall be left undisturbed to the maximum extent possible. Areas where vegetation is removed shall be re-vegetated with native tree species. Any disturbed stream banks shall be returned to previously existing contours and elevations. A native tree species list will be provided by the NW Ohio Scenic River Manager. Trees shall be one inch in diameter and balled/ burlap nursery stock. After a full growing season for the trees, any stakes and guide wires shall be removed and properly disposed of. Any trees that die during the first growing season shall be replaced. Cutting or clearing of any riparian vegetation within 1000 feet of the Maumee River beyond the existing right-of-way shall be prohibited, however vertical trimming is permitted where necessary. Care shall be taken not to girdle or scuff tree trunks or damage any standing trees.	All stream bank vegetation will be left undisturbed to the maximum extent possible. Areas where vegetation is removed will be re-vegetated with native tree species to the specifications requested by ODNR. Disturbed stream banks will be returned to previously existing contours and elevations.
If painting, sand or water blasting any portion of the bridge is necessary then appropriate aprons shall be utilized to provide for complete containment of all paint debris particles and other debris. Appropriate aprons shall be utilized to provide for complete containment of all paint and/or sealant over-spray. Any such debris shall be removed immediately from 1000 feet of the Maumee River and disposed of at an approved upland site (above 100 year flood elevations). Disposal in wetlands, floodplains or within 1000 feet of the Maumee River is prohibited.	Aprons will be used for any painting, sanding or water blasting on the US 24 bridges to contain debris and overspray.
Robert Vargo, NW Ohio Scenic River manager, shall be invited to a pre-construction meeting with the contractor present. He shall be notified of the start date, completion date, be allowed to conduct a final inspection before the project closes and receive a final plan set for review. Periodic inspections of the project shall take place to ensure Scenic River requirements are being met. The Scenic Rivers Act, O.R.C. 1517.16, requires the ODNR Director or his representative to approve any public project. Such approval shall be granted after a review of the final plan set by Scenic Rivers staff.	ODOT will continue to coordinate with ODNR about the Maumee River bridges through completion of the project.
The cooperation of the ODOT District 1 is greatly appreciated for their part in preserving the integrity of the Maumee State Scenic River. Signs stating "Maumee State Scenic River" shall be provided and installed at the approaches of both bridges.	As requested, ODOT will install signs stating "Maumee State Scenic River" at the approaches of both bridges.

TABLE 3.2 (CONTINUED)
AGENCY COMMENTS ON THE MAUMEE STATE SCENIC AND RECREATIONAL RIVER

Agency Ohio Department of Natural Resources (March 24, 2005)	
Comment	**Response**
Scenic Rivers staff has reviewed ODOT's request for using only the Division of Wildlife exclusionary dates for the Maumee River crossing. We concur based on the following – this portion of the Maumee River State Scenic River is impounded due to Independence Dam, and this impounded area is lacking in good in-stream habitat for any sensitive species.	ODOT will use the exclusionary dates of March 15th through June 30th for in-stream construction activities of the Maumee River crossing.

ODOT has coordinated with ODNR on the construction schedule for the Maumee River crossing. ODNR typically requires that in-stream construction activities only be performed in Scenic Rivers during low flow periods, which are usually three months in duration. ODOT was concerned that in-stream construction activities for the Maumee River bridges could not be completed in a three month period. ODOT requested that only ODNR Division of Wildlife's fish spawning exclusionary dates be applied to the project. ODNR concurred with this request in correspondence dated March 24, 2005 (Table 3.2). No in-stream work for the bridges will be conducted within the Maumee River between March 15th and June 30th.

3.2.3 THREATENED AND ENDANGERED SPECIES

Comments on the Preferred Alternative and DEIS received from the USFWS requested additional information on project impacts to threatened and endangered species, specifically the Indiana bat. In response to the USFWS comments received during the Concurrence Point #3 coordination, ODOT documented project impacts to threatened and endangered species in the *Biological Assessment of Federally Listed Species for the Ohio Department of Transportation's US 24 New Haven, Indiana to Defiance, Ohio (ALL [Indiana]/PAU/DEF [Ohio]-24-0.00 PID 18904)* (April 29, 2005). Section 7 Consultation of the Endangered Species Act was initiated on May 18, 2005. The USFWS issued a Biological Opinion on the construction, operation, and maintenance of the US 24 project for the Indiana bat on September 30, 2005.

A field review of Indiana bat habitat within the US 24 project area was held on August 8, 2005 and attended by representatives from the USFWS and ODOT. The purpose of the field review was to familiarize USFWS staff with the affected woodlots. A general habitat assessment was conducted in several woodlots along the Preferred Alternative. The data collected during the field review was used to develop the Biological Opinion.

3.2.4 CULTURAL RESOURCES

Phase I historic architecture and Phase I archaeological surveys were conducted in the expanded right-of-way areas for the Preferred Alternative D-1 Modified, which included the I-469 interchange study area. The results of the Phase I surveys are documented in the following reports:

- *Addendum Report: Phase IA Archaeological Reconaissance of the US 24 Improvements in Adams, Jefferson and Milan Townships, Milan County,Indiana: I-469/US 24 Interchange* (November 2003).
- *Addendum Report: Phase Ia Archaeological Reconnaissance of the US 24 Improvements in Adams, Jefferson, and Milan Townships, Allen county, Indiana* (July 2004).
- *Addendum of the Phase I Cultural Resource Survey Report of the PAU/DEF-24-0.00/0.00 PID 18904 Improvements in Noble, Delaware and Defiance*

Townships, Defiance County, and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio (October 2004).

The reports were submitted to the Indiana Division of Historic Preservation (DHPA) and Archaeology and the Ohio Historic Preservation Office for review and concurrence. The agencies concurred with the findings of the technical reports. Copies of the agency comment letters are in Appendix C.

Gronauer Lock

The Gronauer Lock Site 12AL 1674 is located within the right-of-way of the existing I-469/US 24 interchange (Figure 2). During the construction of the existing I-469/US 24 interchange in June 1991, the Gronauer Lock was discovered. The equivalent of Phase II evaluative testing, Phase III data recovery, and evaluative testing were performed on the Gronauer Lock in 1991. Testing indicated that the lock was eligible for listing on the National Register of Historic Places (NRHP). A mitigation plan was developed and approved by the DHPA in 1992. A memorandum of agreement was prepared and data recovery was conducted resulting in almost complete exposure of the lock in 1992. A Historic American Engineering Record (HAER) document was completed and the majority of the lock was removed for preservation off-site.

The DHPA was contacted in March 2003, regarding the NRHP eligibility status of the Gronauer Lock and whether further additional archaeological work was required on the Gronauer Lock for the US 24 project. On May 16, 2003, the DHPA responded with a letter stating that the unexcavated portion of the Gronauer Lock can yield additional information in regards to the important historic structure. As such, the remaining portion of the lock should be recorded in plan and profile views, by a qualified archaeologist. The DHPA requested that a plan for the proposed archaeological documentation should be submitted for review and comment prior to implementation.

The archaeological surveys and mitigation completed in the early 1990's determined that the significance of the Gronauer Lock resides in its information potential and remaining elements of the canal lock do not merit preservation in place. Based on all existing information, it was determined by the DHPA that the Gronauer Lock (12AL 1674) is eligible for listing on the NRHP under Criterion D (Information Potential) since it has or had important information which contributes to our understanding of human history.

The FHWA Indiana Division and the Indiana State Historic Preservation Officer (SHPO) prepared a Programmatic Agreement for the Gronauer Lock in October 2005. The FHWA invited the Advisory Council on Historic Preservation (ACHP) to participate in the development of the Programmatic Agreement. The ACHP declined to participate in development of the Programmatic Agreement. The purpose of the Programmatic Agreement was to phase the effect determination for the Gronauer Lock and any subsequent data recovery requirements since the engineering design for the I-469/US 24 interchange has not advanced beyond the preliminary phase and the boundaries of the Gronauer Lock site are unknown. The Programmatic Agreement identified the actions FHWA and INDOT will take to satisfy FHWA's Section 106 responsibilities. The following are stipulations specified in the Programmatic Agreement:

- Prior to completing the final project design in Indiana, the INDOT will complete the appropriate archaeological investigations to determine the boundaries of the Gronauer Lock. INDOT will coordinate the archaeological investigations with the Indiana SHPO. A research plan detailing the methodology for defining the boundaries of the site shall be submitted to the Indiana SHPO for review and comment.

- The INDOT will make a reasonable effort to avoid the Gronauer Lock site during design and construction. If the site cannot be avoided, FHWA will apply the Criteria of Adverse effect in accordance with 36 CFR 800.5.

- If the FHWA determines, in consultation with the Indiana SHPO, that the project will have an adverse effect on the Gronauer Lock site, then INDOT will develop plans for Phase II and/or Phase III archaeological investigations in consultation with the Indiana SHPO and submit such plans to the FHWA and Indiana SHPO for their review and comment. The INDOT shall submit alternative mitigation plan to the FHWA and Indiana SHPO for their review and comment, if appropriate. That review period will be 30-days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, FHWA shall comply with 36 CFR 800.6.

- A draft report(s) of the archaeological investigations and updated Indiana state site form shall be submitted to the FHWA and Indiana SHPO for review and comment. All final reports of the archaeological investigations will be completed within one year of the completion of field work. The Indiana SHPO will be given 30-days to review and comment on all submissions.

- INDOT shall ensure that all archaeological work carried out pursuant to this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-9), and that all historic preservation work is carried out by or under the direct supervision of a person or persons meeting, at a minimum the *Secretary of the Interior's Professional Qualification Standards for Architectural Historian Professionals* (48 FR 44738-9).

- If any unanticipated discoveries of historic properties, sites, artifacts, or human remains are encountered during the implementation of this undertaking, FHWA shall comply with 36 CFR 800.13 and Indiana Code (14-21-1-27 and 14-21-1-29) by informing the Indiana Department of Natural Resources of such discoveries within two business days and, if applicable, federally recognized tribal organizations that attach religious and/or cultural significance to the affected property; and by developing and implementing actions that take into account the views of the Indiana SHPO and, if applicable, federally recognized tribal organizations.

The Programmatic Agreement was signed by INDOT, the Indiana SHPO, and FHWA Indiana Division and executed on October 13, 2005. The Programmatic Agreement was filed with the ACHP in October 2005. The Programmatic Agreement is in Appendix C.

Niemeyer Farm

The Niemeyer Farm is located in the northwest quadrant of the existing I-469/US 24 interchange. The site was determined to be eligible for the NRHP. As a result of the proposed improvements to the existing I-469/US 24 interchange, an effects determination was made for the Niemeyer Farm by applying the Criteria of Effect in accordance with the requirements of the National Historic Preservation Act. A letter documenting effects to the Niemeyer Farm was coordinated with the DHPA in July of 2004. The DHPA concurred with the finding of No Effect for the Niemeyer Farm.

Meyer/Gallmeyer Farm

The Meyer/Gallmeyer Farm located at 11231 East US 24 in Allen County is eligible for the NRHP. Initial surveys conducted for this site determined that the historic boundary

of the property was defined as the tax/legal parcel of 31.1 hectares (76.8 acres), which is the original farm tract. The right-of-way for the preferred Alternative D-1 Modified directly impacted the Meyer/Gallmeyer Farm. The highway alignment required acquisition of 1.2 hectares (3.0 acres) of land from within the historic boundary. An Effects Determination was coordinated with the DHPA. The DHPA concurred with the finding of No Adverse Effect for the Meyer/Gallmeyer Farm.

The historic boundary for the Meyer/Gallmeyer Farm was reevaluated by FHWA, INDOT, and DHPA in February 2005. The reevalution determined that the historic boundary should be revised to include only the farm house, out buildings and land immediately surrounding those structures. As a result of the revised historic boundary, the Preferred Alternative D-1 Modified does not directly impact the Meyer/Gallmeyer Farm. Copies of the agency coordination letters regarding the revised historic boundary of the Meyer/ Gallmeyer Farm are provided in Appendix C.

3.2.5 SECTION 4(f) RESOURCES

Maumee River

Coordination between the FHWA and ODNR concerning the applicability of Section 4(f) to the Maumee State Scenic and Recreational River has been conducted for the project. Through this agency coordination, it was determined that the nearest recreational area on the Maumee River is located 4.8 kilometers (3.0 miles) downstream from the existing US 24 bridge. The relationship between the recreational status of the Maumee River and the existing US 24 river crossing is the convenience of the bridge as a landmark along the Maumee River. The bridge does not demarcate a specific point in the river whose primary function is recreation, but rather serves merely as a point of general reference. Based on coordination with ODNR, FHWA has determined that Section 4(f) is not applicable to the Maumee River in the vicinity of the existing US 24 bridge. Correspondence regarding Section 4(f) applicability to the Maumee River is provided in Appendix C.

Gronauer Lock

The Gronauer Lock (12AL 1674) was partially excavated and portions of the original structure were removed as a part of efforts to mitigate adverse effects associated with construction of the existing I-469/US 24 interchange in 1992. Through coordination with the DHPA, it was determined that the significance of this property resides in its information potential and remaining elements of the canal lock do not merit preservation in place. Based on all existing information, it was determined that the Gronauer Lock is eligible for listing on the NRHP under Criterion D (Information Potential) since it has or had important information which contributes to our understanding of human history. Therefore, FHWA has determined that Section 4(f) is not applicable to the Gronauer Lock. Copies of the agency coordination letters regarding the Gronauer Lock are provided in Appendix C.

Meyer/Gallmeyer Farm

The historic boundary for the Meyer/Gallmeyer Farm, an NRHP eligible property, was reevaluated by FHWA, INDOT, and DHPA in February 2005. Initial surveys conducted for this site determined that the historic boundary of the property was defined as the tax/legal parcel of 31.1 hectares (76.8 acres), which is the original farm tract. The right-of-way for the preferred Alternative D-1 Modified directly impacted the historic boundary of the Meyer/Gallmeyer Farm. The highway alignment required acquisition of 1.2 hectares (3.0 acres) of land from within the historic boundary. An Effects Determination was coordinated with the DHPA. The DHPA concurred with the finding of No Adverse Effect for the Meyer/Gallmeyer Farm. The reevalution determined that the historic boundary should be revised to include only the farm house, out buildings and land immediately surrounding those structures. As a result of the revised historic

boundary, the Preferred Alternative D-1 Modified does not directly impact the historic boundary of the Meyer/Gallmeyer Farm. Copies of the agency coordination letters regarding the revised historic boundary of the Meyer/Gallmeyer Farm are provided in Appendix C.

4.0 PROJECT STATUS

4.0 PROJECT STATUS

The Federal Highway Administration (FHWA) approved the Draft Environmental Impact Statement (DEIS) on August 19, 2003. Notice of the DEIS's availability was published in the *Federal Register* on October 3, 2003. The DEIS was available to the public hearings on October 28, 29, and 30, 2003. The public and government agencies were given official opportunity to comment on the DEIS until November 21, 2003.

4.1 DESIGN CHANGES TO THE PREFERRED ALTERNATIVE

Following the public hearings, the Ohio Department of Transportation (ODOT) and Indiana Department of Transportation (INDOT) continued to make refinements to the Preferred Alternative. In 2004 ODOT initiated Stage One and Stage Two engineering design for the Preferred Alternative in Ohio. Elements of Stage One and Two engineering include detailed drainage design, maintenance of traffic plan, preliminary utility plan, bridge design (i.e. type, size and location), right-of-way limits, flood hazard evaluation, soil borings, roadway plan development and design. As a result of the engineering refinements, the right-of-way limits for Alternative D-1 were revised in Ohio. In some areas the right-of-way limits were expanded to accommodate drainage features and in other areas, the right-of-way limits were reduced to minimize impacts. The primary factor affecting revisions to the right-of-way limits was the detailed drainage design, which included long drainage ditches to channel storm water runoff and the implementation of Best Management Practices (BMP's) for improving the quality of water runoff.

Using public input from the hearings, ODOT and INDOT selected the preferred options for the I-469/US 24 interchange and access at West High Street and Switzer Road. These additions were incorporated into the right-of-way limits of the Preferred Alternative.

Currently, the Preferred Alternative for the US 24 project is Alternative D-1 with modifications resulting from design refinements, agency comments, public comments, and mitigation measures. Elements of the Alternative D-1 modifications include Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area. Section 5.0 addresses the changes in the Preferred Alternative since the public hearings. The Preferred Alternative (Alternative D-1 Modified) is a four-lane divided highway.

4.2 ENVIRONMENTAL STUDIES

Environmental studies and agency coordination for the US 24 project are complete with the exception of a jurisdictional wetlands determination in Indiana. Jurisdictional determinations for wetlands in Indiana from the US Army Corps of Engineers will be obtained during the final design phase.

Comments on the Preferred Alternative and DEIS received from the US Fish and Wildlife Service (USFWS) requested additional information on project impacts to threatened and endangered species, specifically the Indiana bat. In response to the USFWS, ODOT prepared a Biological Assessment (BA) and initiated Section 7 Consultation of the Endangered Species Act on May 18, 2005. The USFWS issued a Biological Opinion on the construction, operation, and maintenance of the US 24 project for the Indiana bat on September 30, 2005.

Section 4(f) and Section 106 coordination was conducted for the Gronauer Lock (12AL 1674) in September and October 2005. The Indiana Division of Historic Preservation

and Archaeology (DHPA) determined that the Gronauer Lock is eligible for listing on the National Register of Historic Preservation (NRHP) under Criterion D (Information Potential) since it has or had important information which contributes to our understanding of human history and remaining elements of the canal lock do not merit preservation in place. Therefore, FHWA determined that Section 4(f) is not applicable to the Gronauer Lock.

The FHWA Indiana Division and the Indiana State Historic Preservation Officer (SHPO) prepared a Programmatic Agreement for the Gronauer Lock in October 2005. The FHWA invited the Advisory Council on Historic Preservation (ACHP) to participate in the development of the Programmatic Agreement. The ACHP declined to participate in development of the Programmatic Agreement. The purpose of the Programmatic Agreement was to phase the effect determination for the Gronauer Lock and any subsequent data recovery requirements since the engineering design for the I-469/US 24 interchange has not advanced beyond the preliminary phase and the boundaries of the Gronauer Lock site are unknown. The Programmatic Agreement identified the actions FHWA and INDOT will take to satisfy FHWA's Section 106 responsibilities. The Programmatic Agreement was signed by INDOT, the Indiana SHPO, and FHWA Indiana Division and executed on October 13, 2005. The Programmatic Agreement was filed with the ACHP in October 2005. The Programmatic Agreement is in Appendix C.

4.3 FINAL DESIGN, RIGHT-OF-WAY ACQUISITION AND CONSTRUCTION

The US 24 New Haven to Defiance Project has been identified as a Tier One project under ODOT's 2006-2011 Major New Construction Program and 123 million dollars have been allocated for construction. The INDOT Planning Oversight Committee is currently reviewing the US 24 project for inclusion in the state's 10 year construction plan.

Comments on the Preferred Alternative and DEIS received from the USFWS requested additional information on project impacts to threatened and endangered species, specifically the Indiana bat. In response to the USFWS, ODOT prepared a BA and initiated Section 7 Consultation of the Endangered Species Act. The BA and Section 7 Consultation have extended the schedule for the environmental phase of the project. Because of the purpose and need for the project, ODOT decided to not delay the overall project schedule and moved forward with final design and right-of-way acquisition activities at its own risk. These activities will not impact or influence the National Environmental Policy Act (NEPA) decisions.

The 60.8-kilometer (37.7-mile) Preferred Alternative was divided into several design sections for final design, right-of-way acquisition, and construction. Each of the sections has its own schedule for these final stages of the project development process. Final design for the Preferred Alternative began in 2004.

The first section scheduled for right-of-way acquisition and construction in Ohio is between SR 424 and SR 15/18. ODOT initiated the right-of-way acquisition process for this section in January 2004. Construction of this section is scheduled for spring 2006. Construction for the two sections between the Indiana/Ohio state line and SR 424 is scheduled for spring 2007.

INDOT will not begin right-of-way acquisition until 2007 and construction until 2008. The section of highway from SR 101 to the Indiana/Ohio state line will be the first section of the new highway constructed in Indiana.

4.4 PROJECT SCHEDULE

In order to maintain the project schedule, some project design tasks have run concurrently with environmental studies. This approach has increased the quality of data used for determining impacts as well as compressed the development schedule. The project schedule since January 2004 is summarized in Table 4.1.

TABLE 4.1
PROJECT SCHEDULE

Activity	Date
Begin property acquisition in Defiance County, Ohio	January 2004
Begin Stage I engineering design in Ohio	February 2004
Begin environmental studies on Stage I engineering right-of-way	May 2004
Begin Stage II engineering design in Ohio	July 2004
Begin property acquisition in Paulding County, Ohio	October 2004
Prepare Biological Assessment for threatened and endangered species	September 2004
Begin final design in Indiana	November 2004
Coordinate Biological Assessment with USFWS	May 2005
Obtain Biological Opinion from USFWS	September 2005
Final Environmental Impact Statement approval and Record of Decision by FHWA	Fall 2005
Begin construction between SR 424 and SR 15 in Defiance County, Ohio	April 2006
Begin property acquisition in Indiana	January 2007
Begin construction between IN/OH state line and SR 424	April 2007
Complete construction between SR 424 and SR 15 in Defiance County, Ohio	November 2007
Begin construction in Indiana	April 2008
Complete construction between IN/OH state line and SR 424	November 2009
Complete construction in Indiana	November 2014

5.0 PROJECT CHANGES

5.0 PROJECT CHANGES

In May 2002, the Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT) announced that Alternative D-1 had been selected as the Preferred Alternative for the US 24 New Haven to Defiance project. The Preferred Alternative was presented in the Draft Environmental Impact Statement (DEIS) and at the public hearings held in October 2003. Following the public hearings, the project continued to move forward in ODOT's and INDOT's project development processes, which resulted in changes to Alternative D-1. This section summarizes project changes that have occurred since the approval of the DEIS and the public hearings.

5.1 DESIGN CHANGES

Since the public hearings held in October 2003, design refinements to the proposed highway alignment have been made in Ohio and Indiana. The modifications to Alternative D-1 resulted from design refinements, agency comments, public comments, and mitigation measures. Elements of the Alternative D-1 modifications include Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area.

Engineering Design

In 2004, ODOT initiated Stage One and Stage Two engineering design for Alternative D-1 in Ohio. Elements of Stage One and Two engineering include detailed drainage design, maintenance of traffic plan, utility plan, bridge design (i.e. type, size and location), right-of-way limits, flood hazard evaluation, soil borings, and roadway plan development and design. As a result of the detailed engineering, the right-of-way limits for Alternative D-1 were revised in Ohio. In some areas the right-of-way limits were expanded to accommodate drainage features and in other areas, the right-of-way limits were reduced to minimize impacts. The primary factor affecting revisions to the right-of-way limits was the detailed drainage design, which included long drainage ditches to channel storm water runoff and the implementation of Best Management Practices (BMP's) for improving the quality of the water runoff.

In Indiana, the proposed highway was developed to a preliminary engineering level of detail. Detailed design studies were initiated by INDOT in 2004 for the 17.7 kilometer (11 mile) section of new highway in Allen County.

Service Roads

Based on the Service Road Study and engineering design refinements, there are 13 service roads that are justified for construction. The 13 service roads consist of two lanes and range from 2.7 to 3.7 meters (nine to 12 feet) in width. These roads will provide access to 106.9 hectares (264.1 acres) of land. Six of the service roads are in Allen County and will provide access to 45 hectares (112.5 acres). Three service roads are proposed in Paulding County, which will provide access to 33.9 hectares (83.7 acres). Two service roads are proposed in Defiance County, which will provide access to 27.5 hectares (67.9 acres).

I-469/US 24 Interchange Improvements

The existing interchange at I-469 and US 24 in Allen County, Indiana will be upgraded. Improvements to the I-469/US 24 interchange include a directional fly-over ramp to provide access from westbound US 24 to southbound I-469 and a new diagonal ramp from northbound I-469 to eastbound US 24. Figure 2 shows the proposed improvements to the I-469/US 24 interchange.

SR 15/18/US 24 Interchange Improvements
The existing interchange at SR 15/18 and US 24 in Defiance County, Ohio will also be upgraded. The improvements involve lowering the profile of the US 24 mainline to increase the bridge clearance, adding turn lanes on exit ramps, and widening SR 15/18 to include a third lane in the vicinity of the interchange. Figure 3 shows the proposed improvements to the SR 15/18/US 24 interchange.

West High Street/Switzer Road Access
In response to public comments, a connector road will be constructed to link West High Street with SR 15/18. Construction of the Preferred Alternative D-1 Modified will eliminate access to US 24 at West High Street/Switzer Road. As a result, vehicles will no longer be able to directly access West High Street or Switzer Road via US 24. Access to US 24 will still be provided at the existing SR 15/18 (Ralston Avenue) interchange. The connector road will provide an alternate route for traffic going to and from US 24 via SR 15/18 without traveling through the Harding Street residential area. Figure 3 shows the proposed connector road which links West High Street with SR 15/18.

Local Road Improvements
Twenty local roads which intersect the proposed highway will be improved. These roads are Doyle Road, Bruick Road, Webster Road, Bull Rapids Road, SR 101, State Line Road, SR 49, C-43, T-51, C-176, T-61, C-206, US 127, C-232, C-8, SR 424, Switzer Road, West High Street, SR 15/18, and Harding Street. Improvements to these local roads include widening, realignment, and adding turn lanes and shoulders. Additionally, T-139 is being cut-off from US 24 with a cul-de-sac on the north and a connection to T-236 on the south side of US 24.

Stream and Wetland Mitigation
In Defiance County, Ohio, 64.4 hectares (159 acres) of land adjacent to the proposed highway will be purchased for stream and wetland mitigation. Approximately 10.5 hectares (26 acres) of this land is an agricultural field where a compensatory wetland will be created. The remaining 53.8 hectares (133 acres) is a woodlot which contains a Category 3 forested wetland and several small unnamed tributaries. This woodlot will be purchased for wetland and stream preservation.

Impacts and Costs
Because of the elements of Alternative D-1 Modified (i.e. Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area) the impacts and costs associated with the Preferred Alternative deviate from those of Alternative D-1. These deviations would be reflected in any of the Feasible Alternatives recommended as the Preferred Alternative and developed in accordance with INDOT's and ODOT's Project Development Processes.

5.1.1 I-469/US 24 INTERCHANGE

In 2002, INDOT recommended that the existing I-469/US 24 interchange should be upgraded to function as a system interchange with free flowing traffic movements. The existing I-469/US 24 interchange is a partial cloverleaf with loop ramps located directly to the northeast and southwest of the I-469 mainline. Based on the operational analysis of the interchange, as presented in the I-469 and US 24 Interchange Engineer's Report (October 2004), the capacity analysis indicates that all existing intersections, mainlines, and ramps will operate at Level of Service (LOS) D or higher in the peak hour in 2008.

Nineteen conceptual alternatives were developed and evaluated for the I-469/US 24 interchange. The evaluation is documented in a separate report entitled *I-469 and US 24 Interchange: Conceptual Alternatives Summary* (May 2003). Through a two-step screening process, three Feasible Alternatives were selected for further study. Feasible Alternatives 12, 13, and 14 were developed to preliminary engineering details. In addition, a traffic analysis of the Feasible Alternatives was conducted based on the procedures of the Highway Capacity Manual (HCM 2000). Environmental analyses conducted on the three Feasible Alternatives included noise studies, ecological impacts, land use impacts, and community impacts. The evaluation of the three Feasible Alternatives is presented in a separate report entitled *I-469 and US 24 Interchange Feasible Alternatives Analysis* (January 2004).

The two basic differences between the three Feasible Alternatives are the configuration of the southbound I-469 to westbound US 24 movement and the configuration of the eastbound US 24 to northbound I-469 movement. The three Feasible Interchange Alternatives were presented at the US 24 public hearings for review and comment. During the three-week comment period that followed the hearings, a comment was received that recommended Alternative 13 with modifications as the preferred interchange alternative. The comment noted that the left turn movement of Alternative 13 presents a safety concern in the high-speed area of the interchange. The left turn movement could be eliminated by adding the southbound I-469 ramp to westbound Rose Avenue from Alternative 14. By adding the additional ramp to Alternative 13, the need for left turning movements within the interchange would be eliminated.

Based on engineering, traffic, costs, environmental studies, and public involvement, a modified version of Alternative 13 was selected as the preferred alternative for reconstruction of the I-469 and US 24 interchange. The preferred alternative identified as Alternative 13 modified is a blend of Alternatives 13 and 14. In general, the design of Alternative 13 is the base configuration with the addition of a southbound diagonal off-ramp located in close proximity to the I-469 mainline in the northwest quadrant.

Southbound vehicles on I-469 would exit I-469 north of US 24 on the new diagonal ramp that would intersect US 24 on the north side at what is anticipated to be an unsignalized intersection. The intersection of US 24 and the southbound ramps would be eliminated, as southbound vehicles from I-469 would no longer turn across US 24 to reach westbound US 24. Westbound vehicles would exit US 24 on the right side east of I-469 and travel along a directional fly-over ramp over I-469. The fly-over would merge with the southbound I-469 diagonal ramp from eastbound US 24, and then merge onto the southbound I-469 mainline.

Access from eastbound US 24 to northbound I-469 will also be changed. The existing signalized intersection of US 24 and the northbound I-469 ramps will be eliminated. Eastbound vehicles intending on traveling north on I-469 will diverge from eastbound US 24 to a collector/distributor roadway. The collector/distributor roadway will also carry traffic exiting southbound I-469 that is traveling to eastbound US 24. Eastbound vehicles traveling to northbound I-469 will weave across the traffic exiting southbound I-469 traveling to eastbound US 24. After completing the weaving maneuver, the eastbound vehicles then enter a loop ramp traveling to northbound I-469. The loop ramp enters another collector/distributor roadway traveling parallel to I-469. The collector/distributor roadway also serves I-469 travelers to westbound US 24 loop ramp. Eastbound US 24 to northbound I-469 drivers weave with the northbound I-469 to westbound US 24 drivers. After the weaving movement, westbound US 24 to northbound I-469 travelers will enter the northbound collector/distributor roadway. The northbound collector/distributor roadway merges with northbound I-469 north of the interchange.

The access from westbound US 24 to northbound I-469 will be made on a new diagonal ramp that enters onto the northbound collector/distributor roadway and then merges with northbound I-469 north of the interchange.

Access from eastbound US 24 to southbound I-469 will also be made on a new diagonal ramp that would merge with the westbound US 24 to southbound I-469 fly-over ramp.

The access from northbound I-469 to eastbound US 24 also is changed. Northbound vehicles on I-469 will exit I-469 south of US 24 onto a northbound collector/distributor roadway and then onto a new diagonal ramp. The ramp then merges with the southbound I-469 ramp (headed for eastbound US 24) on collector/distributor roadway which merges with eastbound US 24 east of I-469.

The northbound I-469 ramp to westbound US 24, as well as the southbound ramp to eastbound US 24, would remain as loop ramps in their present locations. The southbound I-469 to eastbound US 24 loop ramp will be modified to connect to a new collector/distributor roadway parallel to US 24, which would merge with eastbound US 24 east of I-469. The northbound I-469 to westbound US 24 loop ramp will be modified to connect to a new collector/distributor roadway traveling parallel to I-469 prior to entering the loop configuration.

The advantages of Alternative 13 modified are the fly-over ramp and the more direct diagonal ramp from I-469 northbound to US 24 eastbound. By providing the new fly-over ramp from US 24 westbound to I-469 southbound along with the diagonal ramp from I-469 northbound to US 24 eastbound, the two major traffic movements of the interchange are improved.

A disadvantage is that the weaving movement on northbound I-469 requires a collector/distributor roadway, necessitating the northbound I-469 bridge to be widened or a parallel structure installed next to it.

Traffic analyses conducted on Alternative 13 modified indicate that all traffic movements of this alternative would operate at LOS C or better in the design year 2028.

5.1.2 WEST HIGH STREET/SWITZER ROAD

With the DEIS Preferred Alternative, the existing intersection of US 24 and West High Street/Switzer Road would be replaced with a grade-separated crossing carrying US 24 over the local roadway. Vehicles that now use the intersection would be routed onto other routes. The closure of the intersection is an issue of controversy for the city of Defiance. Several residents and public officials have requested that an interchange be constructed at this location. Proponents of the interchange have identified specific concerns with additional traffic, including heavy truck traffic, being forced to travel through residential areas located along Ralston Avenue (SR 15/18) and Harding Street to access industrial development located along West High Street.

Based on traffic impact analyses completed for the DEIS Preferred Alternative, the two most likely detour routes that could be used to access US 24 if the intersection at West High Street/Switzer Road were to be replaced with a grade-separated crossing would be SR 15/18 (Ralston Avenue)/Haller Street/Switzer Road and SR 15/18 (Ralston Avenue)/Harding Street/West High Street. It is anticipated that the impact of the re-routed traffic will consist of approximately 100 vehicles during the afternoon peak hour, the majority of which will be cars. Based on findings documented in the *City of Defiance Ohio Traffic Study: Assessment of Traffic Impacts Due to the Proposed Grade Separation of US 24 and West High Street* (February 2003), the area will experience capacity problems from the increase in background traffic as well as future traffic generated by

planned developments within the area. These capacity problems will occur with or without construction of the highway.

A special public meeting was held on July 8, 2003 to discuss the results of the February 2003 City of Defiance, Ohio Traffic Study Traffic. Representatives from the city of Defiance, Defiance County and ODOT attended the meeting. Existing and future development and traffic in the area surrounding the US 24 and West High Street/Switzer Road were discussed. Possible alternatives to an interchange at US 24 and West High Street/Switzer Road were presented and discussed. As a result of the meeting, ODOT agreed to study four alternatives, which would mitigate secondary traffic impacts. Conceptual designs, preliminary costs, and environmental impacts were developed for the four options. The four options, described below, are discussed in detail in a separate report entitled *West High Street/Switzer Road Access Study* (November 2003).

- Option 1: Construction of improvements to local roadways, specifically West High Street, Harding Street, and SR 15/18.
- Option 2: Construction of the grade-separated crossing at West High Street/ Switzer Road; improvements to local roadways, specifically West High Street and a hospital access road; and construction of a connector road between SR 15/18 and West High Street.
- Option 3: Construction of a full-diamond interchange at West High Street/Switzer Road including the realignment of West High Street/Switzer Road, Haller Road, and the existing State Service Road.
- Option 4: Construction of a stretched-diamond interchange at West High Street/ Switzer Road and SR 15/18 including the realignment of Haller Road, and the existing State Service Road.

ODOT presented the four alternatives at the October 2003 public hearings. At the request of local citizens, ODOT held a special outreach meeting on November 17, 2003, to discuss the four alternatives developed for West High Street/Switzer Road area. At the meeting, ODOT representatives presented the four alternatives and answered questions regarding design and traffic impacts. Many citizens voiced their opinions regarding the alternatives, traffic, and potential development in the area. The comments received at the meeting assisted ODOT in developing an alternative for access to US 24 at West High Street/Switzer Road that was acceptable to the majority of local citizens, officials, and stakeholders.

ODOT met with local officials, stakeholders and concerned citizens to discuss the alternatives developed for West High Street/Switzer Road on January 8, 2004. Option 2 was identified as the preferred alternative by ODOT. The discussion focused on the location of a connector road, which would link West High Street with SR 15/18. ODOT agreed to develop Option 2 in accordance with recommendations received from the stakeholders, public officials, and concerned citizens. Based on the public comments, potential environmental impacts, and engineering constraints, ODOT is proposing to construct option 2 with modifications. Option 2 with modifications consists of a connector road between SR 15/18 and West High Street. The recommendation is based on the following factors:

- The connector road gives reasonable access to US 24 for existing businesses and provides an effective alternative to the use of adjacent residential streets,
- The connector road is the least costly of the four alternatives (estimated costs range from $3.5 million to $11.9 million for the original options),
- A connector road does not require residential acquisitions (Options 3 and 4 would result in three residential displacements), and
- The connector road provides improved access to vacant land proposed for development.

5.1.3 US 24/SR 15/ 18 INTERCHANGE

The traffic impact analysis completed for the West High Street/Switzer Road area indicated that the access ramps for the US 24/SR 15/18 interchange currently operate at a LOS C/D in the afternoon peak hour, which will degrade to a LOS F by 2028, with or without the proposed improvements to US 24. As a result, ODOT evaluated operational and geometric improvements for the interchange as noted in *US 24/SR 15/18 Interchange: Traffic Capacity Analysis Report* (March 2004). Based on engineering and traffic studies, the following improvements to the interchange are proposed as part of the Preferred Alternative D-1 Modified:

- signalize the SR 15/18/US 24 eastbound ramp and westbound ramp intersections,
- construct a left-turn lane on SR 15/18 for northbound traffic accessing westbound US 24,
- construct a left-turn lane on SR 15/18 for southbound traffic accessing eastbound US 24,
- widen the SR 15/18 bridge over US 24 to thee lanes in width to provide for the left turn lanes, and
- relocate the US 24 eastbound and westbound ramp intersections at SR 15/18 reducing the distance between the ramps from 247 meters (810 feet) to 182.9 meters (600 feet).

5.2 PROJECT RELATED CHANGES/ IMPACTS

The project related changes and impacts discussions focus on the resources within the right-of-way limits of the highway. Because of the elements of Alternative D-1 Modified (i.e. Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area) the impacts and costs associated with the Preferred Alternative D-1 Modified deviate from those of Alternative D-1. Table 5.1 presents a summary of the impacts and costs associated with Alternative D-1 from the DEIS and Preferred Alternative D-1 Modified. The deviations would be reflected in any of the Feasible Alternatives recommended as the Preferred Alternative and developed in accordance with INDOT's and ODOT's project development processes. The following discussions include only those resources where there have been changes in the impacts since the DEIS.

5.2.1 WETLANDS

Wetland delineations were conducted within the proposed right-of-way for the Preferred Alternative D-1 Modified to determine specific wetland impacts. In Allen County, the Preferred Alternative D-1 Modified impacts seven wetlands and a total of 0.7 hectares (1.8 acres). In Paulding and Defiance counties, the Preferred Alternative D-1 Modified impacts 30 wetlands and a total of 8.9 hectares (22.05 acres). A summary of wetland impacts is presented in Table 5.1.

On March 30 and August 3, 2004 field reviews of the wetlands in Ohio were conducted by the US Army Corps of Engineers (USACE) and Ohio Environmental Protection Agency (OEPA). The purpose of the field reviews was to make jurisdictional determinations of the wetlands within the right-of-way limits of the Preferred Alternative D-1 Modified in Ohio. Jurisdictional determinations have not been completed for wetlands in Indiana. They will be completed during the final design stage prior to submitting waterway permit applications to the resource agencies.

TABLE 5.1
SUMMARY OF IMPACTS

Issue/Concern	Alternative D-1 From DEIS 2003	Alternative D-1 Modified Total	Alternative D-1 Modified Indiana	Alternative D-1 Modified Ohio
Engineering				
Length (miles)	36.4	37.7	11	26.7
Estimated Freeway/Expressway Combination Construction Cost	$204,971,652	$280,666,964	$103,295,800	$177,371,164
Total Estimated Right-of-Way Costs	$16,731,214	$26,225,000	$5,969,500	$20,255,500
Roadway Right-of-Way Cost (Including Damages for Landlocked Parcels)	$14,806,465	$24,715,000	$4,936,000	$19,779,000
Relocation Costs	$1,728,500	$1,510,000	$1,033,500	$476,500
Total Freeway/Expressway Combination Cost	$221,702,015	$269,960,800	$109,265,300	$160,695,500
Major Utility Conflicts	3	4	2	2
Traffic				
Average Daily Traffic, 2008 (vehicles per day)	7,731-10,705	7,731-10,705	7,731-10,705	7,750-10,460
Average Daily Traffic, 2028 (vehicles per day)	11,196-16,732	12,890-16,920	12,890-16,920	13,020-16,532
Level of Service (year 2008)	A	A	A	A
Level of Service (year 2028)	A	A	A	A
Travel Time in Minutes, 2008	34	35	10	25
Travel Time in Minutes, 2028	34	35	10	25
Vehicle Miles Traveled, 2008 (in millions)	121.6	124.5	38.1	86.4
Vehicle Miles Traveled, 2028 (in millions)	173.5	178.0	51.3	126.7
Local Roadways Closed/Severed (number)	15	16	5	11
Land Use				
Residential Use (acres)	57.9	72.0	44	28.0
Community / Public Use (acres)	10.3	28.5	0.5	28.0
Commercial Use (acres)	3.6	27.7	.05	27.2
Agricultural Use (acres)	1,428.8	1,582.9	535.2	1047.7
Displacements				
Landlocked Parcels (number) (no service roads provided)	41	38	15	23
Landlocked Parcels (acres) (no service roads provided)	444	407.2	203.5	203.7
Residential Properties: Total (number)	51	36	20	16
Residential Properties: Single Family Homes (number)	31	23	15	8
Residential Properties: Trailers (number)	10	4	0	4
Residential Properties: Farms (number)	10	9	5	4
Commercial Properties (number)	2	4	1	3
Industrial Properties (number)	0	0	0	0
Community Facilities (number)	0	1	1	0
Noise				
Category B Receptors Approaching or Exceeding FHWA Noise Abatement Criteria (number)	114	106	66	40
Category B Receptors Meeting Substantial Noise Increase Criteria (number)	47	52	4	48
Category B Receptors with Noise Impacts	139	138	69	69
Farmlands				
Farms Operations Affected (number)	213	214	103	111
Productive Farmland Affected (acres)	1,428.8	1,582.9	1,535.2	1,047.7
Affected Properties in Agricultural Districts (number)	6	8	0	8
Historic Resources				
Properties Listed on the National Register of Historic Places (number)	0	0	0	0
Properties Eligible for Listing on the National Register of Historic Places (number)	3	4	4	0
Section 4(f) Resources				
Historic Resources with Direct Impacts (number)	1	0	0	0
Historic Resources with Indirect Impacts (number)	0	0	0	0
Public Parks with Direct Impacts (number)	0	0	0	0
Public Parks with Indirect Impacts (number)	0	0	0	0

1:
2: 1+3?
3: 1
4: 3
15

TABLE 5.1 (CONTINUED)
SUMMARY OF IMPACTS

Issue/Concern	Alternative D-1 From DEIS 2003	Alternative D-1 Modified Total	Alternative D-1 Modified Indiana	Alternative D-1 Modified Ohio
Ecological Resources				
100-Year Floodplain Encroachments (acres)	69.2	80.0	60.0	20.0
Stream Crossings (number)	26	35	15	20
Total Length Stream Impacts (feet)	20,189	26,425	18,481	7,944
Total Length Culverted (feet)	3,958	3,453	1,048	2,405
Total Length Bridged (feet)	1,185	345	0	345
Total Length Relocated	Not listed	10,585	7,633	2,952
Additional Impact Length	14,071	12,042	9,800	2,242
Total Length of Impact to Limited Resource Water Streams QHEI<45 (feet)	17,513	19,612	17,221	2,391
Total Length of Impact to Warm Water Habitat Streams QHEI=45 to 60 (feet)	2,363	2,947	1,151	1,796
Total Length of Impact to Exceptional Warm Water Habitat Streams QHEI>60 (feet)	313	3,866	109	3,757
Total Acreage of Wetland Systems Affected	22.5	23.85	1.80	22.05
Affected Forested Category 1 Wetlands Systems (acres)	<0.1	0.00	0.00	0.00
Affected Forested Category 2 Wetlands Systems (acres)	11.0	9.61	0.98	8.63
Affected Forested Category 3 Wetlands Systems (acres)	2.3	3.25	0.30	2.95
Affected Non-Forested Category 1 Wetlands Systems (acres)	<0.1	0.15	0.04	0.11
Affected Non-Forested Category 2 Wetlands Systems (acres)	9.6	10.68	0.48	10.20
Affected Non-Forested Category 3 Wetlands Systems (acres)	0.0	0.16	0.00	0.16
Affected Forested Habitat (acres)	75.4	209.9*	6.0	203.9
Affected Woodlots (number)	20	22	5	17
Hazardous Materials				
Sites with Above Ground/ Underground Storage Tanks (number)	4	4	0	4
Sites with Past/Current Use of Hazardous Materials (number)	2	2	0	2
Past/Current Use for Solid Waste Disposal (number)	0	0	0	0
Sites with Other Hazardous Materials Concerns (number)	1	1	0	1

* Affected Forested Habitat acres includes 134 acres for stream and wetland mitigation. A total of 75.9 acres of forested habitat will be impacted by highway construction.

Wetlands Findings

This wetlands finding is presented in accordance with Executive Order 11990. The construction of the Preferred Alternative D-1 Modified will result in unavoidable wetland encroachments. Based on the Stage One and Two design analyses completed for the Preferred Alternative D-1 Modified in Ohio, impacts have been avoided or minimized to the extent practicable. The results are encroachment upon 9.6 hectares (23.85 acres) of wetlands. Additional avoidance and minimization efforts will be made during final design. A total of 28 alternatives, including the No Build were studied for the US 24 project. Discussions of these alternatives, identification of the Preferred Alternative and elimination of the others are presented in the DEIS. Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands, which may result from such use.

5.2.2 STREAMS

The Preferred Alternative D-1 Modified results in 35 stream crossings, affecting 8056 meters (26,425 feet) of streams. The Preferred Alternative D-1 Modified crosses 15 streams and impacts 5634 meters (18,481 feet) in Allen County. The Preferred Alternative D-1 Modified crosses 11 streams at 20 locations and impacts 2422 meters (7,944 feet) in Paulding and Defiance counties. Impacts result from stream channel crossings (i.e. bridges or culverts), relocation of stream channels, and construction of drainage channel outfall structures. A summary of stream impacts is presented in Table 5.1.

The stream impact numbers for Paulding and Defiance counties are lower than those calculated for the Feasible Alternatives in the DEIS because they include only those streams in Ohio that are considered jurisdictional by the USACE. Jurisdictional stream determinations were conducted during the field reviews for wetlands on March 30 and August 3, 2004. Jurisdictional stream determinations have not been made in Indiana. They will be completed during the final design stage prior to submitting waterway permit applications to the resource agencies.

In general, the majority of stream impacted by the Preferred Alternative D-1 Modified are low quality streams. The habitat in all of the streams and rivers crossed by the Preferred Alternative D-1 Modified qualifies as warm water habitat.

5.2.3 FLOODPLAINS

The Preferred Alternative D-1 Modified encroaches upon 32.4 hectares (80.0 acres) of floodplains associated with Stevens Ditch, Maumee River, and Tiffin River. There are eight total floodplain encroachments comprised of one longitudinal encroachment (24.3 hectares [60.0 acres]) and seven perpendicular encroachments (8.1 hectares [20.0 acres]). Alternative D-1 Modified does not impact or interfere with floodplain management activities in Allen County, Indiana; or Paulding and Defiance counties, Ohio.

Floodplains Finding

The Floodplains Finding is presented in accordance with Executive Order 11988. The construction of the Preferred Alternative D-1 Modified will result in unavoidable floodplain encroachments. To the extent practicable, impacts to floodplains have been avoided or minimized. A total of 28 alternatives, including the No Build were studied for the US 24 project. Discussions of these alternatives, identification of the Preferred Alternative and elimination of the others are presented in the DEIS. Based on the consideration of impacts and the ability to address the purpose and need for the project, the Preferred Alternative D-1 Modified is the only reasonable and practicable alternative. The proposed action includes all practicable measures to minimize harm to floodplains which may result from such use. Construction of the Preferred Alternative D-1 Modified will conform to applicable state and local floodplain standards.

5.2.4 THREATENED AND ENDANGERED SPECIES

Comments on the Preferred Alternative and DEIS received from the US Fish and Wildlife Service (USFWS) requested additional information on project impacts to threatened and endangered species, specifically the Indiana bat. ODOT requested a species list for the development of a Biological Assessment (BA) for the US 24 project from the USFWS in September 2004. The USFWS offices in Indiana and Ohio provided a list of the following six species to be included in the BA. Four of the species are federally listed species and two of the species are federal candidate species.

- Indiana bat *(Myotis sodalit)* - federally listed
- Clubshell mussel *(Pleurobema clav)* - federally listed
- Bald eagle *(Haliaeetus leucocephalus)* - federally listed
- Copperbelly watersnake *(Nerodia erythrogaster neglecta)* - federally listed
- Eastern massasauga *(Sistrurus catenatus catenatus)* - federal candidate species
- Rayed bean mussel *(Villosa fabalis)* - federal candidate species

ODOT documented project impacts to the six species in the *Biological Assessment of Federally Listed Species for the Ohio Department of Transportation's US 24 New Haven, Indiana to Defiance, Ohio (ALL [Indiana]/PAU/DEF [Ohio]-24-0.00 PID 18904)* (April 29, 2005). Section 7 Consultation of the Endangered Species Act was initiated on May 18, 2005. A field review of Indiana bat habitat within the US 24 project area was held on

August 8, 2005 and attended by representatives from the USFWS and ODOT. The purpose of the field review was to familiarize USFWS staff with the affected woodlots. A general habitat assessment was conducted in several woodlots along the Preferred Alternative. The data collected during the field review was used to develop a Biological Opinion (BO). The USFWS issued a BO on the construction, operation, and maintenance of the US 24 project for the Indiana bat on September 30, 2005. The BO is located in Appendix C.

Indiana Bat *(Myotis sodalis)* - Federally Listed

The Indiana bat is listed as federally endangered. In Indiana and Ohio, the Indiana bat is listed as state endangered. This ranking signifies that the species is declining in its local range within each state, and is facing possible extirpation. The range of the Indiana bat includes Iowa, Missouri, Illinois, Indiana, Michigan, Ohio, Kentucky, Tennessee, North Carolina, West Virginia, Pennsylvania, New Jersey, New York, and Vermont. Indiana bat winter hibernacula (caves) and summer reproductive and nonreproductive individuals have been documented in Indiana and Ohio.

The literature review for the Indiana bat determined that the most recent documentation of the species occurrence in Allen, Paulding and Defiance counties was in 1976. One male and two pregnant female Indiana bats were captured within (48.4 kilometers) 30 miles of the city of Defiance, Ohio. There are no records of Indiana bat captures in Allen County or Defiance County.

The BA defined the Action Area for the Indiana bat as the area within four kilometers (2.5 miles) on either side of the construction right-of-way of the Preferred Alternative. Neither Indiana bat winter hibernacula (caves) nor individuals have been documented in the Action Area. Therefore, construction, operation, and maintenance activities will not affect individuals or habitat of the Indiana bat during winter hibernation, autumn swarming, or spring staging. However, suitable summer habitat is present and it is possible that Indiana bats could occur within in the Action Area. Therefore, it was assumed that Indiana bats may be subjected to direct and indirect effects from construction, operation, and maintenance of US 24, depending on the season and the action.

The BA presented several determinations of effect for the Indiana bat based on direct and indirect impacts. The BA presented a collective determination of *May Affect - Is Likely to Adversely Affect* for all impacts. This determination is based on the combination of loss of suitable habitat from within the construction right-of-way of the Preferred Alternative and areas of secondary impact.

The USFWS redefined the Action Area of the Indiana bat in the BO. According to the USFWS the Action Area is a linear corridor measuring 2103.7 meters (6,900 feet) wide and 60.8 kilometers (37.7 miles) long, with 1.6-kilometer (one-mile) radius circles of impact at each of the five westernmost interchanges. The USFWS concurred that the US 24 project *Is Likely to Adversely Affect* the Indiana bat. The USFWS assessed the direct, indirect, and cumulative impacts of the project on the Indiana bat and determined that the US 24 project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat, and is not likely to destroy or adversely modify designated Indiana bat critical habitat. The USFWS concluded that the overall US 24 project will not contribute a measurable decrease in reproduction or numbers of the Indiana bat at the local level.

Associated with the BO is an Incidental Take Permit. Incidental take is defined as "...take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." The USFWS anticipates that incidental take of Indiana bats will occur

in the form of harm through habitat loss, and death and injury during tree clearing operations within secondary development areas at three interchanges. The USFWS anticipates that three maternity colonies of Indiana bats, and 14 male or non-reproductively active female Indiana bats occupy the action area and may be impacted as a result of the US 24 project. Collectively, the effects of the US 24 project, as described in the BO are expected to result in behavioral or physiological effects that impair essential behavioral patterns. According to the USFWS, death, decreased fitness, and reduced reproductive success of a few individual bats are reasonably certain to occur. The USFWS believes that no more than 10 Indiana bats will be incidentally taken over the term of the US 24 project. The USFWS anticipates that incidental take of Indiana bats will be difficult to detect for the following reasons:

- the species is highly motile,
- the species occurs in habitat (e.g., trees) that makes detection difficult, and
- finding dead or moribund bats is unlikely due to a small body size and the likely scavenging of specimens by predators.

However, the USFWS believes the level of take of the Indiana bat can be monitored by tracking the level of habitat destruction and modification. Specifically, if the current anticipated level of habitat loss is exceeded, the level of incidental take is expected to increase as well. The following indicators will serve as notice that more than 10 individuals may be taken:

- any additional tree clearing occurs outside the right-of-way corridor as described in the BO,
- any additional impacts to wetlands within the road right-of-way occur, beyond those described in the BO, or
- any additional stream impacts occur within the road right-of-way beyond those described in the BO.

Clubshell Mussel *(Pleurobema clav)* - Federally Listed

The clubshell mussel is listed as federally threatened. The clubshell mussel is listed as state endangered in Indiana and Ohio. This ranking signifies that the species is declining in its local range within each state, and is facing possible extirpation.

Historically, the clubshell mussel was once distributed across nine states, including Indiana and Ohio. Shells and subfossil shells have been documented in Allen County, Indiana and Paulding and Defiance counties, Ohio. An extant population of the clubshell mussel is located in the St. Joseph River in Allen County. A mussel survey for the US 24 project was conducted in 1999 at 15 stream crossing locations. A total of nine subfossil shells were found at four sites within the Maumee and Tiffin rivers. No live clubshell mussels were found during the survey.

The BA defined the Action Area for the clubshell mussel as the direct footprint of any in-stream construction within the right-of-way of the Preferred Alternative. In direct impact buffer zones extend 100 meters (328 feet) upstream and 500 meters (1,640 feet) downstream of the crossings. There are no known clubshell mussel populations located within the Action Area. However, the presence of subfossil shells in the Maumee and Tiffin rivers indicate that potentially suitable habitat may be present in these areas. Recolonization of the area by the clubshell is unlikely, but it is possible that downstream movement of individuals could occur or that a host fish may transport juvenile mussels into the Action Areas. Therefore, the BA determined that a *May Affect; Not Likely To Adversely Affect* determination is appropriate for the clubshell during construction, operation, and maintenance of the US 24 project. The USFWS determined that the US 24 project will have *No Effect* on the clubshell mussel.

Bald Eagle *(Haliaeetus leucocephalus)* - Federally Listed
The bald eagle is listed as federally threatened. The bald eagle is listed as state endangered in Indiana and Ohio. This ranking signifies that the species is declining in its local range within each state, and is facing possible extirpation.

The North American range of the bald eagle is from Alaska and northern Canada to the southern United States and Mexico including Baja California, south Texas, and Florida. Growing summer and winter bald eagle populations are found in both Indiana and Ohio.

Neither nesting nor wintering bald eagles have been reported in Allen County, Indiana. Several unconfirmed records indicate that bald eagles are occasional transients during migration in northern Indiana. The number of winter bald eagle sightings is increasing in northwest Ohio along major rivers and the shores of Lake Erie. Bald eagles are known to winter along the Maumee River in both Defiance and Paulding counties. According to the ODNR, three bald eagles in Defiance County and one in Paulding County were recorded in January 2004.

The BA defines the Action Areas for the bald eagle according to seasonal needs. The project Action Area for summer nesting is 0.8 kilometers (0.5 miles) on either side of the construction right-of-way limits of the Preferred Alternative. The Action Area for winter roost sites is 0.4 kilometers (0.25 miles) on either side of the construction right-of-way limits of the Preferred Alternative. No summer nesting or winter roosting bald eagles have been documented in the Action Areas.

Since there are no known summer or winter populations of eagles in the Action Areas, the potential for vehicular strikes, ingestion of contaminants, and loss of a forage base from erosion are all very small, and potential impacts are unlikely to occur for the Preferred Alternative. The BA determined that a *May Affect; Not Likely to Adversely Affect* determination is appropriate for the bald eagle during construction, operation, and maintenance of US 24.

The USFWS concurred with *Not Likely to Adversely Effect* determination based on the following:

- suitable habitat for this species may occur in the action area, but there are no summering or wintering populations of bald eagles, and only rare occurrences of transient bald eagles,
- although transient bald eagles could potentially be affected by vehicular strikes, it would not reach the extent of take, as the maximum estimate of 0.00001 deaths per year, per lane mile in Ohio, and
- the potential for water quality degradation from contaminants or sedimentation to impact the bald eagle through decreased or contaminated food sources will be mediated by erosion control methods, and thus, no detectable reduction or contamination of food will occur. Therefore, the possibility of an impact occurring to the bald eagle from an accidental spill is not quantifiable or predictable.

Based on this information, the USFWS determined that the potential adverse affects to the bald eagle from the US 24 project, as proposed, are insignificant and discountable.

Copperbelly Watersnake *(Nerodia erythrogaster neglecta)* - Federally Listed
The copperbelly watersnake is listed as federally threatened. In both Indiana and Ohio, the copperbelly watersnake is listed as state endangered. This ranking signifies that the subspecies is declining in its local range within each state, and is facing possible extirpation from these states.

The largest population concentration of the copperbelly watersnake is centered near the confluence of the Ohio and Wabash rivers in the tristate region of Kentucky, Illinois, and Indiana. Small disjunct populations are present in areas of south-central Indiana, central Ohio, and northern Tennessee. Northern populations of the copperbelly watersnake are within the Great Lakes basin, in the tristate area of Ohio, Indiana, and Michigan~~5~~. The copperbelly watersnake has not been documented in Allen County, Indiana, or Defiance and Paulding counties, Ohio.

The BA defines the Action Area for the copperbelly watersnake as the construction right-of-way and areas of secondary development, and a 0.48-kilometer (0.3-mile) buffer that encompasses both. There are no copperbelly watersnakes or suitable habitat found in the Action Area. Therefore, no direct or indirect effects from the Preferred Alternative are anticipated on extant populations of the species. The BA determined that a *No Effect* determination is appropriate for the copperbelly watersnake during construction, operation, and maintenance of US 24. The USFWS agreed with the determination that the US 24 project will have *No Effect* on the copperbelly watersnake.

Eastern Massasauga *(Sistrurus catenatus catenatus)* - Federal Candidate Species
The eastern massasauga is currently proposed for listing under the Endangered Species Act. Indiana and Ohio, the massasauga is listed as endangered, a ranking that signifies the subspecies is declining in its range in each state and is facing possible extirpation.

The range of the eastern massasauga extends from western New York, northwestern Pennsylvania, and southern Ontario into eastern Iowa and northeastern Missouri. This species was once common across its range, but has declined drastically since the mid-1970s. Populations in northern Indiana have declined drastically. The USFWS lists the following 13 counties as the total distribution of eastern massasauga in Indiana: Allen, Carroll, Elkhart, Kusciusko, La Porte, Lagrange, Marshall, Noble, Porter, Pulaski, St. Joseph, Steuben, and Tippecanoe .

In Ohio, the eastern massasauga was common in former glaciated areas across the state. Many of populations in northwestern counties are believed to have severely declined~~s~~, for no individuals have been found in the region within the last several years. The USFWS lists the following 34 counties as the total distribution of eastern massasauga in Ohio: Ashtabula, Champaign, Clark, Clinton, Columbiana, Crawford, Cuyahoga, Defiance, Erie, Fairfield, Fayette, Franklin, Fulton, Greene, Hardin, Huron, Licking, Logan, Lorain, Lucas, Marion, Medina, Montgomery, Ottawa, Paulding, Portage, Preble, Sandusky, Seneca, Stark, Trumbull, Warren, Wayne, and Wyandot.

The eastern massasauga hs been documented in Allen County, Indiana, and Defiance and Paulding counties, Ohio. The closest known occurrence of the eastern massasauga to the US 24 project was recorded in 1994. One individual was found west of Fort Wayne, Allen County, Indiana, at least 16 kilometers (10 miles) from the Action Area. Recent surveys for the eastern massasauga in Defiance and Paulding counties failed to document the presence of the species.

The BA defines the Action Area for the eastern massasauga as a 1.6-kilometer (1.0-mile) buffer around the construction right-of-way and areas of secondary development. Although potential habitat does exist, there are no records of the eastern massasauga within or near the Action Area. Therefore, no direct or indirect effects from the Preferred Alternative are anticipated on extant populations of the species.

A species effects determination is not provided in the BA for the eastern massasauga, because it is not listed by the USFWS at this time. The USFWS determined that the US 24 project will have *No Effect* on the eastern massasauga.

Rayed Bean Mussel *(Villosa fabalis)* - Federal Candidate Species
The rayed bean mussel is currently proposed for listing under the Endangered Species Act. In Ohio, the rayed bean is listed as endangered. In Indiana, the rayed bean is listed as a species of special concern.

The occurrence of subfossil shells from the Ohio River and its tributaries suggest a historically broad distribution for the rayed bean. It occurred in 109 streams in 10 states throughout the upper and lower Great Lakes drainage system, including the St. Lawrence River and throughout most of the Ohio and Tennessee River systems. Populations of the ray bean in Ohio are known to inhabit Fish Creek (Williams County), Auglaize River (Auglaize County), Ottawa River (Putnam County), and Blanchard River (Hardin and Hancock counties). Populations of the ray bean in Indiana are found in the St. Joseph River (Allen and DeKalb counties).

The BA defines the Action Area for the rayed bean mussel as the the direct footprint of any in-stream construction within the right-of-way of the Preferred Alternative. There are no known rayed bean mussel populations located within the Action Area. Therefore, no direct or indirect effects from the Preferred Alternative are anticipated on populations of the species.

A species effects determination is not provided in the BA for the rayed bean mussel, because it is not listed by the USFWS at this time. The USFWS determined that the US 24 project will have *No Effect* on the rayed bean mussel.

5.2.5 FARMLANDS

The Preferred Alternative D-1 Modified will result in the conversion of 640.5 hectares (1,582.9 acres) of farmland and impact 214 different farms operations. These impacts include eight properties within agricultural districts totaling 72.1 hectares (178.1 acres). In addition, the Preferred Alternative D-1 Modified will result in the landlocking of approximately 164.9 hectares (407.2 acres) of land.

Two individual Farmland Conversion Impact Rating (FCIR) forms (AD-1006) were generated for the Preferred Alternative D-1 Modified. One form was completed for Allen County, Indiana and one form was completed for both Paulding and Defiance counties, Ohio. An additional form was completed for the I-469/US 24 interchange area because it encompasses land not previously evaluated for the Feasible Alternatives analysis. Copies of the completed FCIR forms are provided in Appendix D. The FCIR scores for the Preferred Alternative D-1 Modified are 178 for the mainline and 187 for the I-469 interchange in Allen County. The FCIR score for the Preferred Alternative D-1 Modified is 166 in Paulding and Defiance counties.

A field tile survey was conducted in Paulding and Defiance counties during 2004 for the Preferred Alternative D-1 Modified. Property owners, farm managers, and local contractors specializing in the installation of drainage systems were interviewed in order to obtain information on the field tile systems located within the right-of-way limits of the Preferred Alternative D-1 Modified. In addition, field investigations were conducted with property owners and farm managers. The findings of the survey determined that the Preferred Alternative D-1 Modified will impact only the field tile drainage systems located within the right-of-way limits and positive drainage of adjacent fields will be maintained.

5.2.6 MUNICIPAL/ INDUSTRIAL/ HAZARDOUS WASTE

Phase I Environmental Site Assessments (ESA) were conducted on eight properties located within or near the Preferred Alternative D-1 Modified. Four of the eight sites were recommended for Phase II ESAs:

- Ohio State Highway Patrol Post,
- ODOT Defiance County Garage,
- Mark Moats Ford, and
- an abandoned house at 6545 Township Road 69.

Phase II ESAs were conducted on three of the four sites. It was determined that a Phase II ESA investigation would not be conducted at the Ohio State Highway Patrol Post since the potential for encountering contamination is minimal.

The results of the Phase II ESA investigations determined that for all three sites, the soils do not reveal the presence of volatile organic compounds, semi-volatile organic compounds, or metals in excess of the OEPA's *Voluntary Action Program Single Parameter Commercial and Industrial Use Direct Contact Standards* (Effective October 21, 2002). In addition, groundwater was not encountered during the soil borings and site soils were identified as low permeability clay and silty clay. Closure of underground and aboveground storage tanks on the three properties will be conducted as necessary in accordance with applicable regulations. The storage drums found on the property located at 6545 Township Road 69 will be disposed of properly.

5.2.7 ENVIRONMENTAL PERMITS

The specific permits required for this project are:

- USFWS Incidental Take Permit,
- USACE Section 404 Individual Permit,
- OEPA Section 401 Water Quality Certification,
- OEPA Isolated Wetlands Permit,
- Level Two Pre-Activity Notification (PAN),
- Indiana Department of Environmental Management (IDEM) Section 401 Water Quality Certification,
- National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities, and
- Indiana Department of Natural Resources (IDNR) construction in a floodway.

The USACE will issue two Section 404 permits for the Preferred Alternative D-1 Modified because the project is divided between two USACE regions. The Ohio section will be permitted by the USACE Buffalo District and the Indiana section will be permitted by the USACE Detroit District. Wetland impacts in Ohio and Indiana will be permitted separately. The USACE Buffalo District confirmed jurisdictional waters in the State of Ohio during field meetings on March 30, and August 3, 2004. A jurisdictional determination has not been completed in Indiana.

The Section 401 permits will also be permitted separately. The OEPA will permit all water resource impacts within Ohio and the IDEM will permit all water resource impacts within Indiana.

A National Pollutant Discharge Elimination System permit is mandated by Section 401 of the Clean Water Act for the discharge of pollution from a point source into surface waters for disposal purposes. Best Management Practices (BMPs) will be used in all cases where impacts occur.

A Coast Guard permit is not required for this project.

5.2.8 LAND USE AND DEVELOPMENT TRENDS

Within the right-of-way of the Preferred Alternative D-1 Modified, the amount of land to be converted to transportation use is 815.8 hectares (2,015 acres). The land use with

the greatest conversion from existing conditions is agricultural land. Approximately 640.5 hectares (1,582.9 acres) of land currently used for agricultural activities will be converted to right-of-way for US 24. Residential land uses account for 29.1 hectares (72 acres) of land that will be acquired for right-of-way. Other land uses to be converted to transportation use include commercial (11.2 hectares [27.7 acres]) and community/ public use (11.5 hectares [28.5 acres]). The latter category is related to displacement of the AEP Station in Allen County and right-of-way acquisition of land for the SR 424 interchange from the Ohio State Highway Patrol Facility and ODOT's District 1 Garage.

The Preferred Alternative D-1 Modified requires right-of-way from a number of areas proposed for development. In Allen County, the Preferred Alternative D-1 Modified requires 2.0 hectares (4.8 acres) of land from the New Haven Industrial site. It also requires 9.0 hectares (22.2 acres) of land from the nearby Canal Place Economic Development Area.

The Preferred Alternative D-1 Modified in Paulding County will take 2.2 hectares (5.4 acres) from the Antwerp Industrial Park. Access to the Antwerp Industrial Park will be improved by the provision of an at-grade intersection where the Preferred Alternative D-1 Modified meets T-51 and C-176, just to the east of the development site. The new Antwerp Local Schools complex and its associated traffic was taken into account in the design criteria for the Preferred Alternative D-1 Modified. In response to comments received from Paulding County officials, the crossing at C-43 has been redesigned as a grade-separated crossing over US 24 to separate school traffic from traffic traveling US 24. No land will be taken from the school complex for the Preferred Alternative D-1 Modified.

The Preferred Alternative D-1 Modified in Defiance County, requires land from five development sites. There is a 0.1-hectare (0.4-acre) impact on the Defiance Regional Medical Center property, a 2.9-hectare (6.8-acre) impact on the Fox Run Executive Park, a 0.6-hectare (1.5-acre) impact on the Maumee River Crossing residential development (part of the Smith Zachrich Development Site), a 1.3-hectare (3.3-acre) impact on the Olson Enterprise Park, and a 1.9-hectare (4.6-acre) impact on the Enterprise Industrial Park.

The Preferred Alternative D-1 Modified landlocks 38 properties, requiring the acquisition of more land than is needed for construction. The 38 affected properties total 164.9 hectares (407.2 acres).

5.2.9 POPULATION/ HOUSING

The Preferred Alternative D-1 Modified has the potential to displace 36 residences, of which 23 are single family homes, four are mobile homes, and nine are single-family residences located on actively farmed properties. Based on the analysis of available replacement properties, there is an adequate number of available "Decent, Safe and Sanitary" housing units throughout the study area to absorb the displaced residents. Also, there is a sufficient number of vacant lots available for new construction and relocation of mobile homes. The majority of displaced residents should be able to stay in the area near shopping, schools, churches and other community facilities, if they choose. There appear to be no identifiable, unusual conditions in need of special relocation advisory services.

5.2.10 ENVIRONMENTAL JUSTICE

Environmental Justice populations affected by the Preferred Alternative D-1 Modified include minority and low income residents. All of the municipalities in Paulding and Defiance counties are considered to be minority communities because they have a higher percentage of residents who reported their race as Hispanic/Latino or American

Indian/Alaska Native than reported statewide. Low income communities include the Village of Cecil, the Brentwood Motor Home Court in Emerald Township, an unnamed subdivision near Riverside Cemetery in the Village of Antwerp, the Bohlman Trailer Park in Defiance Township, and the Rolling Meadows Mobile Home Park in Noble Township.

The Preferred Alternative D-1 Modified minimizes the potential for disproportionate impacts on the Hispanic population and is located on the same alignment as existing US 24 within Noble Township, except for the improved SR 15/18 interchange and West High Street connector. The connector would largely be built on undeveloped land that is part of the Defience Regional Medical Center development site. Improvements to the SR 15/18 interchange will impact the Rolling Meadows Mobile Home Park. The driveway to the property will be relocated to a safer distance away from the interchange.

The Preferred Alternative D-1 Modified avoids the unnamed subdivision in the Village of Antwerp, the Brentwoood Court Mobile Home Park, the Bohlman Trailer Park, and the Rolling Meadows Mobile Home Park. While a regional transportation facility will not be located within the immediate vicinity of these neighborhoods, the new facility will be accessible via the local road system. The changes in travel patterns do not result in disproportionate impacts to the neighborhoods.

In accordance with ODOT's policy on Environmental Justice, ODOT investigated potential design options for the SR 424 interchange to avoid impacts on the Bohlman Trailer Park. Based on the evaluation of conceptual interchange options, the eastbound exit and westbound entrance ramps for the SR 424 interchange were shifted to the west to avoid the acquisition of property from the Bohlman Trailer Park and the displacements of mobile homes.

The Bohlman Trailer Park will experience an increase in traffic generated noise levels as a result of the Preferred Alternative D-1 Modified. Future traffic generated noise is predicted to exceed FHWA NAC for residential uses (Activity Category B). In accordance with ODOT's noise policies, the feasibility of noise abatement has been considered for the Bohlman Trailer Park. A noise wall will be constructed between the SR 424 interchange ramp and the trailer park to mitigate the increase in noise levels.

Additionally, the Preferred Alternative as originally presented to the public in June 2002, would result in the closure of both C-206 and C-216 near the village of Cecil. This road closure would affect direct east-west access through this low income community. Based on input from the public and local agencies, C-206 will be realigned to intersect with C-87 maintaining one of the two east-west routes serving Cecil. C-216 will be closed. Additionally, east-west access through the village will be improved by the new highway which traverses the southern perimeter of the village. Therefore, the Preferred Alternative D-1 Modified will not result in disproportionate impacts to low income persons and families residing in Cecil.

5.2.11 COMMUNITY COHESION/ NEIGHBORHOOD IMPACTS

Community cohesion is defined as the connections between and within communities that are essential for serving the needs of the residents (FHWA, 1991). Development of the Preferred Alternative D-1 Modified was completed with an objective of minimizing impacts to businesses, residences, community facilities, and the local road network. Impacts to community cohesiveness are presented in Table 5.2.

The city of New Haven and Jefferson Township will not be affected by the new highway as the Preferred Alternative D-1 Modified abuts the US 24 Corridor within these two communities. Within Milan and Maumee townships, the Preferred Alternative D-1 Modified follows the US 24 Corridor to Berthaud Road where it deviates from the existing

TABLE 5.2
IMPACTS TO COMMUNITIES/NEIGHBORHOODS

Affected Area	Description of Impact
New Haven, Allen County	No change (US 24 on existing alignment).
Jefferson Township, Allen County	No change (US 24 on existing alignment, widening to the south of US 24).
Georgian Park Subdivision, Jefferson Township, Allen County	US 24 on existing alignment, widening to the south of US 24.
Havenwood Forest Subdivision, Milan Township, Allen County	US 24 relocated on new alignment to the south of the development.
Gar Creek Berthaud/Gar Creek Roads, Milan Township, Allen County	Access affected due to closure of Berthaud Road at US 24.
Milan Township, Allen County	US 24 on existing alignment between Doyle Road and Berthaud Road, widening to the south of US 24. From Berthaud Road to Maumee Township, US 24 on new alignment through rural area.
Edgerton Addition Subdivision, City of Woodburn, Allen County	US 24 relocated to the north of Woodburn.
City of Woodburn, Allen County	US 24 relocated just to the north of Woodburn. Improved access to city and Woodburn Industrial Park.
Maumee Township, Allen County	US 24 on new alignment through rural area.
Harrison Township, Paulding County	US 24 located on new alignment through rural area along northwest edge of township.
Jarrett Wood Subdivision, US 24, Carryall Township, Paulding County	US 24 relocated on new alignment to the south of the development.
Village of Antwerp, Paulding County	US 24 relocated away from commercial district just beyond southern village boundary. The crossing at C-43 is grade separated to provide safe access to Antwerp School complex.
Unnamed Mobile Home Park, US 24/T-43 Village of Antwerp, Paulding County	US 24 relocated away from development.
Carryall Township, Paulding County	US 24 relocated on new alignment to southern section of township through rural area.
Crane Township, Paulding County	US 24 on new alignment through rural area bisecting township. US 24 parallels Maumee & Western Railroad between T-77 and C-87.
Newman's Rolling Acres No. 2 Subdivision Fort Wayne/Riverside Drives Crane Township, Paulding County	US 24 relocated on new alignment to the south of the development.
Village of Cecil, Paulding County	US 24 relocated on new alignment through southern portion of the village. C-206 is re-aligned to intersect with C-87. C-216 is closed to through traffic.

TABLE 5.2 (CONTINUED)
IMPACTS TO COMMUNITIES/NEIGHBORHOODS

Affected Area	Description of Impact
Emerald Township, Paulding County	US 24 on new alignment through rural development bisecting northern portion of township. US 24 parallels Maumee & Western Railroad between Crane Township and Defiance County.
Brentwood Mobile Home Court, US 24/C-232, Emerald Township, Paulding County	US 24 relocated on new alignment to the south of the development.
Delaware Township, Defiance County	US 24 on new alignment through rural development in very southeastern portion of the township. C-8 re-aligned to intersect with C-143. US 24 parallels Maumee & Western Railroad between Paulding County and Defiance Township.
Defiance Township, Defiance County	US 24 on new alignment through rural area between Delaware Township and city of Defiance (C-146). US 24 parallels Maumee & Western Railroad between Delaware Township and the city of Defiance. Interchange at SR 424.
Bohlman Trailer Park, US 24/SR 424, Defiance Township, Defiance County	SR 424 interchange ramps abut western boundary of neighborhood.
Noble Township, Defiance County	US 24 on existing alignment. SR 15/18 Interchange improved. New connector road constructed between SR 15/18 and West High Street.
Noble Heights Subdivision, Noble Township, Defiance County	US 24 on new alignment west of SR 424. SR 424 intersection upgrade as interchange. SR 15/18 interchange improved. New connector road constructed between SR 15/18 and West High Street.
City of Defiance, Defiance County	US 24 on new alignment west of SR 424. SR 424 intersection improved as interchange. SR 15/18 interchange improved. New connector roadway constructed between West High Street and SR 15/18.

alignment. This will minimize the barrier effect of the new facility. The alignment stays to the north of the Gar Creek neighborhoood, minimizing effects on the neighborhood.

In the vicinity of Woodburn, the Preferred Alternative D-1 Modified passes to the north of the city. Based on comments received from public and local officials, a northern route is preferred to a southern route to minimize impacts to the local roadway system serving Woodburn.

The Preferred Alternative D-1 Modified in Paulding County passes to the south of the village of Antwerp, which is consistent with goals specified in the *Paulding County Comprehensive Plan*. Within the village of Antwerp, the crossing at C-43 will be constructed as a grade-separated crossing to minimize impacts on local traffic movements, particularly traffic that will be generated by the new Antwerp Schools complex on C-43.

The Preferred Alternative D-1 Modified also passes to the south of the village of Cecil. The design of the Preferred Alternative D-1 Modified proposes an at-grade intersection at the crossings of C-206 and closure at C-216. These are the only east-west routes providing direct access to the village. C-206 will be re-aligned to intersect with C-87.

Between the village of Cecil in Paulding County and Krouse Road in Defiance County, the Preferred Alternative D-1 Modified parallels the Maumee & Western Railroad corridor to the north, minimizing impacts on communities and neighborhoods. From Ashwood Road to the junction of US 24/SR 424, the Preferred Alternative D-1 Modified traverses an area that is now targeted for economic development by the county, thereby minimizing impacts to communities and neighborhoods in this area.

Within Defiance Township, the Preferred Alternative D-1 Modified avoids the displacement of mobile homes in the Bohlman Trailer Park. The Preferred Alternative D-1 Modified will result in an increase in traffic generated noise at the trailer park. Future traffic generated noise is predicted to exceed FHWA Noise Abatement Criteria (NAC) for residential uses.

The Preferred Alternative D-1 Modified, unlike the Feasible Alternatives, includes improvements to the SR 15/18-US 24 interchange in Defiance County. These improvements will impact the Rolling Meadows Mobile Home Park located off SR 15 just north of US 24 in Defiance County. The driveway to the property will be relocated to a safer distance away from the interchange

In the city of Defiance, the existing intersection of US 24 and West High Street /Switzer Road will be closed as a result of the construction of the Preferred Alternative D-1 Modified and the existing at-grade intersection will be replaced with an overpass. West High Street and Switzer Road will remain open to traffic with an overpass constructed over West High Street/Switzer to carry the new highway over it. A connector road will be constructed between West High Street and SR 15/18 in Defiance County to provide access to the existing industrial area.

The traffic impact analysis completed for the West High Street/Switzer Road area indicated that the access ramps for the US 24/SR 15/18 interchange currently operate at a LOS C/D in the afternoon peak hour, which will degrade to a LOS F by 2028 with or without the proposed improvements to US 24. ODOT evaluated operational and geometric improvements for the interchange as documented in *US 24/SR 15-18 Interchange: Traffic Capacity Analysis Report* (March 2004). Based the study, the following improvements to the interchange are proposed as part of the Preferred Alternative D-1 Modified:

- signalize the US 24-SR 15/18 eastbound ramp and westbound ramp intersections,
- construct a left turn lane on SR 15/18 for northbound traffic accessing westbound US 24,
- construct a left turn lane on SR 15/18 for southbound traffic accessing eastbound US 24,
- widen to SR 15/18 bridge over US 24 to thee lanes in width to provide for the left turn lanes, and
- relocate the US 24 eastbound and westbound ramp intersections at SR 15/18 reducing the distance between the ramps from 247 meters (810 feet) to 182.9 meters (600 feet).

5.2.12 COMMUNITY FACILITIES AND SERVICES

Since the DEIS was completed, two new community facilities were constructed in close proximity to the Preferred Alternative D-1 Modified. The Defiance Regional Medical Center recently opened on a site located at the intersection of US 24 and West High Street. The Antwerp Local Schools recently constructed a new K-12 complex, located on the southwest side of the village on C-43. Table 5.3 summarizes the impacts of the Preferred Alternative D-1 Modified on community facilities and services.

TABLE 5.3
SUMMARY OF PREFERRED ALTERNATIVE D-1 MODIFIED IMPACTS TO COMMUNITY FACILITIES AND SERVICES

Type of Facility	Facility & Location	Description of Impact
Medical/ Health Care	Defiance Regional Medical Center West High Street City of Defiance, Defiance County	Improved access. Traffic operations on local roadways are improved. SR 15/18 interchange improved. New connector road constructed between SR 15/18 and West High Street.
Police/Fire	Village of Antwerp Volunteer Fire Department US 24 Village of Antwerp, Paulding County	US 24 relocated south of Antwerp. C-43 constructed as grade-separated crossing.
	Village of Cecil Fire Department C-105 Village of Cecil, Paulding County	C-216 is closed.
	Ohio State Highway Patrol, Defiance Post US 24 Defiance Township, Defiance County	Direct impact (right-of-way acquisition) associated with US 24/SR 424 interchange. Does not affect buildings or access.
Schools	Woodlan High School Woodburn Road Milan Township, Allen County	Primary access routes to Woodlan School are grade-separated.
	Antwerp Local School C-43 Village of Antwerp, Ohio	Grade-separated crossing at C-43 (primary access route).
Churches	St. Paul Lutheran Church Berthaud Road Milan Township, Allen County	Access affected due to closure of Berthaud Road at US 24. Increased noise levels.
	Kingdom Hall of Jehovah's Witnesses US 24 Carryall Township, Paulding County	Access changed by relocation of US 24. Decreased noise levels.
	Mount Calvary Church US 24 Village of Antwerp, Paulding County	Access changed by relocation of US 24. Decreased noise levels.
	First Presbyterian Church US 24 /SR 49 Village of Antwerp, Paulding County	Access changed by relocation of US 24. Decreased noise levels.
Cemeteries	St. Paul Lutheran Church Cemetery Berthaud Road Milan Township, Allen County	Access affected due to closure of Berthaud Road at US 24. Increased noise levels.
	Riverside Cemetery US 24 Village of Antwerp, Paulding County	Decrease in noise levels. Changes in access (US 24 relocated to south of Antwerp).
	Lutheran Cemetery C-206/C-87 Crane Township, Paulding County	Location based on literature review and public comment; presence could not be verified by fieldviews.
Government	Crane Township Hall C-105 Village of Cecil, Paulding County	C-216 is closed.
	Village of Cecil Post Office C-105 Village of Cecil, Paulding County	C-216 is closed.
	ODOT Defiance County Garage US 24 /SR 424 City of Defiance, Defiance County	Acquisition of 3.1 hectares (7.7 acres). Salt storage and brine mixing facilities affected. Function of site retained through on-site replacement of affected facilities.
Public Utilities	AEP Substation Harper Road New Haven, Allen County	Displaced.
	Philadelphia Power Substation US 24 Crane Township Paulding County	Crossing of pipelines requiring reconstruction within the right-of-way.

TABLE 5.3 (CONTINUED)
SUMMARY OF PREFERRED ALTERNATIVE D-1 MODIFIED IMPACTS TO COMMUNITY FACILITIES AND SERVICES

Type of Facility	Facility & Location	Description of Impact
Public Utilities (continued)	ANR Pipeline City of Defiance and Noble Township Defiance County	Perpendicular crossing of the pipeline requiring reconstruction within the right-of-way.
	Panhandle Eastern Pipeline Company Defiance No. 1 M&R Station & Natural Gas Pipeline US 24, Defiance Township Defiance County	All Alternatives cross pipeline. Crossing of the pipeline requiring reconstruction within the right-of-way.
Railroads	Maumee & Western Railroad Various crossings in Paulding and Defiance counties	Grade-separated crossing between US 127 and C-115.
	CSX Transportation Crossing at US 24 near Ashwood Road, Delaware Township Defiance County	Grade-separated crossing to carry highway over railroad.
	Norfolk Southern Railroad spur to BF Goodrich Crossing, Allen County	Grade-separated crossing to carry highway over railroad.
Other	Cecil Community Grange C-105 Village of Cecil, Paulding County	C-216 is closed.

The Preferred Alternative D-1 Modified will displace the AEP substation at Harper Road as well as affect the associated transmission line spanning US 24. The Preferred Alternative D-1 Modified also impacts pipelines owned and operated by the ANR Pipeline and Panhandle Eastern Pipeline companies.

The Ohio State Highway Patrol Post located just east of the US 24/SR 424 intersection in Defiance will be affected by minor right-of-way acquisition; however, the function of the facility will not be permanently affected by the Preferred Alternative D-1 Modified.

There is the potential for unmarked graves associated with the Lutheran Cemetery to be located within close proximity to the right-of-way of the Preferred Alternative D-1 Modified.

The ODOT Defiance County Garage will be affected by construction of the US 24/SR 424 interchange for the Preferred Alternative D-1 Modified. The eastbound entrance and exit ramps at the SR 424 interchange were shifted to the west to avoid the displacement of residences located in the Bohlman Trailer Park. As a result, the salt storage and brine mixing facilities at ODOT's Defiance County Garage will be affected. The facilities will be replaced on-site, thereby retaining the function of the property.

The Preferred Alternative D-1 Modified crosses the Maumee & Western Railroad as well as the CSXT corridor. All railroad crossings will be grade separated. Overpasses will be constructed to carry the Preferred Alternative D-1 Modified over the Maumee & Western and CSXT rail lines. This will enhance safety as well as eliminate time delays for US 24 travelers who must stop for crossing trains. Access to other community facilities will be changed through road closures and other changes in the local road network.

Through coordination with local municipal officials, concerns have been raised on the need to minimize conflicts between US 24 mainline traffic and traffic associated with school trips. In particular, these comments have focused on two schools – Woodlan High School in Allen County and the new Antwerp Local Schools complex in Paulding

County. In response to the comments received from local officials, the Woodburn Road crossing has been revised from an at-grade intersection to a grade-separated crossing for Preferred Alternative D-1 Modified, minimizing the conflicts between automobiles, busses, and pedestrians traveling to and from Woodlan High School and US 24 mainline traffic. Similarly, the crossing at C-43 has been changed from an at-grade intersection to a grade-separated crossing for the Preferred Alternative D-1 Modified to minimize conflicts between school-related traffic traveling to and from the Antwerp Local School complex recently constructed east of C-43 and US 24 mainline traffic.

5.2.13 PARKS/ RECREATION LAND/ NATURAL AND WILDLIFE AREAS/ SECTION 4(F) AND 6(F) RESOURCES

The Preferred Alternative D-1 Modified does not impact any parklands or recreational resources that qualify for Section 4(f) protection.

The Maumee River is a State Scenic and Recreational River. The scenic portion of the river starts at the Indiana/Ohio state line and proceeds east for a distance of approximately 69.4 kilometers (43 miles) to the US 24 Maumee River crossing. The recreational portion of the river 85.5 kilometers (53 miles) long and begins at the US 24 river crossing at Defiance and continues east to the SR 20/25 bridge at Perrysburg and Maumee, Ohio. Reconstruction of the existing US 24 crossing over the Maumee River, including the construction of a new parallel structure adjacent to the existing structure, is required for the Preferred Alternative D-1 Modified.

Coordination between the FHWA and the Ohio Department of Natural Resources (ODNR) concerning the applicability of Section 4(f) to the Maumee State Scenic and Recreational River has been conducted for the project. Through this agency coordination, it was determined that the nearest recreational area on the Maumee River is located 4.8 kilometers (3.0 miles) downstream from the existing US 24 bridge. The relationship between the recreational status of the Maumee River and the existing US 24 river crossing is the convenience of the bridge as a landmark along the Maumee River. The bridge does not demarcate a specific point in the river whose primary function is recreation, but rather serves merely as a point of general reference. Based on coordination with ODNR, FHWA has determined that Section 4(f) is not applicable to the Maumee River in the vicinity of the existing US 24 bridge. Correspondence regarding Section 4(f) applicability to the Maumee River is provided in Appendix C.

5.2.14 ECONOMY AND EMPLOYMENT

The Preferred Alternative D-1 Modified will result in impacts to the agricultural industry, which include displacement of nine farms. Additionally, 214 farming operations will be affected by the Preferred Alternative D-1 Modified.

Four businesses will be displaced by the Preferred Alternative D-1 Modified:

- Sid's Dog and Cat Grooming,
- Paul E. Daeger Excavating,
- Stykemain Enterprises, LLC, and
- CCCS Insurance Agency, Inc.

The impacts of the Preferred Alternative D-1 Modified on industrial entities operating within the study area are mixed. Table 5.4 summarizes the impacts of the Preferred Alternative D-1 Modified on local industrial entities. Overall, the Preferred Alternative D-1 Modified will have a positive effect on eight industrial entities, a negative effect on eight entities, and no effect on four. The entities that will be positively affected include an unnamed quarry and an unnamed cement plant, both operating in Crane Township; Defiance Woodworking Machine; Koester Corporation; Northwest Controls, Olson Electric; Olson Cold Storage; and Defiance Regional Medical Center. The potential positive

TABLE 5.4
SUMMARY OF IMPACTS ON LOCAL INDUSTRIAL ENTITIES

Industrial Entity	Description of Impacts
Pacesetter Finishing Casad Industrial Park Edgerton Road Jefferson Township, Allen County	No change.
Superior Aluminum Casad Industrial Park Jefferson Township, Allen County	No change.
Kwik Lok Edgerton and Ryan Roads Jefferson Township, Allen County	No change.
Webster Lumber Edgerton Road Jefferson Township, Allen County	No change.
Hanson Quarry US 24 Milan Township, Allen County	Decreased access. Closest access route is Sampson Road (US 24 approximately five kilometers [3.1 miles]).
Uniroyal Goodrich – Fort Wayne Plant US 24 Milan Township, Allen County	Decreased access. Closest access route is Sampson Road (US 24 approximately 4.03 kilometers [2.5 miles]).
Antwerp Tool and Die US 24 Village of Antwerp, Paulding County	Decreased access. US 24 located approximately 1737.8 meters (5,700 feet) south.
K&L Tools US 24 Village of Antwerp, Paulding County	Decreased access. US 24 located approximately 1737.8 meters (5,700 feet) south.
Steve Reiff, Inc. US 24 Village of Antwerp, Paulding County	Decreased access. US 24 located approximately 1737.8 meters (5,700 feet) south.
Dana Boston Weatherhead US 24 Village of Antwerp, Paulding County	Decreased access. US 24 located approximately 1737.8 meters (5,700 feet) south.
Spec-Temp, Inc. US 24 Village of Antwerp, Paulding County	Decreased access. US 24 approximately 1737.8 meters (5,700 feet) south.
Quarry Crane Township, Paulding County	Improved access. US 24 located 1097.6 meters (3,600 feet) north; existing US 24 is 4054.9 meters (13,300 feet) north.
Cement Plant Crane Township, Paulding County	Improved access. US 24 located 1097.7 meters (3,600 feet) north; existing US 24 is 4054.9 meters (13,300 feet) north.
Defiance Woodworking Machine SR 424 City of Defiance, Defiance County	Direct access to regional highway system via interchange at SR 424. Interchange is approximately 1067.1 meters (3,500 feet) from entrance. Site is bisected by alternative between Krouse and Keller roads affecting area not programmed for development. High visibility from US 24.
Koester Corporation Fox Run Executive Park West High Street Noble Township, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.
Northwest Controls Fox Run Executive Park West High Street Noble Township, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.

TABLE 5.4 (CONTINUED)
SUMMARY OF IMPACTS ON LOCAL INDUSTRIAL ENTITIES

Industrial Entity	Description of Impacts
Olson Electric Olson Industrial Park City of Defiance, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.
Olson Cold Storage Olson Industrial Park City of Defiance, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.
Defiance Regional Medical Center City of Defiance, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.

effects are associated with improved access and/or visibility associated with US 24. Entities potentially experiencing a negative effect include Hanson Quarry, Uniroyal Goodrich, Midwest Tile and Concrete, Antwerp Tool and Die, K&L Tools, Steve Reiff, Inc., Dana Boston Weatherhead, and Spec-Temp, Inc. The potential negative effects are associated with decreased access as US 24 would be relocated away from the operating sites. The four entities with no change are Pacesetter Finishing, Superior Aluminum, Kwik Lok, and Webster Lumber.

Relative to economic development sites, the Preferred Alternative D-1 Modified will have a positive effect on four economic development sites and no effect on four development sites. Table 5.5 summarizes the impacts of the Preferred Alternative D-1 Modified on economic development sites. The Woodburn Industrial Park and Antwerp Industrial Park will experience improved access as US 24 is relocated closer to the sites. The Maumee River Crossing Development, Fox Run Executive Park, and the Olson Industrial Park will experience improved access through reduction in congestion on US 24 and the local roadway system; improvements to the SR 424 crossing and the SR 15/18 interchange; and construction of a connector road between SR 15/18 and West High Street/Switzer Road. ODOT is proposing to purchase a portion of the Enterprise Park for wetland and stream mitigation.

Construction of the Preferred Alternative D-1 Modified is projected to create 10,261 construction-related jobs. This includes 1,926 on-site construction jobs, 4,802 off-site construction jobs and 3,534 induced opportunities. The Preferred Alternative D-1 Modified has a higher construction cost than the other Feasible Alternatives given the differences in design in Allen County (consists of a freeway with interchanges or grade-separated crossings at most crossroads while the other Feasible Alternatives are designed as expressways with at-grade intersections at most crossroads), improvements to the I-469/US 24 interchange, improvements to the SR 15/18 interchange, construction of service roads and the West High Street/Switzer Road connector road.

5.2.15 MUNICIPAL FINANCES/TAXES

The Preferred Alternative D-1 Modified requires the acquisition of 815.8 hectares (2,015 acres) of land for right-of-way. This acquisition will remove land generating property tax revenues from the tax revenue streams for the affected counties and municipalities. The area required for the Preferred Alternative D-1 Modified is much larger than the area required for Alternatives D and D-1 due to the addition of the I-469 interchange in Allen County; the addition of the SR 15/18 and West High Street connector road in Defiance County; the inclusion of approximately 64.4 hectares (159 acres) of undeveloped land for use for wetland and stream mitigation in Defiance County; and the addition of drainage areas and service roads along the alignment that were added as part of Stage One and Two design studies.

TABLE 5.5
SUMMARY OF IMPACTS ON ECONOMIC DEVELOPMENT SITES

Economic Development Site/Location	Description of Impacts
Doyle Road Industrial Site Doyle Road/Edgerton Road/Bandalier Road/Dawkins Road Jefferson Township, Allen County	No change.
New Haven Industrial Site Doyle Road/Edgerton Road/Bandalier Road/Dawkins Road Jefferson Township, Allen County	No change.
Casad Industrial Park Development Area Jefferson Township, Allen County	No change.
Canal Place Economic Development Area Ryan Road/Edgerton Road/Webster Road/Dawkins Road Jefferson Township, Allen County	No change.
Bandalier Economic Development Area Jefferson Township, Allen County	No change.
Woodburn Industrial Park SR 101 City of Woodburn, Allen County	Improved Access. Distance to US 24 is reduced from 1981.7 to 914.6 meters (6,500 to 3,000 feet). High visibility.
Antwerp Industrial Park C-43/C-180/T-51/C-176 Village of Antwerp, Paulding County	Improved access. US 24 borders site. High visibility. Small loss of area at southwest corner of site for relocation of T-51.
Enterprise Park SR 424 City of Defiance Defiance County	Proposed for acquisition for wetland and stream mitigation.
Maumee River Crossing Development West High Street Noble Township, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.
Fox Run Executive Park West High Street Noble Township, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.
Olson Industrial Park City of Defiance, Defiance County	Improved access. New connector road between SR 15/18 and West High Street. SR 15/18 interchange improved.

A total of 38 parcels are potentially landlocked by construction of the Preferred Alternative D-1 Modified, resulting in the acquisition of more property than required for the highway right-of-way. The 38 parcels cover approximately 164.9 hectares (407.2 acres) of land. To minimize the number of landlocked parcels, a Service Road Study was conducted to review the practicality and feasibility of providing access to the parcels landlocked by the Preferred Alternative D-1 Modified. The study is documented in detail in a separate report entitled *US 24 Service Road Study* (January 2004).

Based on the Service Road Study and engineering design refinements, there are 13 service roads that are justified for construction. The 13 service roads consist of two lanes and range from 2.7 to 3.7 meters (nine to 12 feet) in width. These roads will provide access to 106.9 hectares (264.1 acres) of land. Six of the service roads are in Allen County and will provide access to 45 hectares (112.5 acres). Three service roads are proposed in Paulding County, which will provide access to 33.9 hectares (83.7

acres). Two service roads are proposed in Defiance County, which will provide access to 27.5 hectares (67.9 acres).

Residential and business displacements associated with the Preferred Alternative D-1 Modified will also have a slight effect on municipal tax revenues. The Preferred Alternative D-1 Modified results in 36 residential displacements, including the displacement of nine farms, and four business displacements. As there is available replacement housing within the study area to accommodate all residential displacements, the Preferred Alternative D-1 Modified will likely have no effect on personal income tax revenues. The displaced businesses are small businesses and their displacement should have a nominal effect on personal income tax revenues (loss of employment) and corporate income tax revenues (loss of business).

5.2.16 VISUAL RESOURCES

The Preferred Alternative D-1 Modified will alter viewsheds for Georgian Park and Havenwood Forest residential subdivisions located to the north of US 24 in Milan Township. These impacts are considered to be low to moderate as the changes to the alignment in Allen County have negligible impact on the viewsheds of residences located within these subdivisions.

The Preferred Alternative D-1 Modified will pass in close proximity to the Gar Creek and Edgerton Addition neighborhoods. The visual impacts on nearby residences is considered to be high because a new visual element is being introduced into the rural setting of the neighborhoods.

Within the vicinity of Woodburn, the Preferred Alternative D-1 Modified will be located to the north of the community in an area that is not considered to be visually sensitive because of the industrial setting associated with the existing development. Therefore, the impact rating for this area is no impact.

The Preferred Alternative D-1 Modified will be relocated to the south of Antwerp. Construction of SR 49 will result in the introduction of a new visual element, which will be elevated above the existing ground level. The area is predominantly agricultural in nature with some institutional and industrial development. Given the current development characteristics of this area, only minor visual impacts are anticipated.

The Preferred Alternative D-1 Modified, unlike the Feasible Alternatives, includes the interchange with I-469. This interchange is located near the Niemeyer Farm, a National Registry of Historic Places (NHRP)-eligible property. No property will be taken from the Niemeyer Farm. An interchange at I-469 is now present in the immediate viewshed of the farm, and the Preferred Alternative D-1 Modified will only minimally change the views from the farm and is not considered an impact.

Three additional NRHP-eligible historic resources are located within the Area of Potential Effect for the Preferred Alternative D-1 Modified, which are the Harper House, the Meyer/Gallmeyer Farm, and the Smith/Rich/Krug House. Any visual intrusions within the vicinity of these three resources is minimized through distance between the resources and the highway as well as screening by existing vegetation. The visual impact of the Preferred Alternative D-1 Modified on these properties is considered to be low.

In the vicinity of the Harper House, the Preferred Alternative D-1 Modified follows the existing alignment of US 24. The visual impact is expected to be low as the highway will be constructed on roughly the same elevation as existing US 24. The view will be screened by existing trees growing along the south side of US 24 and on the Harper House property.

The Preferred Alternative D-1 Modified also affects the Meyer/Gallmeyer Farm, a NRHP-eligible resource. In the vicinity of this resource, the residence is screened from the proposed right-of-way by outbuildings and landscaping. Some vegetative screening is provided by trees and brush growing along Gar Creek in addition to trees surrounding the property. The view of the Preferred Alternative D-1 Modified is also minimized by distance as the resource is situated approximately 152.4 meters (500 feet) from the proposed right-of-way. Therefore, the visual impact of the Preferred Alternative D-1 Modified is considered to be low.

The Smith/Rich/Krug House, a NRHP-eligible resource, is within the Area of Potential Effect for the Preferred Alternative D-1 Modified. The alternative will be located more than 365.9 meters (1,200 feet) from the resource. The Preferred Alternative D-1 Modified will be constructed on new alignment through active agricultural lands. The vertical profile of the proposed highway, in general, will result in a minimal rise in elevation in relationship to the existing landscape, except for the proposed overpasses that will carry the new highway over Woodburn Road, Sampson Road, and the Norfolk Southern Railroad. The new highway will be elevated approximately 7.0 meters (23 feet), at its highest point, over these existing right-of-way. The Woodburn Road overpass, the closest of the three, will be located approximately 670.7 meters (2,200 feet) west of the property. The potential for a direct visual impact to the Smith/Rich/Krug House by the proposed overpasses is mitigated by distance, existing vegetation, and modern development that will effectively screen the view of the facility from the resource. Therefore, the visual impact of the Preferred Alternative D-1 Modified is considered to be low.

5.2.17 ARCHAEOLOGICAL RESOURCES

Phase I archaeological investigations were conducted within the proposed right-of-way of the Preferred Alternative D-1 Modified. A total of 120 sites were identified through the Phase I investigations. Thirty sites are located in Allen County, 40 sites in Paulding County, and 50 sites in Defiance County. None of the 120 sites surveyed met the eligibility requirements for listing on the National Register of Historic Places (NRHP). All of the recorded archaeological sites were found to lack sufficient integrity and associated historical significance required to meet the NRHP eligibility criteria.

The Gronauer Lock Site 12AL 1674 is located within the right-of-way of the existing I-469/US 24 interchange (Figure 2). During the construction of the existing I-469/US 24 interchange in June 1991, the Gronauer Lock was discovered. The equivalent of Phase II evaluative testing, Phase III data recovery, and evaluative testing were performed on the Gronauer Lock in 1991. Testing indicated that the lock was eligible for listing on the NRHP. A mitigation plan was developed and approved by the Indiana Division of Historic Preservation and Archaeology (DHPA) in 1992. A memorandum of agreement was prepared and data recovery was conducted resulting in almost complete exposure of the lock in 1992. A Historic American Engineering Record (HAER) document was completed and the majority of the lock was removed for preservation off-site.

The archaeological surveys and mitigation completed in the early 1990's determined that the significance of the Gronauer Lock resides in its information potential and remaining elements of the canal lock do not merit preservation in place. Based on all existing information, it was determined by the DHPA that the Gronauer Lock (12AL 1674) is eligible for listing on the NRHP under Criterion D (Information Potential) since it has or had important information which contributes to our understanding of human history.

The FHWA Indiana Division and the Indiana State Historic Preservation Officer (SHPO) prepared a Programmatic Agreement for the Gronauer Lock in October 2005. The FHWA invited the Advisory Council on Historic Preservation (ACHP) to participate in the

development of the Programmatic Agreement. The ACHP declined to participate in development of the Programmatic Agreement. The purpose of the Programmatic Agreement was to phase the effect determination for the Gronauer Lock and any subsequent data recovery requirements since the engineering design for the I-469/US 24 interchange has not advanced beyond the preliminary phase and the boundaries of the Gronauer Lock site are unknown. The Programmatic Agreement identified the actions FHWA and INDOT will take to satisfy FHWA's Section 106 responsibilities. The following are stipulations specified in the Programmatic Agreement:

- Prior to completing the final project design in Indiana, the INDOT will complete the appropriate archaeological investigations to determine the boundaries of the Gronauer Lock. INDOT will coordinate the archaeological investigations with the Indiana SHPO. A research plan detailing the methodology for defining the boundaries of the site shall be submitted to the Indiana SHPO for review and comment.

- The INDOT will make a reasonable effort to avoid the Gronauer Lock site during design and construction. If the site cannot be avoided, FHWA will apply the Criteria of Adverse effect in accordance with 36 CFR 800.5.

- If the FHWA determines, in consultation with the Indiana SHPO, that the project will have an adverse effect on the Gronauer Lock site, then INDOT will develop plans for Phase II and/or Phase III archaeological investigations in consultation with the Indiana SHPO and submit such plans to the FHWA and Indiana SHPO for their review and comment. The INDOT shall submit alternative mitigation plan to the FHWA and Indiana SHPO for their review and comment, if appropriate. That review period will be 30-days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, FHWA shall comply with 36 CFR 800.6.

- A draft report(s) of the archaeological investigations and updated Indiana state site form shall be submitted to the FHWA and Indiana SHPO for review and comment. All final reports of the archaeological investigations will be completed within one year of the completion of field work. The Indiana SHPO will be given 30-days to review and comment on all submissions.

- INDOT shall ensure that all archaeological work carried out pursuant to this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-9), and that all historic preservation work is carried out by or under the direct supervision of a person or persons meeting, at a minimum the *Secretary of the Interior's Professional Qualification Standards for Architectural Historian Professionals* (48 FR 44738-9).

- If any unanticipated discoveries of historic properties, sites, artifacts, or human remains are encountered during the implementation of this undertaking, FHWA shall comply with 36 CFR 800.13 and Indiana Code (14-21-1-27 and 14-21-1-29) by informing the Indiana Department of Natural Resources of such discoveries within two business days and, if applicable, federally recognized tribal organizations that attach religious and/or cultural significance to the affected property; and by developing and implementing actions that take into account the views of the Indiana SHPO and, if applicable, federally recognized tribal organizations.

The Programmatic Agreement was signed by INDOT, the Indiana SHPO, and FHWA Indiana Division and executed on October 13, 2005. The Programmatic Agreement was filed with the ACHP in October 2005. The Programmatic Agreement is in Appendix C.

5.2.18 HISTORIC RESOURCES

There are four historic resources, which are eligible for listing on the NRHP located within the Area of Potential Effects (APE) of the Preferred Alternative D-1 Modified. The four historic resources are located in Allen County, Indiana, and are:

- Niemeyer Farm,
- Harper House,
- Smith/Rich/Krug House, and
- Meyer/Gallmeyer Farm.

None of the resources will be directly impacted by the Preferred Alternative D-1 Modified. A formal assessment of impacts was completed for the Preferred Alternative by applying the Criteria of Effects in accordance with the requirements of the National Historic Preservation Act (NHPA). The effects determinations are summarized in Table 5.6.

TABLE 5.6
FINDING OF EFFECT ON NRHP-ELIGIBLE PROPERTIES
WITHIN THE AREA OF POTENTIAL EFFECTS OF THE PREFERRED ALTERNATIVE

Property	Impact	Mitigating Factors	Finding of Effect (36 CFR Part 800.5)
Niemeyer Farm	Change to the existing interstate interchange.	Existing interchange; no property impacts; increase in future noise levels is negligible.	No Effect
Meyer/Gallmeyer Farm	Introduction of a large-scale highway into the setting of the resource; slight increase in ambient noise levels.	View is shielded by outbuilding complex and existing mature trees and shrub vegetation; future noise levels do not exceed the FHWA NAC.	No Adverse Effect
Smith/Rich/Krug House	Introduction of a large-scale highway into the setting of the resource; slight increase in ambient noise levels.	View is buffered by distance and shielded by existing mass of mature trees; future noise levels do not exceed the FHWA NAC.	No Effect
Harper House	Introduction of a large-scale highway into the setting of the resource.	View shielded by existing mature trees and undergrowth; reduction in future ambient noise levels.	No Effect

Niemeyer Farm

The Preferred Alternative D-1 Modified has No Effect on the Niemeyer Farm, which is located immediately northwest of the existing I-469/US 24 interchange. The existing interchange is a partial cloverleaf with loop ramps in the northeast and southwest quadrants. The eligible portion of the Niemeyer Farm is 11.2 hectares (28 acres) in size. The Preferred Alternative D-1 Modified will add a new off ramp adjacent to the eastern boundary of the farm. The new ramp will be built within the existing right-of-way. Other changes to the interchange include construction of a directional fly-over

ramp over I-469 in the southeast quadrant and modification of the ramps in the southwest and northwest quadrants. No property will be taken from the Niemeyer Farm. The interchange and I-469 presently exist in the immediate viewshed of the farm and the project will only minimally change the views from the farm and is not considered an impact. The noise levels at the property already exceed the FHWA NAC and a 2003 noise analysis found that the project will have a negligible noise effect on the property, an increase of less than three dBA (a change that is imperceptible to most humans). This change is not considered to be an impact to the Niemeyer Farm. Therefore, it is concluded that the Preferred Alternative D-1 Modified will have No Effect on this property.

Meyer/Gallmeyer Farm

The Preferred Alternative D-1 Modified has the potential for a slight increase over the current noise levels at the Meyer/Gallmeyer Farm, but the noise levels will remain below FHWA NAC level. The historic boundary and buildings with the Meyer/Gallmeyer Farm are located approximately 152.4 meters (500 feet) from the proposed right-of-way. The noise analysis shows that the difference between the future build noise levels for the Preferred Alternative D-1 Modified and the No Build alternative is negligible. Because the proposed highway does not introduce audible elements that degrade the existing historic property environment, the change in the noise levels has no effect on the property. The view of the highway from the residence is shielded for the most part by the outbuilding complex, mature trees, and shrub growth indicating that it will not suffer adverse visual effects. A No Adverse Effect Determination is indicated for the Meyer/Gallmeyer Farm.

Smith/Rich/Krug House

The Preferred Alternative D-1 Modified has No Effect on the Smith/Rich/Krug House. The noise analysis completed for the Effects Determination indicates that future build noise levels will increase slightly, but do not exceed the FHWA NAC level. The Preferred Alternative D-1 Modified will be located more than 365.9 meters (1,200 feet) from the resource. The alternative will be constructed on new alignment through active agricultural lands. The vertical profile of the proposed highway, in general, will result in a minimal rise in elevation in relationship to the existing landscape, except for the proposed overpasses that will carry the Preferred Alternative D-1 Modified over Woodburn Road, Sampson Road, and the Norfolk Southern Railroad. The new highway will be elevated approximately 7.0 meters (23 feet), at its highest point, over these existing rights-of-way. The Woodburn Road overpass, the closest of the three, will be located approximately 670.7 meters (2,200 feet) west of the property. The potential for a direct visual impact to the Smith/Rich/Krug House by the proposed overpasses is mitigated by distance, existing vegetation, and modern development that will effectively screen the view of the facility from the resource. Therefore, the visual impact of the Preferred Alternative D-1 Modified is considered to be low. Also, sufficient distance between the resource and the Preferred Alternative D-1 Modified as well as existing vegetation and buildings shield the property from significant alteration to its viewshed. Therefore, it is concluded that the Preferred Alternative D-1 Modified will have No Effect on this property.

Harper House

The Preferred Alternative D-1 Modified does not require acquisition of property associated with the Harper House. The Preferred Alternative D-1 Modified reduces traffic noise from the current levels, but these reduced levels remain above the FHWA NAC. Because the proposed highway does not introduce audible elements that degrade the existing historic property environment but actually improve the overall setting, the noise levels associated with the undertaking have no effect on the Harper House property. The property is shielded by vegetation (mature trees and undergrowth) and therefore will not suffer visual effects from proposed highway construction. The Preferred Alternative D-1 Modified will have No Effect on the Harper House.

5.2.19 ARCHAEOLOGICAL AND HISTORIC SITES-SECTION 4(f) RESOURCES

Effects evaluations were completed for five NRHP-eligible resources located within the APE of the Preferred Alternative D-1 Modified and reviewed by the Indiana Division of Historic Preservation and Archaeology (DHPA). These resources are the Niemeyer Farm, Gronauer Lock, Meyer/Gallmeyer Farm, Smith/Rich/Krug House, and Harper House. Potential adverse effects to the resources were evaluated by applying the Criteria of Effects in accordance with the requirements of the NHPA. Boundary determinations were included in the Effects Evaluations for historic properties submitted to the DHPA for review and concurrence. The Preferred Alternative D-1 Modified was determined to have no effect on the Niemeyer Farm, Smith/Rich/Krug House, and Harper House; and no adverse effect on the Meyer/Gallmeyer Farm (Table 5.6). The project is located outside of the historic boundary for the Meyer/Gallmeyer Farm. Through coordination with the DHPA, it was determined that the significance of the Gronauer Lock resides in its information potential and remaining elements of the canal lock do not merit preservation in place. FHWA has determined that Section 4(f) is not applicable to the Gronauer Lock. Therefore, the Preferred Alternative D-1 Modified will not use any Section 4(f) resources.

5.2.20 TRANSPORTATION AND TRAFFIC

The Preferred Alternative D-1 Modified will improve traffic flow, congestion, and safety conditions in the US 24 Corridor for all travelers. The Preferred Alternative D-1 Modified will not replace existing US 24 but rather will augment transportation service in the study area.

The operational characteristics for the Preferred Alternative D-1 Modified are similar as those reported for the DEIS Preferred Alternative, with the exception that it has been extended to the I-469/US 24 interchange to the west and the SR 15/18-US 24 interchange to the east, adding approximately four kilometers (0.5 miles) to the highway alignment. The expected mainline level of service under the Preferred Alternative D-1 Modified is LOS A. The estimated 2028 Vehicle Miles Traveled (VMT) is 178.0 million, while the estimated time to travel the corridor in 2028 between New Haven and Defiance is 35 minutes.

Local roadway impacts, however, differ from the DEIS Preferred Alternative. Design changes have been made at crossings with local roads. In most cases, the differences are design changes made in response to public comments. The affected crossings and descriptions of previous and current intersection designs are listed in Table 5.7 and shown on Figure 1.

Construction of the Preferred Alternative D-1 Modified will affect the local roadways in several ways:

- addition of at-grade intersections or interchanges at specific locations where the Preferred Alternative D-1 Modified crosses local roadways,
- construction of underpasses/overpasses at locations of local roadway crossings where access is not provided,
- closure of crossroads, and
- realignment of crossroads.

In order to examine the effects of the Preferred Alternative D-1 Modified on the local roadway network, capacity analyses were performed at each proposed at-grade intersection. A summary of the 2008 and 2028 levels of service for each crossroad is shown in Table 5.8. The table only indicates the levels of service experienced by vehicles on the crossroads since vehicles traveling on US 24 will experience little or no delay.

The results of the capacity analyses indicate that eleven at-grade intersections will operate at a LOS C or better in 2008 and eight at-grade intersections will operate at a

LOS C in 2028. Three at-grade intersections are anticipated to function at a LOS D in 2028 for crossroad traffic movements: the Maumee Center Road/Bull Rapids Road intersection, the T-51/C-176 intersection, and the at-grade intersection with the Preferred Alternative D-1 Modified at C-115.

TABLE 5.7
DESIGN REFINEMENTS RELATIVE TO LOCAL ROAD CROSSINGS

Road	Preferred Alternative D-1 Modified Intersection Design (2005)
Doyle Road	Grade-separated crossing with Doyle Road passing over Preferred Alternative D-1 Modified.
Ryan/Bruick Road	Interchange.
Webster Road	Interchange.
Rousey Road	Closed.
Sampson Road	Grade-separated crossing with Preferred Alternative D-1 Modified passing over Sampson Road.
Woodburn Road	Grade-separated crossing with Preferred Alternative D-1 Modified passing over Woodburn Road.
Maumee Center Road	Re-aligned to at-grade intersection with Bull Rapids Road.
Bull Rapids Road	Grade-separated crossing with Bull Rapids Road passing over Preferred Alternative D-1 Modified.
SR 101	Interchange.
Gustin Road	Closed.
State Line Road	Grade-separated crossing with State Line Road passing over Preferred Alternative D-1 Modified.
C-11	Grade-separated crossing with Preferred Alternative D-1 Modified passing over C-11.
C-33	Closed.
SR 49	Interchange.
C-43	Grade-separated crossing with C-43 Road passing over Preferred Alternative D-1 Modified.
T-51	Re-aligned to at-grade intersection with C-176.
C-176	Grade-separated crossing with C-176 passing over the Preferred Alternative D-1 Modified.
C-180	Closed.
T-61	Closed.
T-69	Closed.
T-83	At-grade intersection.
US 127	Interchange.
C-206	Re-aligned to at-grade intersection with C-87.
C-216	Closed.
C-224	Closed.
T-129	Re-aligned to intersect with C–232.
Powers Road (C-29)	Re-aligned to at-grade intersection with T-143.
Krouse Road (C-146)	Grade-separated crossing with Krouse Road passing under Preferred Alternative D-1 Modified.

SR 49 and US 127, originally proposed as at-grade intersections, would function at a LOS E or F for crossroad traffic, as an intersection. Due to the heavy traffic volumes on SR 49, an at-grade intersection, as originally proposed with the Feasible Alternatives, provides a LOS F under 2008 and 2028 traffic conditions for vehicles on this crossroad. A traffic signal warrant analysis on this intersection determined that the intersection did not meet any of the traffic signal warrants under Year 2008 traffic conditions, but did meet several criteria under Year 2028 traffic conditions. The proposed at-grade intersection at US 127 would provide a LOS E in 2008 and LOS F in 2028. A traffic signal warrant analysis on this intersection determined that the intersection meets several criteria for signalization in 2008 and 2028.

TABLE 5.8

INTERSECTION ANALYSIS FOR THE PREFERRED ALTERNATIVE D-1 MODIFIED

Crossroad	Year 2008 Crossroad LOS	Year 2028 Crossroad LOS	Results and Recommendations
I-469	Interchange	Interchange	Existing interchange is improved.
Harper Rd.	Closed	Closed	Recommend closing due to close proximity to the I-469 interchange.
Doyle Rd.	Overpass	Overpass	Overpass is proposed to provide for freeway design in Allen County.
Bremer Rd.	Closed	Closed	Recommend closing because it would require a realignment to provide an acceptable sight distance. Nearby Ryan Road would not require re-alignment and would serve as a better crossing location.
Ryan/Bruick Rd.	Interchange	Interchange	Provides crossing over the Maumee River and is a primary travel route for the Amish community.
Berthaud Rd.	Closed	Closed	Recommend closing due to minimal traffic volumes. Nearby Webster Road is more heavily traveled and would serve as an acceptable crossing location.
Webster Rd.	Interchange	Interchange	Provides crossing over the Maumee River, a primary travel route for the Amish community.
Rousey Rd.	Closed	Closed	Recommend closing due to minimal traffic volumes.
Sampson Rd.	Overpass	Overpass	Overpass is proposed to provide for freeway design in Allen County.
Woodburn Rd.	Overpass	Overpass	An overpass is proposed because of the high volume of high school traffic expected to attempt to cross the new US 24 on this roadway and to address public comments.
Maumee Center Rd.	Realignment C	Realignment D	Maumee Center Road re-aligned to intersect with Bull Rapids Road.
Bull Rapids Rd.	Overpass	Overpass	Overpass is proposed to provide for freeway design in Allen County.
SR 101	Interchange	Interchange	Provides crossing over Maumee River and is a primary travel route for the Amish community.
Gustin Rd.	Closed	Closed	Recommend closing since few vehicles presently use this road.
State Line Rd.	Overpass	Overpass	Overpass is proposed to provide for freeway design in Allen County.
T-150	Closed	Closed	Recommend closing since few vehicles currently use this roadway.
C-11	Underpass	Underpass	Underpass is proposed to maintain emergency access to properties north of the Maumee & Western Railroad.
C-21	C	C	An at-grade intersection provides acceptable LOS.
T-29	Closed	Closed	Recommend closing since the small number of vehicles on this roadway can use SR 49 to travel into and out of Antwerp.
C-33	Closed	Closed	Recommend closing due to minimal traffic volumes and close proximity to the SR 49 interchange.
SR 49	Interchange	Interchange	Due to heavy traffic volumes on SR 49 in 2008 and 2028, an at-grade intersection provides a poor LOS F.
C-43	Overpass	Overpass	Overpass is proposed to separate mainline traffic from Antwerp School traffic.
T-51	Realignment C	Realignment D	T-51 will be re-aligned to intersect with C-176. T-51 could be considered for closure since very few vehicles presently travel on this road.
C-176	Overpass	Overpass	An at-grade intersection provides acceptable LOS on opening day. A poor LOS D will be experienced on the crossroad under Year 2028 traffic conditions.
C-180	Closed	Closed	Recommend closing since roadway provides same function as C-176, but is not built to ODOT design standards for local roadways.

TABLE 5.8 (CONTINUED)
INTERSECTION ANALYSIS FOR THE PREFERRED ALTERNATIVE D-1 MODIFIED

Crossroad	Year 2008 Crossroad LOS	Year 2028 Crossroad LOS	Results and Recommendations
T-61	Closed	Closed	Recommend closing since only a small number of vehicles use this roadway.
T-69	Closed	Closed	Access to properties along T-69 will be provided by the Antwerp Bypass connector.
T-83	C	C	T-83 could be considered for closure since very few vehicles presently travel on this road.
C-206	Realignment C	Realignment C	Re-aligned to at-grade intersection with C-87.
C-87	C	C	An at-grade intersection provides acceptable LOS.
C-105	Underpass	Underpass	An underpass is being proposed at C-105 because the proposed US 24 alignment must span over the nearby railroad tracks.
C-216	Closed	Closed	Recommend closing due to minimal traffic volumes and close proximity to the US 127 interchange
US 127	Interchange	Interchange	Due to heavy traffic volumes on US 127, an at-grade intersection provides a poor LOS F.
C-224	Closed	Closed	Recommend closing since very few vehicles travel on the roadway.
C-115	C	D	An at-grade intersection provides acceptable LOS in 2008. A poor LOS D will be experienced under Year 2028 traffic conditions.
C-123	Closed	Closed	Recommend closing since very few vehicles travel on the roadway and vehicles can cross Alternative D-1 using the at-grade intersection proposed at nearby C-115.
C-232	C	C	An at-grade intersection provides acceptable LOS.
T-129	Realignment	Realignment	T-129 is an unimproved gravel roadway which is currently closed.
C-133	B	C	An at-grade intersection provides acceptable LOS.
T-139	Closed	Closed	Recommend closing due to the minimal number of vehicles traveling on the roadway.
Whetstone Rd (C-143)	B	C	An at-grade intersection provides acceptable LOS.
Powers Rd. (C-29)	Realignment C	Realignment C	Re-aligned to intersect with T-143.
Ashwood Rd. (T-153)	Closed	Closed	Recommend closing since vehicles can use C-143 to travel across new US 24.
Krouse Rd. (C-146)	Underpass	Underpass	An underpass is proposed as roadway is key north-south access route for area residents.
SR 424	Interchange	Interchange	A full interchange is being proposed to provide a connection between existing SR 424/US 24 and the new US 24. This location will also provide direct access into the city of Defiance.
May Rd	Driveway	Driveway	May Road is an unimproved road that functions as an industrial driveway.
West High St./ Switzer Rd.	Overpass	Overpass	An overpass is being proposed at West High Street/Switzer Road due to the large number of vehicles using the roadway and to address public comments.

Notes: The Crossroad LOS represents the level of service of the vehicles attempting to cross the critical direction of the Preferred Alternative D-1 Modified traffic only. Vehicles traveling on the Preferred Alternative D-1 Modified will operate at LOS A since their movements are unimpeded. C (F) designates the LOS rating for vehicles attempting to travel across the non-critical direction of Preferred Alternative with traffic crossing the critical direction of the Preferred Alternative D-1 Modified.

Signalization of the SR 49 and US 127 intersections is an option to reduce delay experienced by motorist traveling on the crossroads. The installation of traffic signals at these at-grade intersections would stop vehicles on the proposed expressway and allow vehicles on the crossroads safer passage through the intersection. However, traffic signals would also increase the travel time and delay experienced to motorists traveling on the expressway in addition to creating an unsafe condition based on driver expectancy along similar roadways. The absence of traffic signals would greatly assist in providing a continuous travel speed of 65 miles per hour along the Preferred Alternative D-1 Modified. To improve travel time and provide for motorist safety, interchanges will be provided at SR 49 and US 127.

On roads where grade-separated crossings (overpasses and underpasses) will be constructed, traffic will not experience delays as a result of the Preferred Alternative D-1 Modified. The roadways include Doyle, Sampson, Woodburn, Bull Rapids, and State Line roads in Allen County; C-11, C-43, C-176, and C-105 in Paulding County; and Krouse Road and West High Street/Switzer Road in Defiance County. Similarly, the provision of full interchanges at Ryan/Bruick Road, Webster Road, SR 101, SR 49, US 127, and SR 424 will also allow for continuous flow of traffic onto and off of the new facility with little delay to motorists.

Where road closures are proposed, it is likely that the existing traffic will travel to the nearest roadway that crosses or intersects the Preferred Alternative D-1 Modified. Sixteen of the existing crossroads are slated for closures due to minimal traffic volumes or unacceptable sight distance characteristics. These include Harper, Bremer, Berthaud, Rousey, and Gustin roads in Allen County; T-150, T-29, C-33, C-180, C-216, T-61, T-69, C-224, C-123, and T-139 in Paulding County; and Ashwood Road in Defiance County.

Five crossroads will be realigned to intersect with other roadways instead of the Preferred Alternative D-1 Modified. These are Maumee Center Road in Allen County, T-51, and C-206 in Paulding County, and T-129 and Powers Road in Defiance County.

5.2.21 AIR QUALITY

The US Environmental Protection Agency (USEPA) redesignated Allen County from attainment to nonattainment for ozone on June 15, 2004. The Northeastern Indiana Regional Coordinating Council (NIRCC), which is the Metropolitan Planning Organization (MPO) for Allen County, included the US 24 project in the Long Range Plan and completed a draft air quality conformity analysis. The analysis determined that Allen County will meet the conformity criteria for transportation projects. The analysis was reviewed by the USEPA, FHWA, Federal Transit Administration (FTA), Indiana Department Environmental Management (IDEM), INDOT, and the local transit operator. The FHWA and FTA determined that the conformity analysis demonstrates conformity. A conformity determination was issued by FHWA and FTA on May 16, 2005.

The proposed US 24 project is included in the Ohio Fiscal Year 2000-2003 State Transportation Improvement Program (STIP), which conforms with the USEPA final rule for conformity determinations.

Traffic projections for the US 24 Corridor indicate that traffic volumes will increase from a maximum of 10,650 vehicles per day in 2008 to a maximum of 13,650 vehicles per day in 2018. This projected traffic volume is below the 20,000 vehicles per day threshold used to determine the need to complete detailed air quality analyses in Ohio.

5.2.22 NOISE

Noise analyses were completed for the Preferred Alternative D-1 Modified and are documented in the *US 24 New Haven to Defiance Noise Analysis Report* (August 2000)

and the *Addendum to the US 24 New Haven to Defiance Noise Analysis* (October 2005). Noise monitoring was conducted at seven locations in 2004, which are summarized in Table 5.9. The noise analysis documents the existing and anticipated noise levels, evaluates the potential for noise impacts, and discusses the feasibility of noise mitigation measures associated with the proposed Preferred Alternative D-1 Modified. The Preferred Alternative D-1 Modified impacts 138 noise sensitive receptors including 137 residences and one church.

TABLE 5.9
RECEIVER NUMBER, GENERAL LOCATION, AND LAND USE ACTIVITY

Receiver Number	Location	Number of Associated Receivers Represented	Land Use Activity
51	US 24 & I-469 interchange, southwest quadrant	1 Residence	Residential
52	US 24 & I-469 interchange, northwest quadrant	3 Residences	Residential
53	US 24 & I-469 interchange, northeast quadrant	3 Residences	Residential
54	US 24 & I-469 interchange, southeast quadrant	2 Residences	Residential
55	SR 49, west of C-43	3 Residences	Residential
56	US 127 & C-216	5 Residences	Residential
18	Bohlman Trailer Park, US 24 & US 424	26 Residences	Residential

The improvements to the US 24-SR 15/18 interchange were not addressed in the noise analysis. The ODOT Office of Environmental Services analyzed the US 24 SR 15/18 interchange for potential noise impacts. The project in this location does not meet the criterion of a Type I project, but there were concerns over potential noise impacts associated with increasing the speed limit on US 24 from 55 miles per hour (mph) to 65 mph. Existing, No Build, and Build noise levels were calculated for 26 residences adjacent to the interchange. While noise increases ranging from 1.3 dBA to 3.0 dBA are predicted to occur in the design year Build scenario when compared to existing conditions, no location is predicted to experience noise levels that approach or exceed the FHWA Noise Abatement Criteria (NAC) for residential land use. Further consideration for noise abatement is unwarranted at this location.

Mitigation Analysis

Various methods can be utilized for mitigation (abatement) of noise impacts including, but not limited to:

- traffic management,
- alteration of the vertical and horizontal alignments,
- noise barriers, and
- sound insulation.

Traffic management practices including restrictions on medium and heavy trucks, or restrictions on all motor vehicles during specific time periods during the day, were determined not to be appropriate for this project as such measures would interfere with interstate commerce and would not be consistent with the purpose and need for improvements to US 24.

Noise abatement through alterations to the vertical and horizontal alignment of the Preferred Alternative are also not appropriate for this project several reasons. The

existing topography of the study area is generally flat with little, if any, vertical relief. Therefore any alteration to the vertical alignment complicates intersection and drainage design. The horizontal alignment is based on an approved corridor location.

Installation of highway traffic noise barriers can often abate highway traffic noise impacts to localized receivers. One noise barrier is proposed for this project to protect residences located in the Bohlman Trailer Park. Noise barriers were not considered for other locations, because in most cases, only one or two noise receptors are present. Noise barriers are generally not cost effective for such a small number of receptors. Also, local roadways are also a source of highway traffic noise. The design of noise barriers to attenuate noise from US 24 and local roadways would require openings for property access, which also significantly decrease the effectiveness of noise barriers in achieving the desired reduction in noise levels.

Sound insulation may include the installation of central air conditioning systems, acoustical draperies, double or triple-paned windows and solid core doors which serve to reduce the sound levels inside affected structures. Sound insulation is generally used for special land uses affected by a highway project such as libraries, churches, hospitals, and schools and residences that are likely to experience extraordinary increases in noise levels as a result of this project. Two of the sensitive receptors, a church and a residence, analyzed for this study meet the criteria for sound insulation. Noise mitigation will not be provided to the church, which is located in the village of Cecil, approximately 0.8-kilometer (0.5-mile) from the new highway. Church services are held on Sunday at 7:30 a.m., which is not during peak travel hours. The noise analysis represents noise levels during weekday a.m. and p.m. peak travel hours. Therefore, it is not expected that traffic noise will interfer with church activities. The single family residence is located in close proximity to the US 127 interchange. ODOT will coordinate noise abatement options with the property owners.

The Bohlman Trailer Park, located along SR 424 in Defiance County will experience an increase in traffic generated noise as a result of the Preferred Alternative D-1 Modified. Future traffic generated noise is predicted to exceed FHWA NAC for residential uses. The Preferred Alternative D-1 Modified avoids the displacement of residences located within the trailer park. Shifting the access ramps for the SR 424 interchange to the west to avoid the displacement of residential units associated with the Bohlman Trailer Park resulted in the traffic-generated noise levels which exceed the FHWA NAC for residential land uses (Activity Category B). In accordance with ODOT's noise policies, the feasibility of noise abatement has been determined for the Bohlman Trailer Park.

Because of the limited amount of land available between US 24 and the trailer park, as well as existing development patterns for the surrounding land uses, several strategies for noise abatement are not feasible such as changes in vertical and horizontal geometry. Also, under current state regulations, ODOT cannot restrict traffic on US 24, limiting the feasibility of traffic management strategies. There is, however, sufficient area to accommodate noise walls. The feasibility of providing noise walls to mitigate noise impacts at the Bohlman Trailer Park was evaluated through the use of FHWA's Traffic Noise Model 1.0b (TNM). In this analysis, the Leq(h) peak hour traffic volumes were used to predict representative noise levels for the trailer park for three scenarios: existing (2000) conditions, future design year (2028) conditions for the Preferred Alternative D-1 Modified, and future design year (2028) conditions with a noise barrier in place for the Preferred Alternative D-1 Modified. A unit cost of $17.50 per square foot was used to estimate costs of the noise barrier.

The mitigation analysis indicated that a noise wall varying in height from 2.4 meter (eight feet) to 3.7 meters (12 feet) and approximately 298 meters (978 feet) in length

will reduce noise levels by approximately 5.1 dBA. The proposed noise barrier will extend west along the north side of SR 424 to the US 24/SR 424 interchange and then extend north paralleling the eastbound entrance ramp to US 24. Figure 4 shows the location of the noise wall. With an estimated construction cost of $250,000, the cost per dwelling unit is $15,840, which is less than the reasonable cost threshold of $25,000 per benefited receiver. According to FHWA's and ODOT's policies a noise wall is feasible at the Bohlman Trailer Park. On May 26, 2005, ODOT met with residents of the Bohlman Trailer Park to discuss noise mitigation and to determine if the residents were in favor of a noise wall. The residents completed surveys and expressed their desire for a noise wall. The noise wall will be included in the construction plans.

5.2.23 ENERGY

The energy evaluation consisted of a qualitative comparison of energy consumed in the construction of the facility, long-term maintenance of the facility, and operation by vehicles on the facility. The impacts of the Preferred Alternative D-1 Modified are higher than those resulting from the other Feasible Alternatives. The construction cost of the Preferred Alternative D-1 Modified is $280,666,964, which exceeds the construction costs for the other alternatives. The cost estimate is higher because of the change in design in Allen County from expressway to freeway with interchanges and grade-separated crossings including improvements to the I-469/US 24 interchange; the addition of grade-separated crossings in Paulding and Defiance counties; improvements to the US 24/SR 15/18 interchange; and the West High Street connector road. The additional cost for structures results in higher construction costs. A onetime energy expenditure will be required for construction. Additional energy expenditures will be incurred for operation and maintenance of the facility as well as by users of the highway. Expenditures for operation and maintenance will exceed those associated with the No Build alternative and the other Feasible Alternatives because of the additional structures that have been incorporated into the design. User energy consumption rates may be higher than the No Build alternative because regional travel is higher. However, this will be offset by reductions gained through improved traffic flow.

5.2.24 SECONDARY IMPACTS AND CUMULATIVE IMPACTS

Guidelines prepared by the Council on Environmental Quality (CEQ) for implementing the National Environmental Policy Act (NEPA) broadly define secondary impacts as those impacts that are caused by an action and are later in time for farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8). Cumulative impacts are defined as "the impact on the environment which results from the incremental impacts of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

For the secondary and cumulative impacts analysis the study area was defined as the area extending 1.6 kilometers (one–mile) from the right-of-way limits of the Preferred Alternative D-1 Modified. The Maumee River served as the boundary to the north as this topographic feature would act as a natural boundary restricting development. The boundary of the study area was entered into a Geographic Information system (GIS) and used to calculate the occurrence of sensitive environmental resources within the study area and within each economic development site. For the purpose of this analysis it was assumed that the economic development sites are being actively marketed now and will develop with or without the Preferred Alternative D-1 Modified. It was also assumed that under the worst case scenario, all land within the 1.6 kilometer (one-mile) area extending from the proposed intersections and interchanges would be developed for transportation related services (i.e. gasoline stations, restaurants, convenience stores). The Preferred Alternative D-1 Modified is similar to the other

Feasible Alternatives with the following exceptions:

- the I-469/US 24 interchange will be reconstructed as system-to-system interchange,
- interchanges will be constructed at Ryan/Bruick Road, Webster Road, SR 101, SR 49, US 127, and SR 424,
- the US 24/SR 15/18 interchange will be reconstructed,
- grade-separated crossings will be constructed at Doyle, Sampson, Woodburn, Bull Rapids, and State Line roads, C-11, C-43, C-176, C-105, Krouse Road, and West High Street/Switzer Road, and
- construction of a connector road between SR 15/18 and West High Street.

The secondary effects of the Preferred Alternative D-1 Modified are essentially the same as the other Feasible Alternatives on new alignment as described in the DEIS. The provision of additional interchanges and grade-separated crossings at crossroads will improve traffic flow on these crossroads, specifically Webster Road, Bull Rapids Road, and SR 101. Improvements to the I-469 and SR 15/18 interchanges will also improve local traffic operations.

The Preferred Alternative D-1 Modified includes the improvements to the I-469/US 24 and SR 15/18-US 24 interchanges and the West High Street Connector Road, which are not included with the other alternatives, the cumulative impacts for the Preferred Alternative D-1 Modified are greater than those reported for the other Feasible Alternatives. Also, the Enterprise Park site has been removed from the analysis of the Preferred Alternative D-1 Modified (with the exception of the farmland impacts), as ODOT is proposing to purchase a portion of the site for wetland and stream mitigation. A summary of cumulative impacts associate with the Preferred Alternative D-1 Modified is presented in Table 5.10.

TABLE 5.10
SUMMARY OF SECONDARY AND CUMULATIVE IMPACTS

Resource	Development Scenario	Preferred Alternative D-1 Modified
Wetlands	US 24 Improvements	23.8 hectares (9.6 acres)
	Development of Known Economic Development Sites	0.5 hectares (1.2 acres)
	Full Development of Secondary and Cumulative Study Area	585.8 hectares (1,447 acres)
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area/ US 24 Improvements)	610.1 hectares (1,475.4 acres)
Low Quality Streams (QHEI < 45)	US 24 Improvements	5980 meters (19,612 feet)
	Development of Known Economic Development Sites	N/A
	Full Development of Secondary and Cumulative Study Area	N/A
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area/ US 24 Improvements)	5980 meters (19,612 feet)
High Quality Streams (QHEI between 45 and 60)	US 24 Improvements	2077 meters (6,813 feet)
	Development of Known Economic Development Sites	N/A
	Full Development of Secondary and Cumulative Study Area	N/A
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area/ US 24 Improvements)	2077 meters (6,813 feet)
Floodplains	US 24 Improvements	32.3 hectares (80.0 acres)
	Development of Known Economic Development Sites	40.9 hectares (101.0 acres)
	Full Development of Secondary and Cumulative Study Area	1461.1 hectares (3,609 acres)
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area/ US 24 Improvements)	1534.4 hectares (3,790.0 acres)
Woodlots	US 24 Improvements	25 woodlots 81.1 hectares (200.4 acres)
	Development of Known Economic Development Sites	10 woodlots 35.6 hectares (88.0 acres)
	Full Development of Secondary and Cumulative Study Area	189 woodlots 531.6 hectares (1,313 acres)
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area/ US 24 Improvements)	224 woodlots 648.3 hectares (1,601.4 acres)
Productive Farmlands	US 24 Improvements	640.6 hectares (1,582.9 acres)
	Development of Known Economic Development Sites	194.8 hectares (481.2 acres)
	Full Development of Secondary and Cumulative Study Area	7178.1 hectares (17,773.0 acres)
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area /US 24 Improvements)	7933.0 hectares (19594.4 acres)
NRHP – Listed and Eligible Sites	US 24 Improvements	1 site
	Development of Known Economic Development Sites	0 sites
	Full Development of Secondary and Cumulative Study Area	24 sites
	Cumulative Impacts (Development on Known Economic Sites/ Full Development of Secondary and Cumulative Study Area /US 24 Improvements)	25 sites

6.0 CONCLUSIONS AND ENVIRONMENTAL COMMITMENTS

6.0 CONCLUSIONS AND ENVIRONMENTAL COMMITMENTS

6.1 PREFERRED ALTERNATIVE D-1 MODIFIED

The selection process for the Preferred Alternative is described in the Draft Environmental Impact Statement (DEIS) and Section 1.2.2 of this Final Environmental Impact Statement (FEIS). Alternative D-1 was presented as the Preferred Alternative at the public hearings held October 2003. Following the public hearings, the project has continued to move forward in the project development process which has resulted in the development of the current Alternative D-1 Modified.

The Preferred Alternative for the US 24 New Haven to Defiance project is Alternative D-1 Modified, resulting from design refinements, agency comments, public comments, and mitigation measures. Elements of the Alternative D-1 Modified include Stage One and Two engineering design, proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area. Alternative D-1 Modified is presented in Figure 1. The proposed facility is a four-lane divided, limited access highway. Access will be provided by both interchanges and at-grade intersections.

Since the public hearings held in October 2003, design refinements to the proposed alignment have been made in Ohio and Indiana in accordance with the Ohio Department of Transportation's (ODOT's) and the Indiana Department of Transportation's (INDOT's) Project Development Processes. ODOT initiated Stage One engineering in 2004 for Alternative D-1 Modified for the Ohio portion. Elements of Stage One engineering include detailed drainage design, conceptual maintenance of traffic plan, preliminary utility plan, bridge design (i.e. type, size and location), conceptual right-of-way limits, flood hazard evaluation, soil borings, and roadway plan development and design. As a result of the Stage One and Two engineering, the right-of-way limits for Alternative D-1 have been revised in Ohio. Some areas of the right-of-way limits were expanded to accommodate drainage features and in other area, the right-of-way limits were reduced to minimize impacts. The primary factor affecting revisions to the right-of-way limits was the detailed drainage design, which included extended drainage ditches to channel storm water runoff and the implementation of Best Management Practices (BMPs) for improving the quality of the water runoff.

The Indiana portion of the proposed highway was developed to a preliminary engineering level of detail. Detailed design studies were initiated by INDOT in 2004 for the 17.7-kilometer (11-mile) section of new highway in Allen County. In addition to the mainline, INDOT is proposing to improve the I-469/US 24 interchange.

Based on the Service Road Study and engineering design refinements, there are 13 service roads that are justified for construction. The 13 service roads consist of two lanes and range from 2.7 to 3.7 meters (nine to 12 feet) in width. These roads will provide access to 106.9 hectares (264.1 acres) of land. Six of the service roads are in Allen County and will provide access to 45 hectares (112.5 acres). Three service roads are proposed in Paulding County, which will provide access to 33.9 hectares (83.7 acres). Four service roads are proposed in Defiance County, which will provide access to 27.5 hectares (67.9 acres).

The existing interchange at I-469 and US 24 in Allen County, Indiana will be upgraded. Improvements to the I-469/US 24 interchange include a directional fly-over ramp to provide access from westbound US 24 to southbound I-469 and a new diagonal ramp from northbound I-469 to eastbound US 24.

The existing interchange at SR 15/18 and US 24 in Defiance County, Ohio will also be upgraded. The improvements involve lowering the profile of the US 24 mainline to increase the bridge clearance, adding turn lanes on exit ramps, and widening SR 15/18 to include a third lane to accommodate left-turn movements at interchange ramps in the vicinity of the interchange.

A connector road will be constructed to link West High Street with SR 15/18, in response to public comments received during the public hearings. Construction of Alternative D-1 Modified will eliminate access to US 24 at West High Street/Switzer Road. As a result, vehicles will no longer be able to directly access West High Street or Switzer Road via US 24. Access to US 24 will still be provided at the existing SR 15/18 (Ralston Avenue) interchange. The connector road will provide an alternate route for traffic going to and from US 24 via SR 15/18 without traveling through the Harding Street residential area.

Twenty local roads which intersect the proposed highway will be improved. These roads are Doyle Road, Ryan/Bruick Road, Webster Road, Bull Rapids Road, SR 101, State Line Road, SR 49, C-43, T-51, C-176, T-61, C-206, US 127, C-323, C-8, SR 424, Switzer Road, West High Street, SR 15/18, and Harding Street. Improvements to these local roads include widening, realignment, and adding turn lanes and shoulders. Additionally, T-139 is being cut-off from US 24 with a cul-de-sac on the north and a connection to T-236 on the south side of US 24.

Additional land adjacent to the proposed highway will be purchased (64.4 hectares [159 acres]) for stream and wetland mitigation in Defiance County, Ohio. Approximately 10.5 hectares (26 acres) of this land is an agricultural field where a compensatory wetland will be created. The remaining 53.8 hectares (133 acres) is a woodlot which contains a Category 3 forested wetland and several small unnamed tributaries. This woodlot will be purchased for wetland and stream preservation.

Because of the additional elements included in the Alternative D-1 Modified (i.e. Stage One and Two engineering design proposed service roads, improvements to the I-469 and SR 15/18 interchanges, a connector road between West High Street and SR 15/18, improvements to local roads, and a wetland mitigation area) the impacts and costs associated with D-1 Modified, deviate from those of Alternative D-1.

6.2 FEATURES OF ALTERNATIVE D-1 MODIFIED

The following features summarize the environmental impacts, costs and certain design elements of the Preferred Alternative D-1 Modified.

- Preferred Alternative D-1 Modified will be constructed as a freeway between I-469 and the Indiana/Ohio State Line and as expressway between the state Line and SR 15/18 in Defiance. In Indiana, interchanges will be constructed at Ryan/Bruick Road, Webster Road, and SR 101. In Ohio, interchanges will be provided at SR 49, US 127, and SR 424 with at-grade intersections constructed at other key crossroads.
- The estimated construction cost for Preferred Alternative D-1 Modified is $280.7 million.
- Preferred Alternative D-1 Modified has 35 total stream crossings, impacting 8056 meters (26,425 feet) of streams.
- Preferred Alternative D-1 Modified impacts 9.6 hectares (23.85 acres) of wetlands in total.
- Preferred Alternative D-1 Modified affects 84.9 hectares (209.9 acres) of forest land.
- Preferred Alternative D-1 Modified displaces 36 residences and four businesses.

- Preferred Alternative D-1 Modified impacts 32.4 hectares (80.0 acres) of floodplain area.
- Preferred Alternative D-1 Modified includes three segments that are favored by the public (Segments 1, 8, and 18) and includes one segment not favored by the public (Segment 11).
- Preferred Alternative D-1 Modified utilizes existing transportation corridors in Segments 1, 8, 11, 13, 15, and 20, approximately 43 percent of the total length.
- Preferred Alternative D-1 Modified follows Segment 13, located north of the Maumee & Western Railroad. This segment minimizes drainage impacts to cropland.
- Preferred Alternative D-1 Modified impacts 640.8 hectares (1,582.9 acres) of agricultural land involving nine farm residences, and eight properties in agricultural districts.
- Preferred Alternative D-1 Modified results in 164.9 hectares (407.2 acres) of landlocked property.

6.3 MINIMIZATION, MITIGATION, AND CONSERVATION

Beginning with the alternative development studies, avoidance, minimization, mitigation and conservation of sensitive environmental resources have been considered to resolve potential impacts of the project. The development of minimization, mitigation and conservation strategies will continue through the final design studies for the US 24 project. A summary of these strategies is presented in Table 6.1.

TABLE 6.1
ENVIRONMENTAL COMMITMENTS

Issue	Minimization/Mitigation/Conservation Measures
Geology, Soils and Erosion	• Erosion and sedimentation control measures will be implemented during construction. • Stormwater management measures will be implemented during construction.
Groundwater, Sole Source Aquifers and Wellheads	• Affected water wells will be properly abandoned and replaced as required. • Erosion and sedimentation control and stormwater management measures will be implemented during construction. Stormwater management measures are listed throughout this table.
Wetlands	• Wetland mitigation ratios will be in accordance with Section 404 permit requirements. Mitigation will include creation of 10.5 hectares (26 acres) of wetlands and preservation of 24.7 hectares (61 acres) of forested Category 3 wetlands and a 29-hectare (72-acre) buffer. • Wetlands adjacent to the construction limits will be protected from construction activities. • Temporary fencing or other measures will be placed around the perimeter of the wetlands.
Streams/Rivers	• Properly sized and engineered culverts to provide unobstructed water flow. • Stream mitigation ratios will be in accordance with permit requirements. • Mitigation will include preservation of 1319.5 meters (4,328 feet) of undisturbed stream channel; construction of 617.4 meters (2,025 feet) of natural stream channel with vegetative buffer onsite and a perpetual conservation easement along 1504 meters (4,932 feet) of the Maumee River. • Implementation of stream enhancement techniques in unavoidable stream channel relocations. • Implementation of an Erosion and Sedimentation Control Plan and stormwater management measures. • Denuded areas, including ditches, culverts and river/stream banks, will be permanently seeded and mulched (or fiber mat) upon completion of earthwork or temporarily seeded and mulched (or fiber mat) within seven days if the area is to remain idle for more than 30 days. • Access roads constructed on slopes will be graveled to prevent erosion. • A spill containment and cleanup plan will be developed prior to construction. • All stream bank vegetation will be left undisturbed to the maximum extent possible. • All components of the existing Maumee River bridge structure (piers, abutments, etc.) will be completely removed. Piers will be removed down to the same elevation as the surrounding riverbed. The asphalt deck material will be removed before any portion of the bridge is removed. All debris, excess fill material and material excavated from the river bottom shall be disposed of at an approved upland site • In-stream work for the Maumee River will not be conducted between March 15th and June 30th. • Disturbed areas in the Maumee River stream bottom will be returned to pre-construction contours. River bottom elevations will be determined before in-stream work commences to ensure that all fill material and debris is completely removed before construction is completed.

TABLE 6.1 (CONTINUED)
ENVIRONMENTAL COMMITMENTS

Issue	Minimization/Mitigation Measures
Streams/Rivers (cont.)	• During construction of the Maumee River bridges, if dewatering is necessary to facilitate in-stream work, all wastewater shall be pumped onto a vegetated area a sufficient distance from the Maumee River to allow for complete infiltration. No wastewater of any kind will be discharged directly into the Maumee River or any other drainage ways, ditches or streams. If discharge to a vegetated area is not feasible, then wastewater will be discharged into a sediment filter bag or into a temporary detention/retention pond. • Areas where vegetation is removed along the Maumee River will be re-vegetated with native tree species. Trees will be centimeter (one inch) in diameter and balled/ burlap nursery stock. After a full growing season for the trees, any stakes and guide wires will be removed and properly disposed of. Any trees that die during the first growing season will be replaced. • Rip-rap used around piers and abutments for the Maumee River bridges will be kept to the minimum amount needed to prevent scour and shall consist of clean rock only (free of any toxic or fine material). All fill material used as rip rap, work platforms or cofferdams will be a minimum of centimeters (three inches) in diameter and be washed to remove fine particulate matter (clay, silt, sand and soil). Work platforms will be kept to the absolute minimum size needed to facilitate in-stream work. • In-stream work for the Maumee River bridges will be conducted through the use of water diversions not requiring the placement of earthen fill (sheet piling, membrane dams, etc.) wherever possible. Any fill will be completely removed from the streambed as soon as possible after its purpose has been served. • Aprons will be used for any painting, sanding or water blasting on the US 24 bridges to contain debris and overspray.
Floodplains	• Completion of detailed hydraulic studies for affected streams. • Development of adequate drainage measures so that post-construction hydraulics match pre-construction (existing) drainage conditions. • Bridge spans will be lengthened to reduce impacts on floodplains. • Develop highway in accordance with accepted local floodway plans and floodplain management programs.
Wildlife, Plants, and Threatened/ Endangered Species	• Natural stream channel design will be used for relocated segments of stream channels. A landscape plan which incorporates native vegetation will be developed for the stream banks • Mussel populations will be removed in areas where in stream work will occur. Mussels will be relocated to suitable upstream habitat. • Post-construction stormwater pollution prevention measures will be incorporated into the project design and construction activities. Use of detention basins and retention ponds will be considered wherever practicable. Stormwater control appurtenances will be designed to limit in stream sedimentation, which will minimize the potential for impacts to water quality. • ODOT and INDOT will mitigate wetland impacts in accordance with state and federal permits. • The area used for construction will be limited to the construction right-of-way. Environmental resources (i.e. woodlots, wetlands, historic properties) adjacent to the construction right-of-way will be protected from any construction activities. • Tree clearing within the construction right-of-way limits will only occur between September 15th and April 15th. • Maintenance that involves tree removal, limbing, pruning, or similar activities will be scheduled from September 15th to April 15th. • Contractors will burn debris only between September 15th and April 15th. • Contractors will obtain the service of a qualified bat scientist to investigate trees for the presence of Indiana bats if limited tree removal is required between April 15th and September 15th. The results of the investigations will be coordinated with the USFWS. • Contractors will thoroughly rinse or clean any vehicles, equipment, or machinery specifically used for in-stream construction prior to construction, in order to prevent the spread of invasive species such as zebra mussel adults or larvae. • Contractors will limit the amount of in-stream disturbance to areas within the construction limits. • Contractors will avoid practices that involve prolonged changes in stream flow dynamics, including construction of impoundments through levees or dams, or utilization of culverts that could prevent upstream and downstream movement of host fish. • Contractors will develop and comply with a project-specific emergency spill response protocol. • Contractors will follow strict guidelines dictating the use and handling of hazardous materials and other contaminants. A plan note will be incorporated into the construction contract requiring contractors to adhere to the ODOT *Office of Construction Administration's Handbook for Removal of Regulated Wastes* from the work area or properties associated with the project. • Contractors will develop and implement a comprehensive sediment and erosion control plan. A plan note will specify that Sedimentation and Erosion Control features be placed as soon as

TABLE 6.1 (CONTINUED)
ENVIRONMENTAL COMMITMENTS

Issue	Minimization/Mitigation/Conservation Measures
Wildlife, Plants, and Threatened/ Endangered Species (cont.)	practicable during the construction process. Provisions for placement of primary Sedimentation and Erosion Control features which are necessary during advanced tree-cutting operations, will be included. • Contractors will develop and incorporate provisions for implementation of a post-construction re-vegetation plan to control erosion and maintain water quality. Areas in which there are no construction activities for 45 days will be seeded to provide temporary ground cover to control erosion. • Herbicide applications will follow guidelines set by INDOT and ODOT mowing and herbicide application policies. Herbicide use will be restricted to ends of guardrails and roadway clear zones and will be applied by a State Licensed Practitioner once per year. • Winter de-icing agents will be applied at minimum effective rates. • Carcasses will be removed from the roadway in a timely manner.
Farmlands	• Property acquisition and relocation assistance will be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. • Coordination with the Ohio Department of Agriculture concerning condemnation of farmlands designated as Agricultural Districts. • Provision of service roads to mitigate landlocking of active farmland. • Coordination with local agencies and property owners concerning mitigation of impacts to farmland irrigation/drainage systems. • Grade-separated crossings provided for local roads that are important to farm operations.
Municipal/Industrial/Hazardous Waste	• Closure of USTs and ASTs in accordance with applicable regulations on three properties as needed (ODOT Defiance County Garage, Mark Moats Ford, and an abandoned property on T-69). • The storage drums found on an abandoned property on T-69 will be disposed of properly. • Inspection of nonresidential buildings for asbestos in Indiana by a licensed asbestos inspector prior to any demolition activities.
Land Use	• Service roads will be constructed to mitigate landlocking of properties, where feasible. • Landlocked parcels will be sold to adjacent property owners in Ohio.
Residential Displacements	• Property acquisition and relocation assistance provided in accordance with the Uniform Relocation and Real Property Acquisition Policies Act. • Implementation of a Residential Relocation Assistance Program.
Environmental Justice	• Minimization of right-of-way impacts to the Bohlman Trailer Park and the Rolling Meadows Mobile Home Park (both located in Defiance County) and avoidance of residential units. • Construction of a noise wall at the US 24/424 interchange and the Bohlman Trailer Park to mitigate noise impacts
Community Facilities	• Provisions for grade-separated crossings at Woodburn Road (Allen County) and C-43 (Paulding County) for safe access to Woodlan High School and Antwerp School complex. • On-site replacement of salt storage, brine mixing, and other affected facilities at the ODOT Defiance County Garage. • Notifications to emergency service providers during construction concerning temporary local roadway impacts.
Parks, Recreation Land, Natural and Wildlife Areas, Section 4(f)/6(f) Resources	• Scenic River coordination with ODNR for the Maumee River crossing will be ongoing throughout construction in accordance with Section 1517.6 of the Ohio Revised Code. • Installation of signs stating Maumee State Scenic River at the approaches of the Maumee River Bridge.
Business Displacements	• Property acquisition and relocation assistance provided in accordance with the Uniform Relocation and Real Property Acquisition Policies Act.
Visual Resources	• Preservation of landscape features and existing vegetation where feasible.
Archaeological Resources	• Prior to completing the final project design in Indiana, the INDOT will complete the appropriate archaeological investigations to determine the boundaries of the Gronauer Lock. INDOT will coordinate the archaeological investigations with the Indiana State Historic Preservation Office (SHPO). A research plan detailing the methodology for defining the boundaries of the site shall be submitted to the Indiana SHPO for review and comment.

TABLE 6.1 (CONTINUED)
ENVIRONMENTAL COMMITMENTS

Issue	Minimization/Mitigation/Conservation Measures
Archaeological Resources (cont.)	• The INDOT will make a reasonable effort to avoid the Gronauer Lock site during design and construction. If the site cannot be avoided, the Federal Highway Administration (FHWA) will apply the Criteria of Adverse effect in accordance with 36 CFR 800.5. • If the FHWA determines, in consultation with the Indiana SHPO, that the project will have an adverse effect on the Gronauer Lock site, then INDOT will develop plans for Phase II and/or Phase III archaeological investigations in consultation with the Indiana SHPO and submit such plans to the FHWA and Indiana SHPO for their review and comment. The INDOT shall submit alternative mitigation plan to the FHWA and Indiana SHPO for their review and comment, if appropriate. That review period will be 30-days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, FHWA shall comply with 36 CFR 800.6. • A draft report(s) of the archaeological investigations and updated Indiana state site form shall be submitted to the FHWA and Indiana SHPO for review and comment. All final reports of the archaeological investigations will be completed within one year of the completion of field work. The Indiana SHPO will be given 30-days to review and comment on all submissions. • INDOT shall ensure that all archaeological work carried out pursuant to the Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-9), and that all historic preservation work is carried out by or under the direct supervision of a person or persons meeting, at a minimum the *Secretary of the Interior's Professional Qualification Standards for Architectural Historian Professionals* (48 FR 44738-9). • If any unanticipated discoveries of historic properties, sites, artifacts, or human remains are encountered during the implementation of this undertaking, FHWA shall comply with 36 CFR 800.13, Indiana Code (14-21-1-27 and 14-21-1-29), Ohio Revised Code (2909.05 and 2927.11), and Section 203.04 of ODOT's *Construction and Materials Specifications* (2005). The Indiana Department of Natural Resources, the Ohio SHPO, ODOT, and INDOT will be informed of such discoveries within two business days and, if applicable, federally recognized tribal organizations that attach religious and/or cultural significance to the affected property. FHWA will developand implement actions that take into account the views of the SHPOs and, if applicable, federally recognized tribal organizations. • If future design studies results in changes in the proposed right-of-way limits of the Preferred Alternative D-1 Modified affecting previously unsurveyed areas, additional archaeological investigations will be undertaken to determine the potential impact on archaeological resources.
Historic Resources	• Avoidance of NRHP-listed and NRHP-eligible resources. Historic resources adjacent to the construction limits will be protected from construction activities. • Preservation of existing vegetation between the right-of-way and the Niemeyer Farm, Harper House, Meyer/Gallmeyer Farm, and Smith/Rich/Krug House.
Traffic	• Provisions for grade-separated crossings at Woodburn Road (Allen County) and C-43 (Paulding County) for safe access to Woodlan High School and Antwerp School complex. • Provisions for grade-separated crossings at Ryan/Bruick Road, Webster Road, and SR 101 in Allen County to support travel needs of the local Amish Community. • Maintenance and protection of traffic during construction. • Notifications to general public and emergency service providers during construction concerning temporary local roadway impacts.
Air Quality	• Implementation of Best Management Practices during construction to minimize local short-term air quality problems. Contractors will be required to adhere strictly to dust control measures as outlined in INDOT's Standard Specifications and ODOT's *Construction and Materials Specifications (2005).*
Noise	• Implementation of Best Management Practices during construction to minimize local short-term construction noise. Contractors will minimize construction noise by limiting operation of heavy construction equipment to daylight hours whenever possible, installing and maintaining effective mufflers on equipment, locating equipment and vehicle staging areas as far from noise sensitive areas as possible, and limiting unnecessary idling of equipment. • Construction of a noise wall at the US 24/424 interchange for the residents of the Bohlman Trailer Park. • Texture and color of the noise wall have been chosen by the impacted residents and will be forwarded for construction.

6.4 US FISH AND WILDLIFE SERVICE INCIDENTAL TAKE PERMIT REQUIREMENTS

The US Fish and Wildlife Service (USFWS) Incidental Take Permit requires that the Federal Highway Administration (FHWA) and ODOT adhere to the terms and conditions of the Incidental Take Statement. These measures are non-discretionary and must be undertaken by FHWA so that they become binding conditions of any funding issued to ODOT, as appropriate.

The USFWS Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of Indiana bats:

1. The implementation status of all the proposed conservation measures, mitigation efforts, and terms and conditions must be monitored and clearly communicated to the USFWS on an annual basis.
2. An Indiana bat education program must be developed and implemented for all personnel involved in the construction, operation, and maintenance of the US 24 highway project in Ohio.
3. Indiana bat habitat in temporary construction areas must be restored to the maximum extent practicable.
4. To the maximum extent practicable, incorporate measures to benefit the Indiana bat into mitigation plans for stream and wetland impacts.
5. Ensure that construction equipment is in proper working order to minimize operation noise and reduce the risk of equipment spills and leaks.
6. Ensure that if suitable Indiana bat roost trees may be impacted by waste, borrow, staging, and/or maintenance areas, these trees are explicitly identified and consultation re-initiated accordingly.

The FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/ monitoring requirements. These terms and conditions are nondiscretionary.

1. Monitoring Requirements:
    - FHWA will prepare an annual report detailing all conservation measures, mitigation efforts, and terms and conditions that have been initiated, are ongoing, or completed during the previous calendar year and the current status of those yet to be completed. The report will be submitted to the USFWS's Reynoldsburg, Ohio Field Office by January 31st each year (the first report will be due January 31, 2007) and reporting will continue until the construction phase of the project is completed.
    - Any dead bats located within the construction limits and right-of-way, regardless of species, should be immediately reported to the USFWS's Reynoldsburg, Ohio Field Office, and subsequently transported (frozen or on ice) to the Field Office. No attempt should be made to handle any live bat, regardless of its condition; report bats that appear to be sick or injured to the USFWS's Reynoldsburg, Ohio Field Office. The Field Office will make a species determination on any dead or moribund bats.

2. All US 24 highway project engineers, construction personnel (includes logging personnel), equipment operators, and road maintenance staff will attend a mandatory environmental awareness training to learn about the Indiana bat and its habitat requirements. This training will provide personnel with an increased awareness about the species and should increase the likelihood of compliance with the non-discretionary measures and terms of this Incidental Take Statement. The program should be developed in cooperation with the USFWS. All participants are to be provided with a protocol for reporting the presence of any live, injured, or dead bats observed or found within or near the

construction limits or right-of-way during construction, operation, and maintenance of the new US 24. This training should occur prior to the initiation of onsite project activities.

3. A reforestation plan will be developed using native tree species for disturbed areas adjacent to stream crossings and within the stream and wetland mitigation areas. These tree species should be incorporated into post-construction revegetation plans to control erosion and maintain water quality, as well as along relocated stream segments. Tree species used for reforestation should be a combination of the species from the following list. These species frequently exhibit suitable Indiana bat roost tree characteristics.

    - *Black Ash* (Fraxinus nigra)
    - *Green Ash* (Fraxinus pennsylvanica)
    - *White Ash* (Fraxinus americana)
    - *Eastern Cottonwood* (Populus deltoides)
    - *American Elm* (Ulmus americana)
    - *Slippery Elm* (Ulmus rubra)
    - *Bitternut Hickory* (Carya cordiformis)
    - *Shagbark Hickory* (Carya ovata)
    - *Shellbark Hickory* (Carya laciniosa)
    - *Black Locust* (Robinia pseudoacacia)
    - *Red Maple* (Acer rubrum)
    - *Silver Maple* (Acer saccharinum)
    - *Sugar Maple* (Acer saccharum)
    - *Black Oak* (Quercus velutina)
    - *Post Oak* (Quercus stellata)
    - *Red Oak* (Quercus rubra)
    - *Shingle Oak* (Quercus imbricaria)
    - *White Oak* (Quercus alba)
    - *Sassafras* (Sassafras albidum)

4. During the development of mitigation plans required under Sections 401 and 404 of the Clean Water Act, mitigation opportunities which both fulfill the requirements of this Act and benefit the Indiana bat through habitat protection, restoration and/or enhancement should be sought. The USFWS strongly encourages stream and wetland mitigation areas to be planted with native tree species that provide suitable habitat for the Indiana bat, as described in Term and Condition number 3 above.

5. Regular inspections of construction equipment should be conducted to ensure that equipment is in good working order to minimize disturbance to bats from operational noise and to reduce the risk of surface water contamination from equipment leaks and spills which could affect the bats prey base and drinking sources.

6. If a limited number of trees must be removed between April 15th and September 15th, the contractor will be required to obtain the service of a qualified bat scientist to investigate trees for the presence of Indiana bats. Pending results of the investigation, the following actions will occur:

    - A qualified bat scientist will evaluate the potential of roosting habitat for each selected tree. If the tree offers no potential for roosting habitat, it may be cut between April 15th and September 15th.

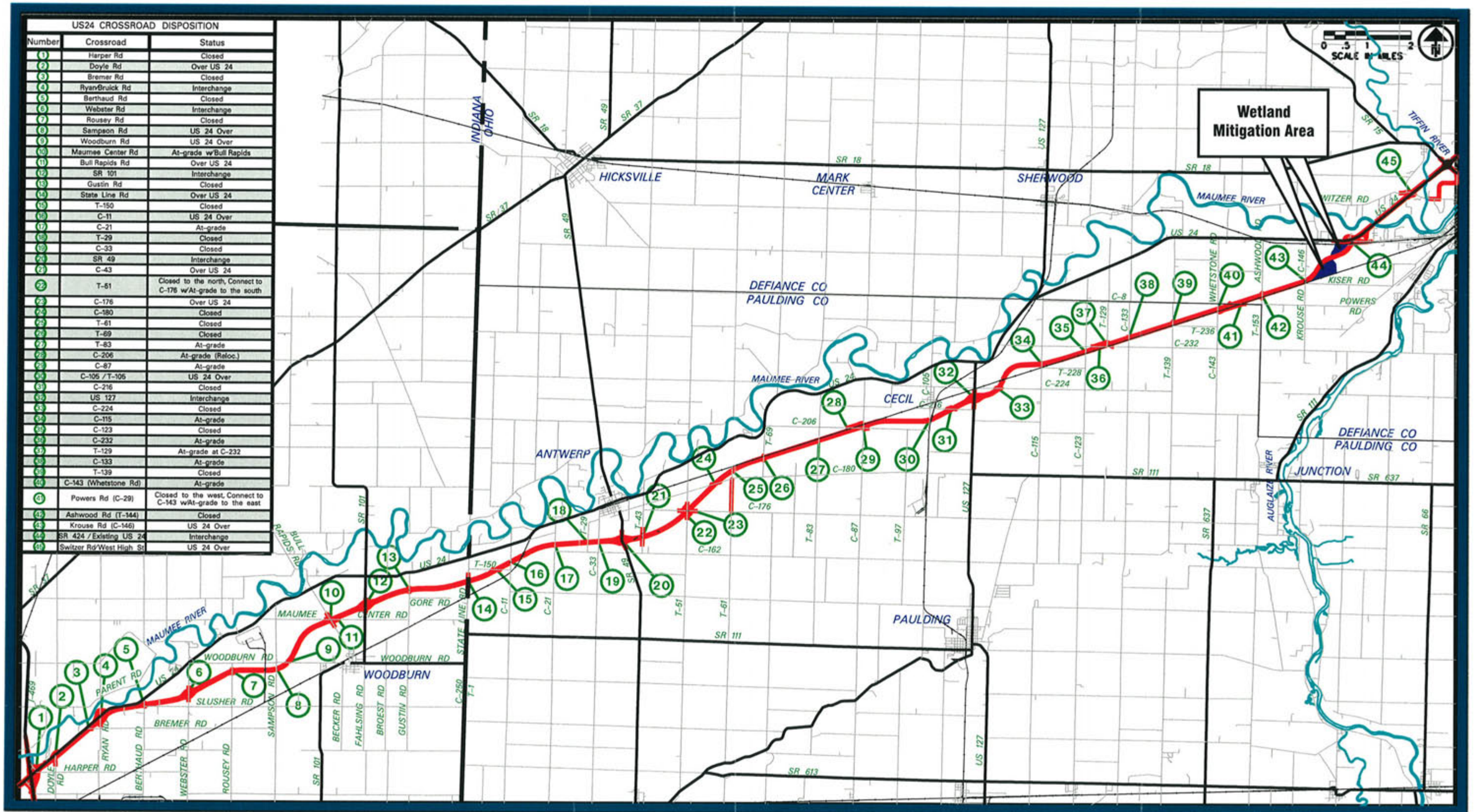
- If a selected tree does offer the potential for roosting habitat, an emergence survey will be conducted. If no bats are detected, the tree may be cut the day following completion of the emergence survey.
- If bats are detected during the emergence survey, the tree will not be cut until the period between September 15th and April 15th

According to the USFWS, the reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the US 24 project. If, during the course of the action, the level of incidental take is exceeded as indicated by additional, unanticipated habitat loss, such incidental take represents new information requiring reinitiation of Section 7 consultation and review of the reasonable and prudent measures provided. FHWA must provide an explanation of the causes of the taking and review with the USFWS the need for possible modification of the reasonable and prudent measures.

APPENDIX A: FIGURES

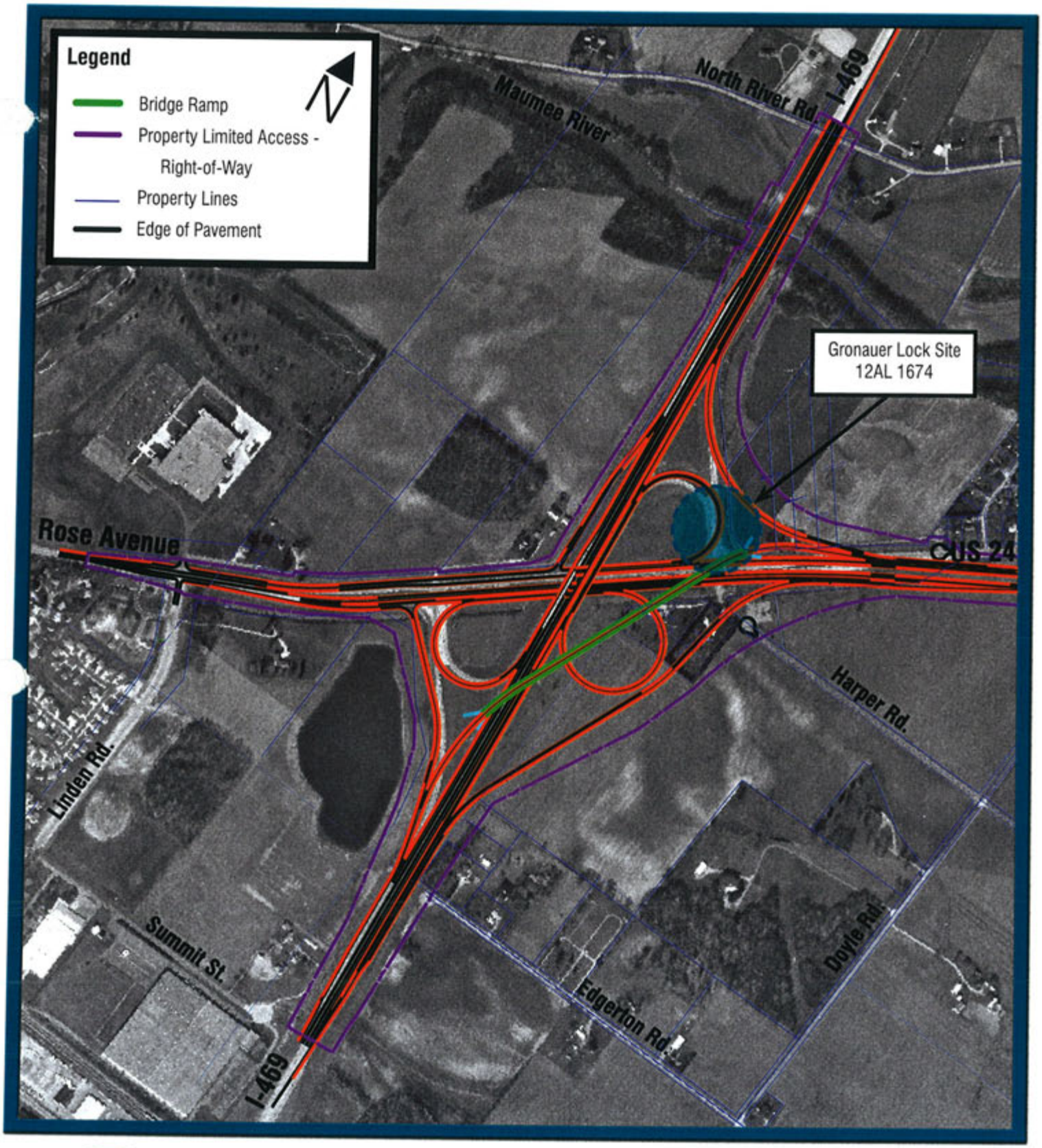
US24 CROSSROAD DISPOSITION

Number	Crossroad	Status
1	Harper Rd	Closed
2	Doyle Rd	Over US 24
3	Bremer Rd	Closed
4	Ryan/Bruick Rd	Interchange
5	Berthaud Rd	Closed
6	Webster Rd	Interchange
7	Rousey Rd	Closed
8	Sampson Rd	US 24 Over
9	Woodburn Rd	US 24 Over
10	Maumee Center Rd	At-grade w/Bull Rapids
11	Bull Rapids Rd	Over US 24
12	SR 101	Interchange
13	Gustin Rd	Closed
14	State Line Rd	Over US 24
15	T-150	Closed
16	C-11	US 24 Over
17	C-21	At-grade
18	T-29	Closed
19	C-33	Closed
20	SR 49	Interchange
21	C-43	Over US 24
22	T-51	Closed to the north, Connect to C-176 w/At-grade to the south
23	C-176	Over US 24
24	C-180	Closed
25	T-61	Closed
26	T-69	Closed
27	T-83	At-grade
28	C-206	At-grade (Reloc.)
29	C-87	At-grade
30	C-105 / T-105	US 24 Over
31	C-216	Closed
32	US 127	Interchange
33	C-224	Closed
34	C-115	At-grade
35	C-123	Closed
36	C-232	At-grade
37	T-129	At-grade at C-232
38	C-133	At-grade
39	T-139	Closed
40	C-143 (Whetstone Rd)	At-grade
41	Powers Rd (C-29)	Closed to the west, Connect to C-143 w/At-grade to the east
42	Ashwood Rd (T-144)	Closed
43	Krouse Rd (C-146)	US 24 Over
44	SR 424 / Existing US 24	Interchange
45	Switzer Rd/West High St	US 24 Over



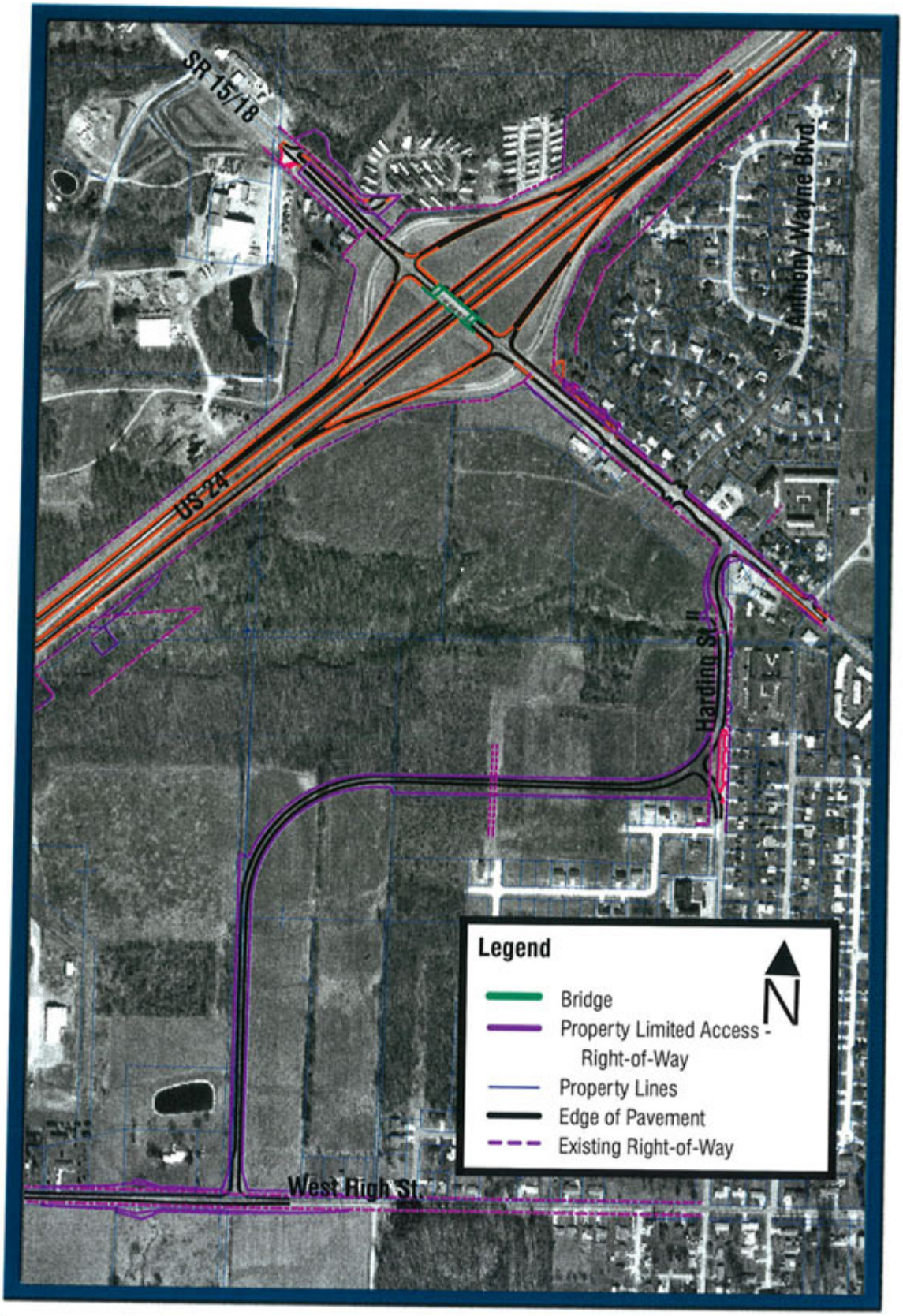
Preferred Alternative D-1 Modified

Figure 1



I-469/US 24 Interchange
Preferred Alternative 13 Modified

Figure 2



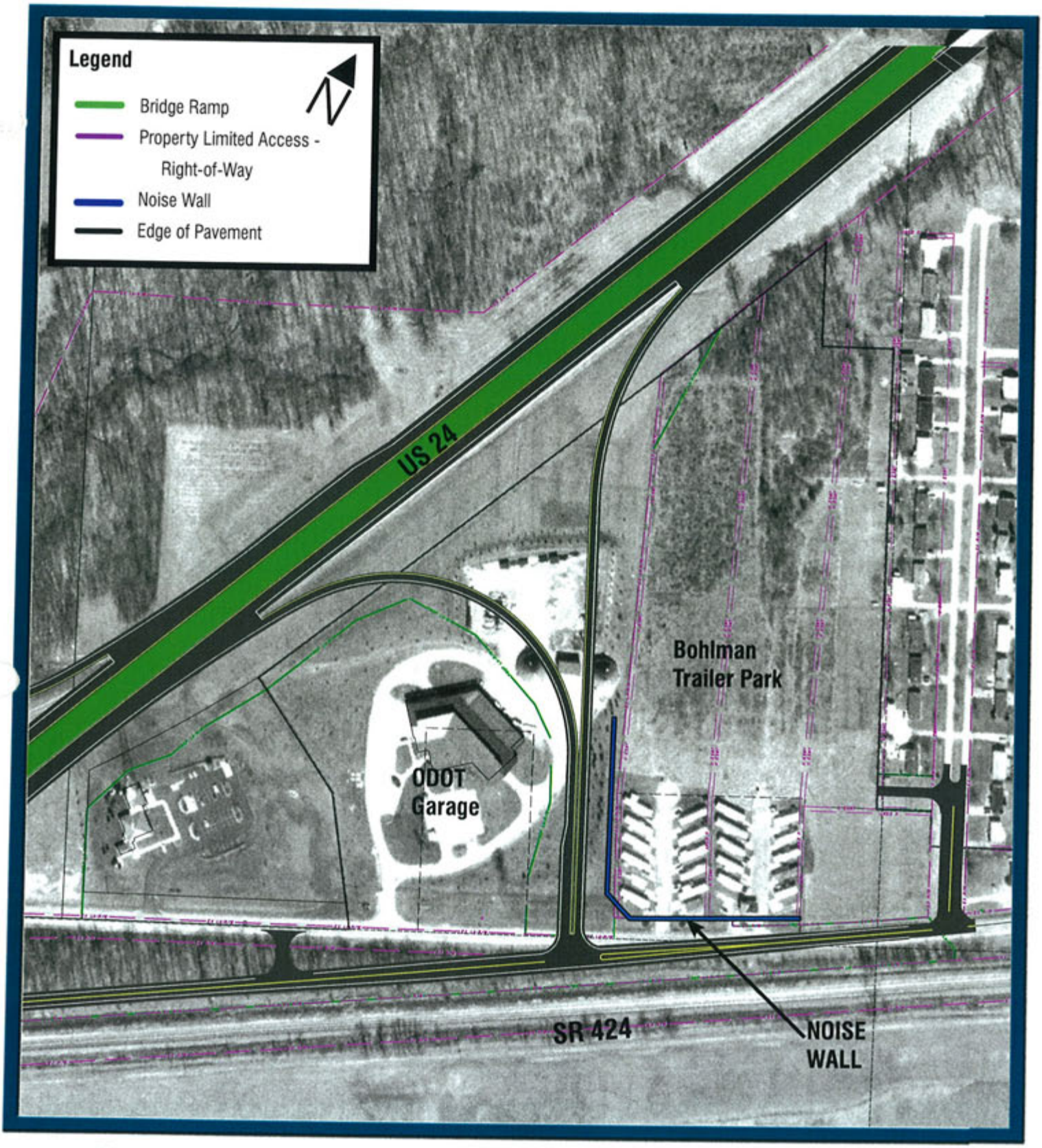
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

US24 New Haven to Defiance

Improved US 24/SR 15/18 Interchange and West High Street Connector

Figure 3

PB



US24 New Haven to Defiance

Noise Wall at Bohlman Trailer Park **Figure 4**

APPENDIX B: PUBLIC HEARING SUMMARY

PUBLIC HEARING SUMMARY

PUBLIC HEARING SUMMARY

Pursuant to CFR §771.123, the Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT) held a series of three public hearings, October 28, 29, and 30, 2003, to offer the general public an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 New Haven, Indiana to Defiance, Ohio project. The project involves the proposed relocation, improvement, and abandonment of portions of US 24 in Allen County, Indiana and Paulding and Defiance counties, Ohio. Also incorporated into the hearings was the removal of State Route Number US 24 from the portion of highway that is also numbered US 127 in Defiance County.

The purpose of this Public Hearing Summary is to document the public hearing process and includes the following items:

- Project History/Overview,
- Advertisement of the Availability of Draft Environmental Impact Statement and announcements of public hearings,
- Legal Notices,
- Hearing Summary,
- Description of exhibits, and
- Handout materials.

Transcripts and sign in sheets from the public hearings are available at the Ohio Department of Transportation District One in Lima, Ohio. Kirk Slusher, Planning and Programs Administrator (614) 999-6849 is the person to contact for copies of the transcripts and sign in sheets.

1.0 PROJECT HISTORY/OVERVIEW

ODOT and INDOT have undertaken a study of possible improvements to United States Route 24 (US 24) in northeast Indiana and northwest Ohio. US 24 is a major east-west transportation route through the Midwestern United States, providing direct access between Fort Wayne, Indiana and Toledo, Ohio. US 24 has been identified as a strategic link in both the regional and national highway network, as it provides a connection to other major transportation corridors.

The focus of this study is the 40-mile segment between New Haven, Indiana and Defiance, Ohio. The purpose of the US 24 project is to improve the operational characteristics for both local and through traffic currently on US 24. Between New Haven and Defiance, US 24 is a two-lane road that suffers from congestion and safety related issues as a result of inadequate capacity to accommodate current traffic demand. The facility does not meet current design criteria for travel lane widths, provisional shoulders, roadway curvature, sight distances, and travel speeds. These characteristics contribute to delays and a declining level of service along the roadway.

The goals of the US 24 New Haven to Defiance project are to:

- improve traffic flow and level of service,
- reduce travel times between project termini,
- improve roadway safety,
- enhance the regional transportation network, and
- accommodate future economic growth in the region to enhance the competitiveness of local and regional businesses.

The initial study area established for the project is approximately 500 square miles in size. It extends northeast from the I-469 bypass in New Haven, Indiana (east of Fort Wayne), to the four-lane section of US 24 at its intersection with Ohio State Route 15, just west of Defiance. The study area includes Allen County, Indiana, and both Paulding and Defiance counties in Ohio.

The US 24 study area is primarily rural in nature, consisting of rich and productive farmlands. The Maumee River flows along the entire stretch of US 24 through the study area. Small stands of forests and wetlands also are interspersed throughout the study area, mainly associated with the Maumee River floodplain.

Industrial, commercial, and residential developments also characterize the study area and are densely concentrated along US 24 and its local cross streets. Although largely unincorporated, the study area does include several small municipalities. In Ohio, these include Hicksville, Mark Center, Sherwood, Antwerp, Cecil, Paulding, Defiance, and Payne. In Indiana, the incorporated areas include New Haven, Harlan, Halls Corner, Woodburn and Edgerton.

Within the study area, 14 preliminary corridors, 2000 feet in width, were developed for the US 24 New Haven to Defiance project. The termini for the corridors are the I-469/ US 24 interchange in New Haven, Indiana in the west and the Ohio State Route 15/US 24 intersection west of Defiance, Ohio in the east. The corridors were evaluated individually with regards to environmental features, public comments, agency comments, and consistency with local and regional planning. Five of the 14 preliminary corridors were selected for further research based on a process of elimination. The feasible corridors selected for further research were 4, 7, 10, 13, and existing US 24. The width of the corridors vary from 500 feet for the existing US 24 corridor and 2,000 to 4,000 feet for corridors 4, 7, 10, and 13.

Within corridors 4, 7, 10, and 13, feasible highway alternatives approximately 300 feet in width were developed. The feasible alternatives are comprised of combinations of 20 segments that were developed within the corridors. Various combinations of the 20 segments resulted in 24 highway alternatives. In addition, two alternatives were developed along the existing US 24 corridor, for a total of 26 feasible alternatives studied for the New Haven to Defiance Project.

The 26 alternatives developed for the project were analyzed in a three-step screening process. First, the alternatives were analyzed to determine if they met the established purpose and need of the project. In the second step of analysis, the potential environmental impacts were assessed for each alternative. This analysis focused on environmental resources unique to the study area and also those that require state and federal permits, if affected. The environmental resources determined to be differentiating factors in the Step II analysis were farmlands, woodlots, Category 3 forested wetlands, and streams. In addition, residential and commercial displacements were identified as a differentiating factor in the Step II analysis.

No priority or rankings were assigned to the five factors. They were considered to be of equal value in the analysis. Alternatives with low impacts to the five factors were retained for further consideration. The third step of analysis involved a more detailed examination of the environmental impacts and the consideration of other information such as public and agency comments, constructability and right-of-way issues. Through this three-step analysis, Alternative C was originally identified as the Preferred Alternative.

Agency input was also considered in the identification of the Preferred Alternative. ODOT met with representatives from the United States Environmental Protection Agency

(USEPA), the Ohio Environmental Protection Agency (OEPA), and the Federal Highway Administration (FHWA) on March 8, 2001 to discuss the Preliminary Draft Environmental Impact Statement (PDEIS) and recommendations for the Preferred Alternative. The USEPA discussed their comments on the PDEIS, which were focused only on wetland impacts. OEPA expressed concern about impacts to Category 3 wetlands and streams. In general, the agencies indicated a preference for those alternatives that minimize impacts to wetlands, streams, farmlands, wildlife habitat, woodlands, and the Maumee River. Several agencies recommended Alternative C as the Preferred Alternative for US 24 because it would result in the least impact to Category 3 forested wetlands.

The identification of the Preferred Alternative was the focus of public meetings held on May 1, 2, and 3, 2001. Citizens and local officials in the Defiance area requested that Alternative D be reconsidered as the Preferred Alternative. Alternative D follows the same route as Alternative C from the intersection with I-469 in Indiana to Defiance County, Ohio. In Defiance County, Alternative C follows Segments 14 and 19, while Alternative D follows Segments 15 and 18.

As a result of public and agency input, Alternatives C and D were both retained for further study. Detailed environmental studies (i.e. archaeology surveys, wetlands delineations, and threatened and endangered species surveys) were conducted on Alternatives C and D. Additional engineering designs were developed with the intention of minimizing impacts on wetlands, particularly the Category 3 forested wetlands located in Segment 18. This resulted in the development of a 27th alternative – Alternative D-1. Further coordination with the US Army Corps of Engineers (USACE) and the OEPA regarding wetland impacts and potential mitigation for the new minimization alignment resulted in Alternative D-1 being identified as the Preferred Alternative for the project in May 2002.

Since the selection of the Preferred Alternative in 2002, the project team has continued to study design refinements. The majority of the refinements included in the design are treatments at the local road crossings that have been made in response to comments from the general public and public officials. The most significant refinement affects the Preferred Alternative in Allen County, Indiana. In October 2002, INDOT indicated its intention to construct US 24 as a four-lane divided freeway with full access control between I-469 and the Indiana/Ohio State Line. Interchanges will be constructed at Ryan/Bruick Road, Webster Road, and SR 101. Also, the existing I-469/US 24 interchange will be upgraded to maintain free-flow operation for freeway-to-freeway movements (system-to-system interchange). Overpasses or underpasses will be constructed at most other crossroads in Indiana. The treatment of crossroads has also been revised at several locations within Paulding and Defiance counties.

2.0 ADVERTISEMENTS AND ANNOUNCEMENTS

The Federal Highway Administration (FHWA) approved the DEIS on August 19, 2003. Notice of the DEIS's availability was published in the *Federal Register* on October 3, 2003. A copy of the notice of availability is in Attachment 1.

Legal advertisements for the public hearings were placed in the Journal Gazette, the News-Sentinel on October 12, 20, and 27, 2003 and in the Crescent News and Toledo Blade on October 14 and 21, 2003. These newspapers represent the widest readership within the vicinity of the project. In addition to the legal advertisements, announcements of the public hearings were mailed to over 2000 project stakeholders on October 17, 2003. Copies of the legal notices and announcements are in Attachment 2.

3.0 PUBLIC HEARINGS

The logistics of the public hearing are summarized in Table 1. The information presented and the format of each public hearing was the same at each location. An open house format began each meeting at which time the public was able to visit numerous "stations" of information. A formal presentation was given followed by a public comment session. After the presentation and comment session, the open house format resumed. A summary of the information presented at each station in the hearing is found in Table 2.

TABLE 1
HEARING LOGISTICS

Date	Hearing Time	Presentation Time	Location
Tuesday, October 28, 2003	5:30 PM - 8:00 PM	6:00 PM	Antwerp High School Gym 204 Archer Drive Antwerp, Ohio
Wednesday, October 29, 2003	5:30 PM - 8:00 PM	6:00 PM	Woodlan Jr./Sr. High School Gym 17215 Woodburn Road Woodburn, Indiana
Thursday, October 30, 2003	5:30 PM - 8:00 PM	6:00 PM	Defiance Jr. High School Gym 629 Arabella Street Defiance, Ohio

TABLE 2
STATIONS AND ACTIVITIES AT EACH LOCATION

Station	Display
Registration	Public meeting handout
	Comment Sheet
Engineering	Aerials/Alignment Boards showing the design of the preferred alternative, parcel numbers, and service roads (2 sets)
	Right-of-Way summary of parcel numbers, property owners, and property takes (2 sets)
	Typical sections of intersections interchanges and 4-lane expressway (1 set)
	I-469/US 24 Interchange - the three feasible alternatives and a matrix of impacts (1 set)
	US 24/ West High Street – the 4 alternative options and a matrix of impacts (1 set)
	Construction Segments/Abandonment
Environmental	Impacts to properties, historic resources, wetlands, streams, and other ecological resources of the preferred alternative (2 sets)
	Environmental Resources Board
	Documents – technical reports and DEIS
Real Estate Acquisition	Booklets from ODOT/INDOT regarding the Real Estate Acquisition Process
	ROW/Property Owner Summary Sheets for the Preferred Alternative and Access Roads
	Aerials/Alignment Boards showing the design of the preferred alternative, parcel numbers, service roads (2 sets)
Comments	Comment sheet
	Court reporter

4.0 HEARING EXHIBITS

A summary of the information presented at each station is found in Table 2. Photographs taken during the public hearings are presented in Attachment 3.

5.0 HANDOUT MATERIALS

Handout materials consisted of a comment sheet and a handout. Copies of these materials are included in Attachment 4.

6.0 COMMENTS AND TESTIMONY

6.1 WRITTEN COMMENTS RECEIVED

Approximately 400 individuals attended the three public hearings. Public comments were accepted until November 21, 2003, and approximately 115 comments were received from concerned citizens. A summary of the written comments is presented in Section 2 of the FEIS. Many of the comments addressed site-specific impacts of the Preferred Alternative while others focused on general issues.

- West High Street Access – The vast majority of written comments received during the comment period focused on the access around West High Street in Defiance. Many of the comments were from residents in the area that supported Option 2. Option 2 involves grade separating the West High Street intersection with US 24; and improving parts of the existing local roadways and constructing a new connector road that will link West High Street with SR 15/18 (Ralston Avenue). Other individual from the area indicated that they would prefer an interchange at US 24 and West High Street to encourage economic development opportunities in Defiance.

- Local Roadways – Some stated their concerns about the potential impacts to the local roadways as a result of the Preferred Alternative. A few individuals stated their desire to see access remain on all local roadways via additional overpasses or underpasses while others were concerned about traffic on specific road such as Webster Road, Harper Road, and Bruick/Ryan Roads.

- Ecological Resources – Some individuals from Allen County were concerned about additional impacts to residential areas and farmland that would result from moving the alignment of the Preferred Alternative to avoid two large trees in the area.

- Farming – Several individuals expressed concern about impacts to farmlands in the area. Farming concerns included impacts to drainage tiles, limiting access to fields, and the loss of productivity.

- Project schedule – A few individuals stated that construction should begin as quickly as possible because ongoing safety concerns are only expected to increase over time.

6.2 VERBAL COMMENTS

The general public was also given the opportunity to provide verbal comments during the public hearings. A court reporter was available to record these statements. Transcripts from the hearings are available at the ODOT District One office.

7.0 SPECIAL OUTREACH MEETING

In addition to the official public hearings, a special outreach meeting was held to discuss access issues around West High Street on November 17, 2003. The meeting resulted from the desire for the citizens in the area to voice their opinions regarding the impacts to the local roadway network from the construction of the Preferred Alternative. Documentation of this meeting in the form of a legal transcript is available at the ODOT District One office.

Attachment 1

Federal Register
Notice of Availability

electronically by the field technicians. The remaining questionnaires listed in Table 1 are administered after each participant is enrolled into the study during the monitoring events. The Participant and housing characteristics questionnaire will require a one-time period of 35 minutes to complete. The Monitoring visit questionnaire will be completed at the conclusion of each monitoring event and takes 10 minutes to complete. The Activity time line will be completed by the participant for three days during the monitoring event (15 minutes to complete multiplied by 3 days of completion equals 45 minutes for the monitoring event per participant). The Indirect ingestion assessment questionnaire will be completed at the conclusion of each monitoring event. It will take 13 minutes to complete. The Food diary and supplemental questionnaire will be completed by the participant. The participant uses this questionnaire to record the foods that are collected for the duplicate diet. The Food diary and supplemental questionnaire will require 10 minutes to complete. The Monthly pesticide purchase and use log will be completed by the participant on a monthly basis. This log is used to record pesticide application and use events in the residence. It will take 5 minutes to complete this log during the month. The Child care center pesticide use questionnaire will be administered to child care center directors for those children who attend child care during the monitoring event. It is anticipated that less than 10% of the participants will attend day care, so this questionnaire will be used infrequently. However, if used, it is administered directly to the center director and takes 10 minutes to complete. The Antimicrobial inventory log is administered once during the study. It is completed by the field technician with the help of the participant and takes 10 minutes to complete. The Antimicrobial use log is completed each month by the participant. This log requires a check mark if the product was used that day. This log will require approximately 1 minute to complete. The Vineland Adaptive Behavioral Scales will be administered during each monitoring event. It will take 20 minutes to complete. Over the course of each four-day monitoring event, the total time burden will be 149 minutes per participant. There are projected to be 60 participants enrolled into the study. The total participant time burden for each monitoring event will be 8940 minutes.

There are no direct participant costs for this data collection. Participants will be reimbursed for the costs of electricity used and food collected. Compensation will be offered to defray the burden associated with participating in this study.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

Dated: September 24, 2003.

Jewel F. Morris,

Acting Director, National Exposure Research Laboratory.

[FR Doc. 03–25132 Filed 10–2–03; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–6644–3]

Environmental Impact Statements; Notice of Availability

RESPONSIBLE AGENCY: Office of Federal Activities, General Information (202) 564–7167 or *http://www.epa.gov/compliance/nepa/.*

Weekly receipt of Environmental Impact Statements

Filed September 22, 2003 Through September 26, 2003

Pursuant to 40 CFR 1506.9.

EIS No. 030429, Draft EIS, FHW, TN, Appalachian Development Highway System Corridor K (Relocated Highway U. S. 64), Improvements from West of the Ocoee River to TN–68 near Ducktown, Funding, U.S. Army Corps Section 10 and 404 Permits, Polk County, TN, Comment Period Ends: January 15, 2004, Contact: Bobby W. Blackmon (615) 781–5770.

EIS No. 030430, Final EIS, COE, TX, Gulf Intracoastal Waterway in the Laguna Madre, Maintenance Dredging from the JFK Causeway to the Old Queen Isabella Causeway, Nueces, Kleberg, Kenedy, Willacy and Cameron County, TX, Wait Period Ends: November 3, 2003, Contact: Dr. Terry Roberts (409) 766–3035. This document is available on the Internet at: *http://www.swg.usace.army.mil/.*

EIS No. 030431, Final EIS, AFS, NM, Bluewater Ecosystem Management Project, Proposes to Initiate Vegetation Treatments to Restore Ponderosa Pine and Pinon-Juniper Stands to a Desired Condition, Cibola National Forest, Mt. Taylor Ranger District, McKinley and Cibola Counties, NM, Wait Period Ends: November 3, 2003, Contact: Chuck Hagerdon (505) 287–8833.

EIS No. 030432, Draft EIS, AFS, OR, Toolbox Fire Recovery Project, Promote the Recovery of the Toolbox Complex Fires of July 2002, Fremont-Winema National Forest, Silver Lake Ranger District, Lake County, OR, Comment Period Ends: November 17, 2003, Contact: Rick Elston (541) 576–7569. This document is available on the Internet at: *http://www.fs.fed.us/r6/winema/management/analyses/toolbox/index.shtm1.*

EIS No. 030433, Final EIS, BLM, WY, Snake River Resource Management Plan, BLM-Administrated Public Land and Resources Allocation and Management, Snake River, Jackson Hole, Teton County, WY, Wait Period Ends: November 3, 2003, Contact: Walt George (307) 775–6116.

EIS No. 030434, Final EIS, AFS, ID, North End Sheep Allotment Management Plan (AMP) Revision, Proposal to Authorize Continued Livestock Use, Caribou-Targhee National Forest, Soda Springs Ranger District, Caribou and Bonneville Counties, ID, Wait Period Ends: November 3, 2003, Contact: Derek Hinckley (208) 547–4356.

EIS No. 030435, Draft EIS, BLM, OR, Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area Resource Management Plan, Implementation, Harney and Malheur Counties, OR, Comment Period Ends: December 31, 2003, Contact: Gary Foulkes (541) 573–4541.

EIS No. 030436, Final EIS, FRC, NY, St. Lawrence-FDR Hydroelectric Project, Application for New License (Relicense), (FERC No. 200–036), Located on the St. Lawrence River, Messina, NY, Wait Period Ends: November 3, 2003, Contact: Ed Lee (202) 502–6082. This document is available on the Internet at: *http://www.ferc.gov.*

EIS No. 030437, Draft EIS, IBR, CA, Pajaro Valley Water Management Agency (PVWMA) Revised Basin Management Plan Project, Connection

of PVWMA Pipeline to the Santa Clara Conduit of the Central Valley Project (CVP), Santa Cruz, Monterey and San Berito Counties, CA, Comment Period Ends: December 2, 2003, Contact: Lynne Silva (559) 487–5807.

EIS No. 030438, Final EIS, FHW, WA, Cross-Base Highway Project (WA–704), New Roadway Construction between I–5 at the Thorne Lane Interchange and WA–7 at 176th Street South Major Investment Study (MIS) and US Army COE Section 404 Permit Issuance, Pierce County, WA, Wait Period Ends: November 14, 2003, Contact: Steve Saxton (360) 753–9411.

EIS No. 030439, Draft EIS, AFS, WY, Blackhall-McAnulty Analysis Area, Proposal to Reduce the Spread of Dwarf Mistletoe and Mountain Pine Beetle in Lodgepole Pine Stands, Brush Creek/ Hayden Ranger District, Medicine Bow-Routt National Forests and Thunder Basin National Grassland, Carbon County, WY, Comment Period Ends: November 17, 2003, Contact: Terry Delay (307) 326–2518. This document is available on the Internet at: *http://www.fs.fed.us/mrnf.*

EIS No. 030440, Draft EIS, GSA, DC, Southeast Federal Center Development, Land Transfer for Mixed-Use Development of Residences, Offices, Shops, a Waterfront Park and Cultural Amenities, Implementation, DC, Comment Period Ends: November 19, 2003, Contact: Arthur Turowski (202) 708–5891.

EIS No. 030441, Final EIS, AFS, ID, Salmon-Challis National Forest Noxious Weed Management Program, Integrated Series of Weed Treatment and Non-Treatment Practices Implementation, Custer, Lemhi, Butte and Blaine Counties, ID, Wait Period Ends: November 3, 2003, Contact: William Diage (208) 756–5567.

EIS No. 030442, Draft EIS, USA, HI, Transformation of the 2nd Brigade, 25th Infantry Division (Light) to a Stryker Brigade Combat Team in Hawai'i, Implementation, Honolulu and Hawai'i Counties, HI, Comment Period Ends: November 17, 2003, Contact: Cindy Barger (808) 438–4812. This document is available on the Internet at: *http://www.sbcteis.com.*

EIS No. 030443, Draft EIS, FHW, OH, IN, US–24 Transportation Improvements Project, from Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Funding, NPDES Permit and US Army COE Section 404 Permit, Westernmost and Allen Counties, IN and Paulding and Defiance Counties, OH, Comment Period Ends: November 21, 2003, Contact: Mark L. Vonder Embse (614) 280–6854.

EIS No. 030444, Final EIS, NRS, OK, Cavalry Creek Watershed Supplemental Plan for Floodwater Retarding Structure No. 6, Washita River Basin, Washita County, OK, Wait Period Ends: November 3, 2003, Contact: M. Darrel Dominick (405) 742–1206.

EIS No. 030445, Final EIS, NPS, MN, Grand Portage National Monument General Management Plan, Implementation, Cook County, MN, Wait Period Ends: November 3, 2003, Contact: Tim Cochrane (218) 387–2788.

EIS No. 030446, Draft Supplement, FTA, NC, South Corridor Downtown Amendment Project, Evaluate a Downtown Portland Mall Light Rail Transit (LRT) Alignment to the I–205 Light Rail Transit Alternative, Funding, Clackamas and Multnomah Counties, OR, Comment Period Ends: November 17, 2003, Contact: Sharon Kelly (503) 797–1756.

EIS No. 030447, Final EIS, SFW, CA, Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Implementation, Incidental Take Permits Issuance, Riverside and Orange County, CA, Comment Period Ends: November 3, 2003, Contact: Jim Bartel (760) 431–9440.

EIS No. 030448, Draft EIS, FHW, FL, Indian Street Bridge PD&E Study, New Bridge Crossing of the South Fork of the St. Lucie River County Road 714 (Martin Highway)/SW 36th Street/ Indian Street from Florida's Turnpike to East of Willoughby Boulevard, Martin County, FL, Comment Period Ends: December 1, 2003, Contact: James Mathews (850) 942–9650.

Amended Notices

EIS No. 030333, Draft EIS, IBR, CA, Battle Creek Salmon and Steelhead Restoration Project, Restoring Habitat in Battle Creek and Tributaries, License Amendment Issuance, Implementation, Tehama and Shasta Counties, CA, Comment Period Ends: October 16, 2003, Contact: Mary Marshall (916) 978–5248. Revision of FR Notice Published on 7/25/2003: CEQ Comment Period Ending 9/22/2003 has been Extended to 10/16/2003.

Dated: September 22, 2003.

Ken Mittelholtz,

Environmental Protection Specialist, Office of Federal Activities.

[FR Doc. 03–25139 Filed 10–2–03; 8:45 am]

BILLING CODE 6560–60–P

ENVIRONMENTAL PROTECTION AGENCY

[FRL–7568–2]

National Advisory Council for Environmental Policy and Technology (NACEPT) Superfund Subcommittee Meeting

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notification of public advisory NACEPT subcommittee on Superfund; open meeting.

SUMMARY: Pursuant to the Federal Advisory Committee Act, Public Law 92–463, notice is hereby given that the Superfund Subcommittee, a subcommittee of the National Advisory Council for Environmental Policy and Technology (NACEPT), will meet on the dates and times described below. The meeting is open to the public. Seating will be on a first-come basis, and limited time will be provided for public comment on each day.

DATES: The meeting will be held from 8:30 a.m. to 6 p.m. on November 5, 2003; from 8 a.m. to 6 p.m. on November 6, 2003; and 8 a.m. to 1 p.m. on November 7, 2003.

ADDRESSES: The meeting will take place at the Four Points Sheraton Hotel, 1201 K Street, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Angelo Carasea, Designated Federal Officer for the NACEPT Superfund Subcommittee, Office of Superfund Remediation and Technology Innovation, Office of Solid Waste and Emergency Response, MC 5204G, 1200 Pennsylvania Ave., NW., Washington, DC, (703) 603–8828.

SUPPLEMENTARY INFORMATION:

Agenda

This seventh meeting of the NACEPT Superfund Subcommittee will involve discussion of the latest version of the Subcommittee's draft report. The agenda for the meeting will be available one week prior to the meeting's occurrence.

Public Attendance

The public is welcome to attend all portions of the meeting. Members of the public who plan to file written statements and/or make brief (suggested 5-minute limit) oral statements at the public sessions are encouraged to contact the Designated Federal Official. Each day will have one public comment period.

Attachment 2

Legal Notices

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
NOTICE OF HEARING

In accordance with the provisions of Chapter 5511of the Ohio Revised Code and pursuant to Section 128, Title 23 of the United States Code, the Director of the Ohio Department of Transportation will hold Open House Format Public Hearings from 5:30 P.M. to 8:00 P.M. on Tuesday, October 28, 2003, at the Antwerp High School Gymnasium, located in Antwerp, Paulding County, Ohio at 204 Archer Drive, and on Wednesday, October 29, 2003 at the Woodlan Jr./Sr. High School Gymnasium, located in Woodburn, Allen County, Indiana at 17215 Woodburn Road, and on Thursday, October 30, 2003 at the Defiance Junior High School Gymnasium located in Defiance, Defiance County, Ohio at 629 Arabella Street.

The purpose of the public hearing is to offer all interested persons an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 Improvement Project located from 0.5 mile west of the I-469 By-Pass in New Haven to the four-lane section at Ohio State Road 15 (SR 15) located just west of Defiance, Ohio. The total project length is about 40 miles.

It is also the purpose of the Public Hearings to receive public comments on the proposed Relocation, Improvement and Abandonment of portions of State Route No. U.S. 24 in Paulding County and Defiance County, Ohio. Also included is the removal of State Route No. U.S. 24 from the portion of highway that is also numbered State Route No. U.S. 127.

PREFERRED ALTERNATIVE also known as Alternative D-1 at previous Public Meetings

PROPOSED, THE RELOCATION AND IMPROVEMENT OF A PORTION OF STATE ROUTE NO. US 24, THE RELOCATED PORTION TO BE ESTABLISHED AS A LIMITED ACCESS HIGHWAY AND SITUATED IN HARRISON, CARRYALL, CRANE AND EMERALD TOWNSHIPS, PAULDING COUNTY, OHIO, AND IN NOBLE, DELAWARE AND DEFIANCE TOWNSHIPS, DEFIANCE COUNTY, OHIO.

And being more fully described as follows:

Commencing at a point in Harrison Township, Paulding County, Ohio, at the intersection of existing State Route No. U.S. 24 and existing State Line Road; Thence in southerly direction along existing State Line Road, a distance of 0.6 mile, more or less, to the intersection of the centerline of proposed relocated State Route No. U.S. 24 and the Ohio/Indiana State line, being the point of beginning; Thence in an northeasterly direction along a tangent, then a curve to the left and then along a tangent to a point of crossing County Road No. 11, with said point of crossing being at 0.2 mile, more or less, as measured along County Road No. 11, north of its intersection with Township Road No. 150; Thence, continuing with said tangent in a northeasterly direction, and then a curve to the right, to a point of crossing County Road No. 21, said point of crossing being 0.2 mile, more or less, as measured along County Road No. 21, north of its intersection with County Road No. 162; Thence continuing in an easterly direction along the curve to the right, and then along a tangent to a point of crossing State Route No. 49, said point of crossing being 1.0 mile, more or less, as measured along State Route 49, south of its intersection with existing State Route No. U.S. 24; Thence continuing in an easterly direction along said tangent to a point at the beginning of a curve to the left, said curve crossing Township Road No. 43, said point of crossing being 0.6 mile, more or less, as measured along Township Road No. 43, south of its intersection with County Road No. 176; Thence, continuing in a northeasterly direction along said curve to the left, and then along a tangent to a point of crossing County Road No. 180, said point of crossing being 0.4 mile, more or less, as measured along County Road No. 180, west of its intersection with Township Road No. 61; Thence northeasterly along a curve to the right and then along a tangent to a point of crossing County Road No. 87, said point of crossing being 0.05 mile, more or less, as measured along County Road No. 87, north of its intersection with County Road No. 206; Thence northeasterly along said tangent, then along a curve to the right and easterly along a tangent and a curve to the left, to a point of crossing County Road No. 105, said point of crossing being 0.2

mile, more or less, as measured along County Road No. 105, north of its intersection with County Road No. 206; Thence northeasterly along the said curve to the left, and then along a tangent and a curve to the right to a point of crossing State Route No. U.S. 127, said point of crossing being 0.8 mile, more or less, as measured along State Route No. U.S. 127, south of its intersection with existing State Route No. U.S. 24; Thence northeasterly along said curve to the right, a tangent, a curve to the left and a tangent, to a point of crossing the Maumee and Western Railroad, said point of crossing being 0.7 mile, more or less, as measured along the Maumee and Western Railroad , east of its intersection with State Route No. U.S. 127; Thence northeasterly along the said tangent, then along a curve to the right, a tangent and a curve to the left, to a point of crossing County Road No. 115, said point of crossing being 0.1 mile, more or less, as measured along County Road No. 115, north of its intersection with Township Road No. 228; Thence northeasterly along said curve to the left, then along a tangent, a curve to the left and a tangent, to a point of crossing County Road No. 232, said point of crossing being 0.4 mile, more or less, as measured along County Road No. 232, east of its intersection with County Road No. 123; Thence continuing along said tangent, to a point of crossing County Road No. 8 (Paulding/Defiance County line), said point of crossing being 0.6 mile, more or less, as measured along County Road No. 8 (County Line Road), west of its intersection with Township Road No. 153 (Blanchard Road); Thence continuing along said tangent and then along a curve to the left, to a point of crossing County Road No. 146 (Krouse Road), said point of crossing being 0.06 mile, more or less, as measured along County Road No. 146 (Krouse Road), north of its intersection with Township Road No. 30 (Kiser Road); Thence continuing along said curve to the left, and then along a tangent, a curve to the right, a tangent, a curve to the left, a tangent and a curve to the right, to a point of crossing State Route No. 424, said point of crossing being 0.1 mile, more or less, as measured along the State Route No. 424, east of its intersection with existing State Route No. U.S. 24; Thence northeasterly along said curve to the right and then along a tangent to the point of intersection with existing State Route No. U.S. 24, said point of intersection being 0.3 mile, more or less, east of the existing State Route No. U.S. 24 intersection with State Route No. 424; Thence continuing northeasterly along said tangent, also being the alignment of existing State Route No. U.S. 24, to a point in the existing centerline of State Route No. U.S. 24 and there terminate, said point being 0.25 mile, more or less, as measured along existing State Route No. U.S. 24, west of its intersection with State Route No. 15 and State Route No. 18.

Said described relocation of State Route No. U.S. 24 having a length of 23 miles, more or less, and the said improvement to existing State Route No. U.S. 24 having a length of 2.2 miles, more or less, for a total length of 25.2 miles, more or less. Said Establishment of Limited Access is to include all interchanges areas and extend along crossroads in accordance with the Ohio Department of Transportation Limited Access Policy.

PROPOSED, THE ABANDONMENT OF A PORTION OF EXISTING STATE ROUTE NO. U.S. 24, SITUATED IN HARRISON, CARRYALL, CRANE AND EMERALD TOWNSHIPS, PAULDING COUNTY, OHIO, AND IN DELAWARE AND DEFIANCE TOWNSHIPS, DEFIANCE COUNTY, OHIO, SAME TO REVERT IN PART TO THE PAULDING COUNTY, DEFIANCE COUNTY, VILLAGE OF ANTWERP AND VILLAGE OF CECIL HIGHWAY SYSTEMS, AT SUCH TIME THAT THE CORRESPONDING RELOCATED PORTION OF STATE ROUTE NO. U.S. 24 IS OPENED TO TRAFFIC AND AFTER THE FINAL ABANDONMENT ENTRY HAS BEEN AUTHORIZED BY THE DIRECTOR OF TRANSPORTATION.

ALSO, PROPOSED, THE REMOVAL OF A PORTION OF STATE ROUTE NUMBER U.S. 24, SITUATED IN CRANE AND EMERALD TOWNSHIPS, PAULDING COUNTY, OHIO, AND IN DELAWARE TOWNSHIP IN DEFIANCE COUNTY, OHIO, SAME PORTION OF HIGHWAY TO BE RETAINED ON THE STATE HIGHWAY SYSTEM AS STATE ROUTE NO. U.S. 127. SAID STATE ROUTE NUMBER REMOVAL TO OCCUR AT SUCH TIME THAT THE CORRESPONDING RELOCATED PORTION OF STATE ROUTE NO. U.S. 24 IS OPENED TO TRAFFIC AND AFTER THE FINAL STATE ROUTE NUMBER REMOVAL HAS BEEN AUTHORIZED BY THE DIRECTOR OF TRANSPORTATION.

And being more fully described as follows:

PART 1: Abandonment, to revert to the Paulding County Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at its intersection with Harrison Township Road No. 1, said intersection also being the Ohio-Indiana State Line, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to the western corporation limit of the Village of Antwerp, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

PART 2: Abandonment, to revert to the Village of Antwerp Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at the western corporation limit of the Village of Antwerp, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to the eastern corporation limit of the Village of Antwerp, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

PART 3: Abandonment, to revert to the Paulding County Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at the eastern corporation limit of the Village of Antwerp, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to the western corporation limit of the Village of Cecil, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

PART 4: Abandonment, to revert to the Village of Cecil Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at the western corporation limit of the Village of Cecil, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to the eastern corporation limit of the Village of Cecil, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

PART 5: Abandonment, to revert to the Paulding County Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at the eastern corporation limit of the Village of Cecil, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to its intersection with State Route No. U.S. 127, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

PART 6: Removal of State Route Number U.S. 24 from overlap with State Route Number U.S. 127

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at its western intersection with State Route No. U.S. 127, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to its eastern intersection with State Route No. U.S. 127, and there terminate. Said portion of highway to be retained in the State Highway System and numbered as State Route No. U.S. 127.

PART 7: Abandonment, to revert to the Defiance County Highway System

Beginning at a point in the centerline of existing two lane State Route No. U.S. 24 at its eastern intersection with State Route No. U.S. 127, thence in an easterly direction along the centerline of existing two lane State Route No. U.S. 24 to its intersection with relocated portion of State Route No. U.S. 24, and there terminate. Said abandonment to include all that portion of the existing route not necessary for construction or maintenance of the proposed corresponding relocation or needed for any other state highway.

This project consists of a proposal to upgrade existing US 24 to a four-lane limited access highway. Twenty-seven alternatives were evaluated including the No-Build alternative, an improved two-lane facility on existing alignment, an

improved four-lane facility on existing alignment and 24 alternatives on new alignment. The purpose of this project is to improve traffic flow and level of service, reduce travel times, improve safety, enhance the regional transportation network and accommodate future economic growth. The above-described proposal, including the Relocation and Improvement, as well as Abandonment components, is the current preferred alternative. Also it is identified as Alternative D-1 in the Draft Environmental Impact Statement prepared for this project. A public statement session will be offered after the presentation. All comments collected before, during and for a period of three (3) weeks after (until November 21, 2003) the hearing will be evaluated and addressed.

A copy of the environmental document in the form of a Draft Environmental Impact Statement, as well as maps, drawings, environmental information and other pertinent data developed by the Ohio Department of Transportation, and any written comments received as a result of coordination with state, federal and local officials and agencies, and public advisory groups will be available at the hearing and for prior viewing at the Ohio Department of Transportation District One Office, 1885 N. McCullough Street in Lima, Ohio. Copies of the environmental document may be viewed on the project website www.us24.org and at designated locations, a list of which may be obtained from the above mentioned ODOT District One Office, by calling (419) 222-9055, extension 238, by calling the project hotline 1-877-ASK-US24, or on the project website www.us24.org.

Anyone wishing to submit a written statement or exhibit concerning the Draft Environmental Impact Statement or other items of the proposal may do so by presenting it at the Hearing or mailing it to the US 24 Project Office, 1800 Indian Wood Circle, Maumee, Ohio, 43537. The final date for submission of statements or exhibits will be November 21, 2003.

Gordon Proctor
Director, Ohio Department of Transportation

INDIANA DEPARTMENT OF TRANSPORTATION
100 North Senate Avenue
Room N901
Indianapolis, Indiana 46204-2217
(317) 232-5457 *FAX: (317) 234-1228*
An Equal Opportunity Employer ● *http://www.state.in.us/dot*

JOSEPH E. KERNAN, Governor
J. BRYAN NICOL, Commissioner

Writer's Direct Line
(317) 232-6602

LEGAL NOTICE
OF
PUBLIC HEARING

The Indiana Department of Transportation will hold a public hearing on Wednesday, October 29, 2003, from 5:30 to 8:00pm with the Presentation at 6:00pm in the Woodlan Jr./Sr. High School Gymnasium at 17215 Woodburn Road in Woodburn, Indiana.

Two public hearings will also be held in Ohio. They are scheduled for:
Tuesday, October 28, 2003, at Antwerp High School Gymnasium, 204 Archer Drive, Antwerp, Ohio
Thursday, October 30, 2003, at Defiance Jr. High School Gymnasium, 629 Arabella Street, Defiance, Ohio
All three meetings are scheduled to run from 5:30 to 8:00pm with the presentations at 6:00pm.

The purpose of the public hearing is to offer all interested persons an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 Improvement Project located from 0.497 mile west of the I-469 By-Pass in New Haven to the four-lane section at Ohio State Road 15 (SR 15) located just west of Defiance, Ohio. The total project length is about 40 miles.

This project consist of a proposal to upgrade existing US 24 to a four-lane limited access highway. Twenty-seven alternatives were evaluated including the No-Build alternative, an improved two-lane facility on existing alignment, an improved four-lane facility on existing alignment and 24 alternatives on new alignment. The purpose of this project is to improve traffic flow and level of service, reduce travel times, improve safety, enhance the regional transportation network and accommodate future economic growth.

A public statement session will be offered after the presentation. Individuals interested in participating in the public statement session may sign the speaker's schedule prior to the presentation. All comments collected before, during and for a period of three (3) weeks after (until November 21st) the hearing will be evaluated and addressed.

In accordance with the "Americans With Disabilities Act", if you have a disability for which the Indiana Department of Transportation needs to provide accommodations, please call the Public Hearings office at (317) 232-6601, by Friday, October 24, 2003.

This is an opportunity to comment on the "no adverse effect" finding for this project. "Pursuant to CFR800.5(d)(1), documentation is available for public inspection in the INDOT Division of Environment, Planning and Engineering office in Indianapolis which serves as the Basis for the 'no adverse effect' finding."

The DEIS, along with other materials on the project are available for viewing in the following offices:

1. Hearings Examiner, Room N901, Indiana Government Center North, 100 North Senate Avenue, Indianapolis, Indiana 46204-2217. Phone #(317) 232-6601

2. Development Engineer, Indiana Department of Transportation district office at 5333 Hatfield Road, Fort Wayne, Indiana 46808, Phone #(260) 484-9541

3. Northeastern Indiana Regional Coordinating Council, Department of Planning Services, Room 640, City/County Building, Fort Wayne, Indiana 46802, Phone #(219) 428-7309.

This notice is published in compliance with Title 23, Code of Federal Regulations, Section 771.111(h) entitled "Early Coordination, Public Involvement and Project Development", and the Indiana Public Involvement/Public Hearing Procedures for Federal-Aid Project Development approved by the Federal Highway Administration, U.S. Department of Transportation on July 8, 1997.

INDIANA DEPARTMENT OF TRANSPORTATION
Rickie Clark
Public Hearings Examiner
Phone #(317) 232-6601
E-Mail: RCLARK@indot.state.in.us
Website: www.state.in.us/dot

DES. #:
PROJECT #:

LEGAL NOTICE

OF

PUBLIC HEARING

The Indiana Department of Transportation will hold a public hearing on Wednesday, October 29, 2003, from 5:30 to 8:00pm with the Presentation at 6:00pm in the Woodlan Jr./Sr. High School Gymnasium at 17215 Woodburn Road in Woodburn, Indiana.

Two public hearings will also be held in Ohio. They are scheduled for:
Tuesday, October 28, 2003, at Antwerp High School Gymnasium, 204 Archer Drive, Antwerp, Ohio
Thursday, October 30, 2003, at Defiance Jr. High School Gymnasium, 629 Arabella Street, Defiance, Ohio
All three meetings are scheduled to run from 5:30 to 8:00pm with the presentations at 6:00pm.

The purpose of the public hearing is to offer all interested persons an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 Improvement Project located from 0.497 mile west of the I-469 By-Pass in New Haven to the four-lane section at Ohio State Road 15 (SR 15) located just west of Defiance, Ohio. The total project length is about 40 miles.

This project consist of a proposal to upgrade existing US 24 to a four-lane limited access highway. Twenty-seven alternatives were evaluated including the No-Build alternative, an improved two-lane facility on existing alignment, an improved four-lane facility on existing alignment and 24 alternatives on new alignment. The purpose of this project is to improve traffic flow and level of service, reduce travel times, improve safety, enhance the regional transportation network and accommodate future economic growth.

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This is an opportunity to comment on the "no adverse effect" finding for this project. "Pursuant to 36CFR800.5(d)(1), documentation is available for public inspection in the INDOT Division

of Environment, Planning and Engineering office in Indianapolis which serves as the Basis for the 'no adverse effect' finding."

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2. Development Engineer, Indiana Department of Transportation district office at 5333 Hatfield Road, Fort Wayne, Indiana 46808, Phone #(260) 484-9541

3. Northeastern Indiana Regional Coordinating Council, Department of Planning Services, Room 640, City/County Building, Fort Wayne, Indiana 46802, Phone #(219) 428-7309.

This notice is published in compliance with Title 23, Code of Federal Regulations, Section 771.111(h) entitled "Early Coordination, Public Involvement and Project Development", and the Indiana Public Involvement/Public Hearing Procedures for Federal-Aid Project Development approved by the Federal Highway Administration, U.S. Department of Transportation on July 8, 1997.

INDIANA DEPARTMENT OF TRANSPORTATION
Rickie Clark
Public Hearings Examiner
Phone #(317) 232-6601
E-Mail: RCLARK@indot.state.in.us
Website: www.state.in.us/dot

PUBLIC HEARING INVITATION

Public Hearings - October 28, 29, and 30, 2003

You are invited to attend a series of three public hearings held by the Ohio Department of Transportation and the Indiana Department of Transportation on October 28, 29, and 30, 2003, in Antwerp, Ohio; Woodburn, Indiana; and Defiance, Ohio. The purpose of the hearings is to offer all interested persons an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 Improvement Project located 0.5 mile west of the I-469 By-Pass in New Haven to the four-lane section at Ohio State Road 15 (SR 15) located just west of Defiance, Ohio. The total project length is about 40 miles. It is also the purpose of the public hearings to receive public comments on the proposed relocation, improvement, and abandonment of portions of State Route Number US 24 in Paulding County and Defiance County, Ohio. Also included is the removal of State Route Number US 24 from the portion of highway that is also numbered US 127.

At the hearings, revisions to the preferred alternative since 2002 will be presented, which include changes in the local road network as a result of the new highway. Impacts to properties, historic resources, wetlands, streams, and other ecological resources will also be presented. The US 24 Draft Environmental Impact Statement and other technical documents for the project will be available for review at the hearings. The public hearings will provide an opportunity for citizens to "officially" comment on the project and preferred alternative. A court reporter will be present at each hearing to record verbal comments provided by the public.

As in previous public meetings, the information presented and the format of each meeting will be the same at each location. An open house format is planned to start off each meeting, at which time the public will be able to look at maps depicting the changes in the preferred alternative. Property owners will be able to see specifically how they are being affected by the highway alignment. A presentation will be given followed by a public comment session. After the presentation and comment session, the open house format will resume. Residents and anyone who may be interested in this project are invited to attend.

PUBLIC HEARINGS

Date: Tuesday, October 28 Time: 5:30 PM B 8:00 PM Presentation: 6:00 PM Place: Antwerp High School Gym 204 Archer Drive Antwerp, Ohio	Date: Wednesday, October 29 Time: 5:30 PM B 8:00 PM Presentation: 6:00 PM Place: Woodlan Jr./Sr. High School Gym 17215 Woodburn Road Woodburn, Indiana	Date: Thursday, October 30 Time: 5:30 PM B 8:00 PM Presentation: 6:00 PM Place: Defiance Jr. High School Gym 629 Arabella Street Defiance, Ohio

Additional US 24 project information can be obtained by calling the toll free hotline1-877-ASK-US24 (1-877-275-8724), and visiting the website at www.us24.org. Written comments can also be submitted to the US 24 Project Office, 1800 Indian Wood Circle, Maumee, Ohio 43537. Comments will be accepted until November 21, 2003.

DEFIANCE PUBLISHING COMPANY L.L.C.
624 W. SECOND STREET
DEFIANCE, OH 43512-0249
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FAX (419) 784-1492

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21 CURRENT CHARGES	22 30 DAYS	60 DAYS	OVER 90 DAYS
1,530.00	.00	.00	.00

4 PAGE #	5 BILLING DATE
1	10/31/03

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9 REMITTANCE ADDRESS

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Rhonda P
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Rcpt Date	10/21/03
Amount	1530.00
ARC	1772
SAC	4212
Cost Ctr	3000
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Object	2831
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TYPE CODE: 07

P.O. NO DATE: 132624 11/14/03
REQUISITION NO: 030224

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01	002	04	1772	4212	0001	3000		283			1,530.00	

LINE	APPN	YEAR	AGY	SUB	ACT	OBJ	ACTV	DEPT	BUDG ORG/PROJECT	CODE	LINE AMOUNT	JOB NUMBER

ITEM	QUANTITY	UNIT	CLASS, ITEM, SPECIFICATION NUMBER AND DESCRIPTION	UNIT PRICE	AMOUNT
01	1	EA	915 03 00 0000 Advertising/Public Relations PUBLIC NOTICE HEARING PUBLISHED IN LOCAL NEWSPAPER ON 10/14/03 AND 10/21/03, ACCOUNT NUMBER 6522. ** BY ACCEPTING THIS PURCHASE ORDER, THE VENDOR HEREIN NAMED AFFIRMS THAT, AS APPLICABLE TO THE VENDOR, NO PARTY LISTED IN DIVISION (I) OR (J) OF SECTION 3517.13 OF THE REVISED CODE OR SPOUSE OF SUCH PARTY HAS MADE, AS AN INDIVIDUAL, WITHIN THE TWO PREVIOUS CALENDAR YEARS, ONE OR MORE CONTRIBUTIONS TOTALING IN EXCESS OF $1,000.00 TO THE GOVERNOR OR TO THE GOVERNORS CAMPAIGN COMMITTEES.	1,530.00	1,530.00

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MAS W. JOHNSON
DIRECTOR OF OFFICE OF BUDGET AND MANAGEMENT

THE DEPARTMENT OF ADMINISTRATIVE SERVICES, STATE PURCHASING, HEREBY AUTHORIZE USE OF THE ABOVE CONTRACT FOR THE PURCHASE.

ADMINISTRATOR OF STATE PURCHASING

WE HEREBY CERTIFY THAT THE GOODS OR SERVICES SPECIFIED ABOVE ARE NECESSARY FOR OUR USE.

Gordon Proctor
DIRECTOR, OHIO DEPARTMENT OF TRANSPORTATION

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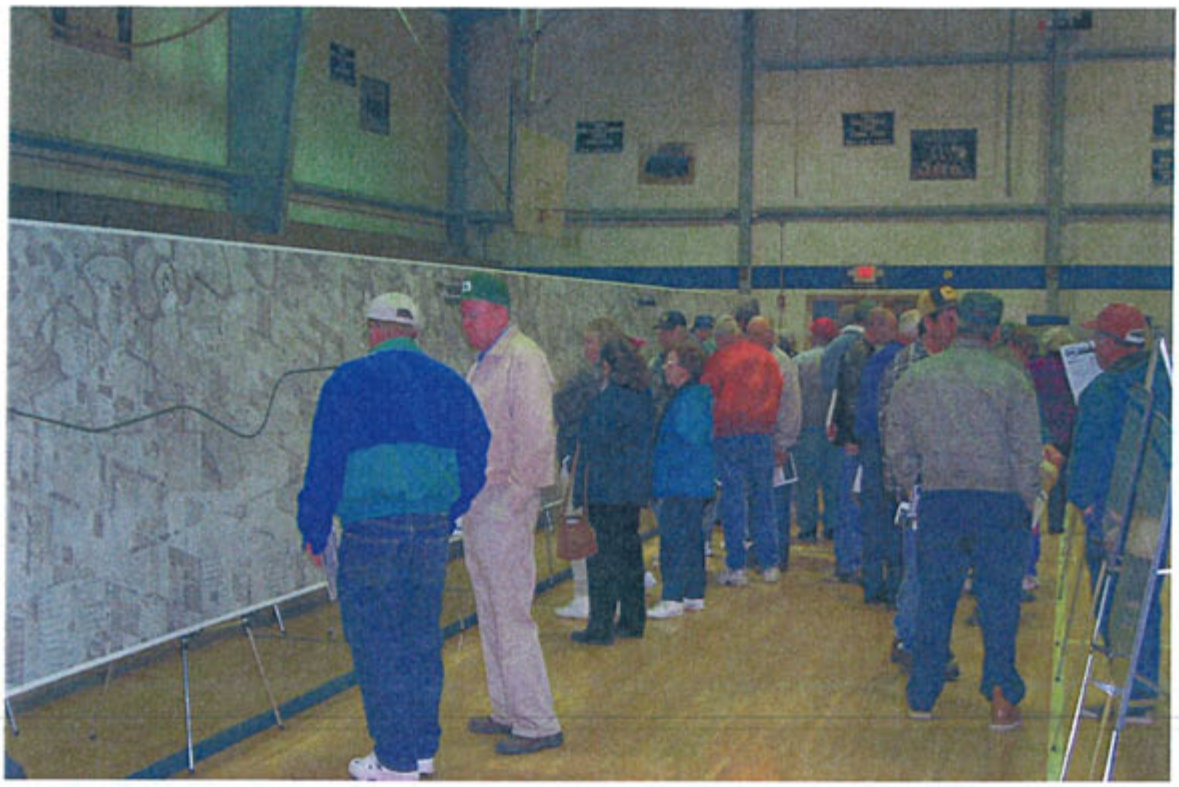
Attachment 3

Public Hearing Exhibits



Concessions

Attachment 4

Public Hearing Handout

Public Hearing

OCTOBER 2003

US 24 Highway Corridor ♦ New Haven, IN to Defiance, OH

Welcome

The Ohio Department of Transportation (ODOT) and Indiana Department of Transportation (INDOT) welcome you to tonight's public hearing for the US 24 New Haven to Defiance project. The purpose of the public hearing is to offer all interested persons an opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the US 24 Improvement Project located 0.5 mile west of the I-469 By-Pass in New Haven to the four-lane section at Ohio State Road 15 (SR 15) located just west of Defiance, Ohio. The total project length is about 40 miles. A second purpose of the public hearing is to receive public comments on the proposed relocation, improvement, and abandonment of portions of State Route Number US 24 in Paulding County and Defiance County, Ohio. Also included is the removal of State Route Number US 24 from the portion of highway that is also numbered US 127.

Alternative D-1 was selected as the Preferred Alternative in May 2002 and presented to the public in June 2002 at a series of public meetings. The map provided in this handout shows the location of this alignment. Tonight you will be able to review Alternative D-1 in detail including cost estimates, right-of-way requirements, environmental impacts, and interchange and intersection locations. You will have the opportunity to review the information with members of the Project Team, and provide verbal and/or written comments to ODOT and INDOT.

Revisions to the Preferred Alternative that have been included since 2002 are presented, which include changes in the local road network as a result of the new highway. Impacts to properties, historic resources, wetlands, streams, and other ecological resources are also presented. The US 24 Draft Environmental Impact Statement and other technical documents for the project are available for review. The public hearing provides an opportunity for citizens to "officially" comment on the project and preferred alternative. A court reporter is present to record verbal comments.

At this public hearing, there will be a presentation on the project followed by a comment session. During the comment session,

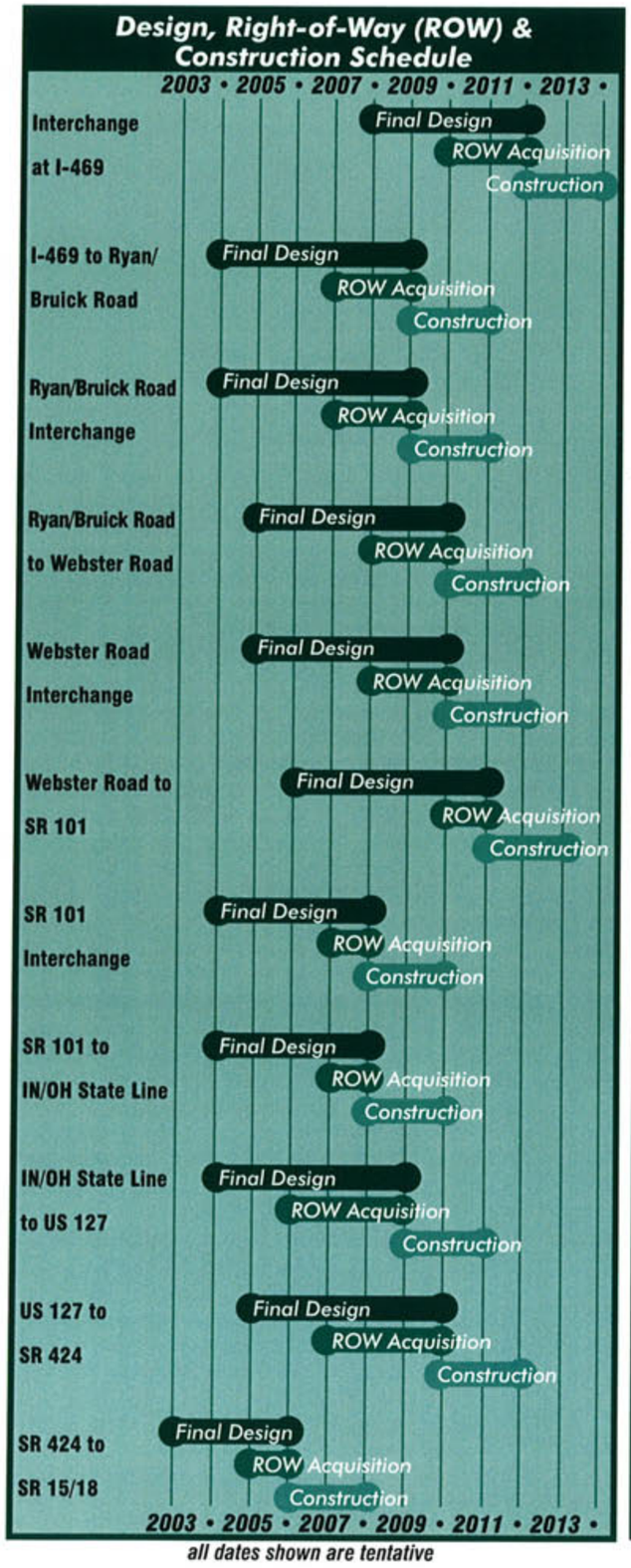
continued on back page

Revisions to Alternative D-1

Since the June 2002 public meetings, the project team has continued to study design refinements for Alternative D-1. The majority of the refinements included in the design are treatments at the local road crossings that have been made in response to comments from the general public and public officials. The most significant refinement affects the Preferred Alternative in Allen County, Indiana. In October 2002, INDOT indicated its intention to construct US 24 as a four-lane divided freeway with full access control between I-469 and the Indiana/Ohio State Line. Interchanges will be constructed at Ryan/Bruick Road, Webster Road, and SR 101. Also, the existing I-469/US 24 interchange will be upgraded to maintain free-flow operation for freeway-to-freeway movements (system-to-system interchange). Overpasses or underpasses will be constructed at most other crossroads in Indiana. The treatment of crossroads has also been revised at several locations within Paulding and Defiance counties. Construction of the Preferred Alternative will affect the local roadways in several ways:

- Seventeen crossroads will be closed given minimal traffic volumes or unacceptable sight distance characteristics (Harper, Bremer, Berthaud, Rousey, and Gustin roads in Allen County; T-29, C-180, T-150, C-33, C-216, T-61, T-69, C-224, C-123, T-129, and T-139 in Paulding County; and Ashwood Road in Defiance County).
- Four crossroads will be realigned to intersect with other roadways instead of the new highway (Maumee Center Road in Allen County; T-51 and C-206 in Paulding County; and Powers Road in Defiance County).
- Interchanges are proposed at Ryan/Bruick Road, Webster Road, and SR 101 in Allen County; SR 49 and US 127 in Paulding County; and SR 424 in Defiance County.
- Eleven local roads will remain open with overpasses or underpasses constructed across the new highway (Doyle, Woodburn, Sampson, Bull Rapids, and State Line roads in Allen County; C-11, T-43, C-176, and C-105/T-105 in Paulding County; and Krouse and Switzer roads in Defiance County).
- The crossings at the remaining local roads are designed as at-grade intersections.

continued on back page



all dates shown are tentative

Right-of-way Acquisition and Construction

Ohio's recent passage of House Bill 87, which generates additional funding for highway construction, may be the source of the funding needed to construct improvements for US 24 in Ohio. ODOT recently submitted funding requests to the Transportation Review Advisory Council (TRAC) for US 24 between the Indiana/Ohio State Line and Defiance, Ohio. The request to TRAC covers property acquisition and construction. If the requests are approved, construction on US 24 could begin as early as 2006.

Prior to construction, final design and right-of-way acquisition activities will be completed. To manage the extensive work required to design and construct a highway 40± miles in length, such projects are typically broken up into "design sections". For the US 24 New Haven to Defiance project, which is 36.4 miles in length, 11 design sections have been identified, each having its own schedule for pre-construction and construction activities. The proposed schedule for each section is shown in the time line to the left. ■

Project Purpose and Need

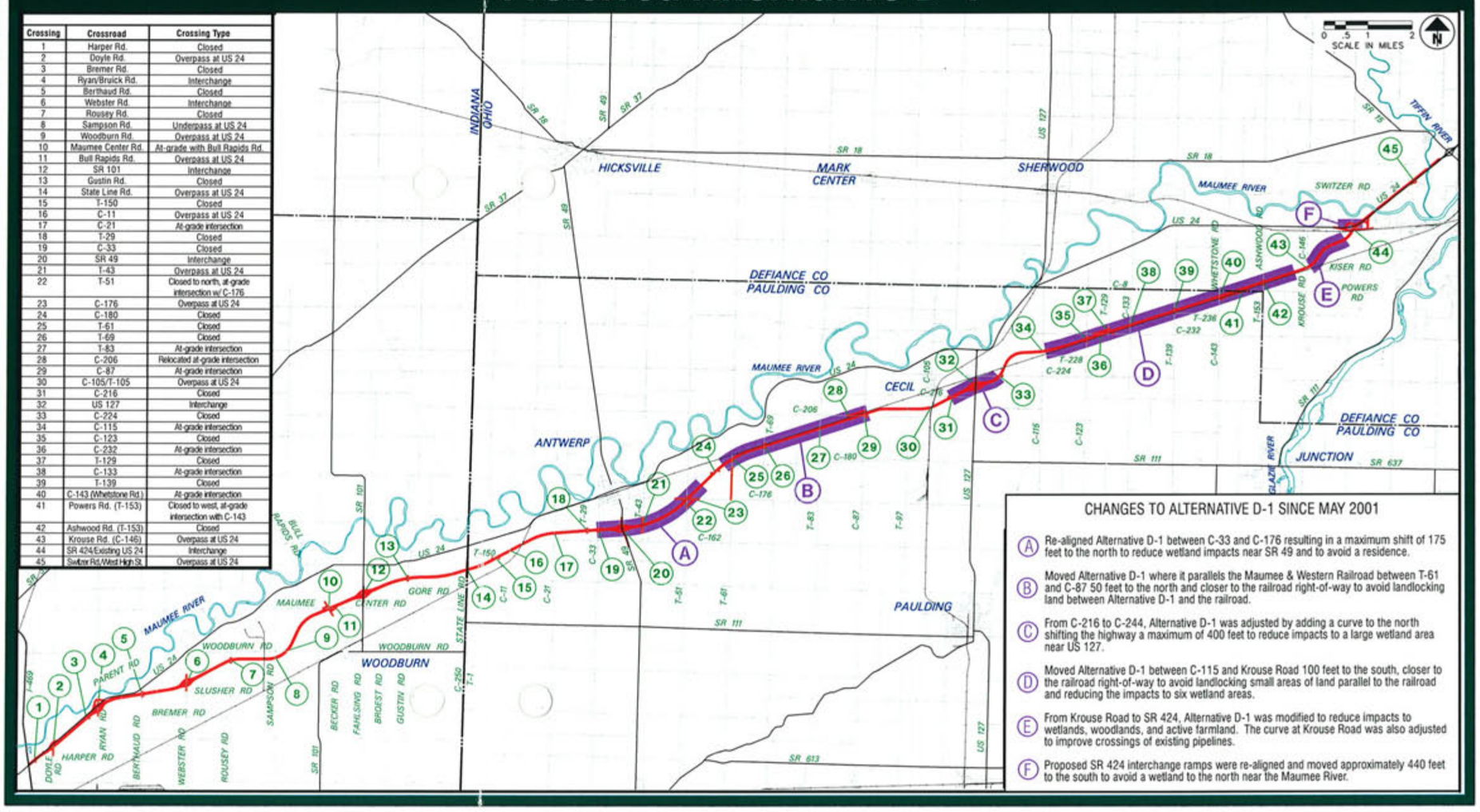
The purpose of the US 24 project is to improve the operational characteristics for both local and through traffic currently on US 24. Between New Haven and Defiance, US 24 is a two-lane road that suffers from congestion and safety related issues as a result of inadequate capacity to accommodate current traffic demand. The facility does not meet current design criteria for travel lane widths, provisional shoulders, roadway curvature, sight distances, and travel speeds. These characteristics contribute to delays and a declining level of service along the roadway.

The goals of the US 24 New Haven to Defiance project are to:

- Improve traffic flow and level of service.
- Reduce travel times between project termini.
- Improve roadway safety.
- Enhance the regional transportation network.
- Accommodate future economic growth in the region to enhance the competitiveness of local and regional businesses. ■

Preferred Alternative D-1

Crossing	Crossroad	Crossing Type
1	Harper Rd.	Closed
2	Doyle Rd.	Overpass at US 24
3	Bremer Rd	Closed
4	Ryan/Bruick Rd.	Interchange
5	Berthaud Rd.	Closed
6	Webster Rd.	Interchange
7	Rousey Rd.	Closed
8	Sampson Rd.	Underpass at US 24
9	Woodburn Rd.	Overpass at US 24
10	Maumee Center Rd.	At-grade with Bull Rapids Rd.
11	Bull Rapids Rd.	Overpass at US 24
12	SR 101	Interchange
13	Gustin Rd.	Closed
14	State Line Rd.	Overpass at US 24
15	T-150	Closed
16	C-11	Overpass at US 24
17	C-21	At-grade intersection
18	T-29	Closed
19	C-33	Closed
20	SR 49	Interchange
21	T-43	Overpass at US 24
22	T-51	Closed to north, at-grade intersection w/ C-176
23	C-176	Overpass at US 24
24	C-180	Closed
25	T-61	Closed
26	T-69	Closed
27	T-83	At-grade intersection
28	C-206	Relocated at-grade intersection
29	C-87	At-grade intersection
30	C-105/T-105	Overpass at US 24
31	C-216	Closed
32	US 127	Interchange
33	C-224	Closed
34	C-115	At-grade intersection
35	C-123	Closed
36	C-232	At-grade intersection
37	T-129	Closed
38	C-133	At-grade intersection
39	T-139	Closed
40	C-143 (Whetstone Rd.)	At-grade intersection
41	Powers Rd. (T-153)	Closed to west, at-grade intersection with C-143
42	Ashwood Rd. (T-153)	Closed
43	Krouse Rd. (C-146)	Overpass at US 24
44	SR 424/Existing US 24	Interchange
45	Switzer Rd/West High St.	Overpass at US 24



CHANGES TO ALTERNATIVE D-1 SINCE MAY 2001

(A) Re-aligned Alternative D-1 between C-33 and C-176 resulting in a maximum shift of 175 feet to the north to reduce wetland impacts near SR 49 and to avoid a residence.

(B) Moved Alternative D-1 where it parallels the Maumee & Western Railroad between T-61 and C-87 50 feet to the north and closer to the railroad right-of-way to avoid landlocking land between Alternative D-1 and the railroad.

(C) From C-216 to C-244, Alternative D-1 was adjusted by adding a curve to the north shifting the highway a maximum of 400 feet to reduce impacts to a large wetland area near US 127.

(D) Moved Alternative D-1 between C-115 and Krouse Road 100 feet to the south, closer to the railroad right-of-way to avoid landlocking small areas of land parallel to the railroad and reducing the impacts to six wetland areas.

(E) From Krouse Road to SR 424, Alternative D-1 was modified to reduce impacts to wetlands, woodlands, and active farmland. The curve at Krouse Road was also adjusted to improve crossings of existing pipelines.

(F) Proposed SR 424 interchange ramps were re-aligned and moved approximately 440 feet to the south to avoid a wetland to the north near the Maumee River.

Welcome

continued from cover

each speaker is limited to five minutes. If you so desire, you can present comments on the project one-on-one to the court reporter.

We appreciate you taking the time to be with us tonight. We invite you to visit our information stations at your own pace and to ask questions of the representatives at each station. It is crucial to the success of the study that you, the public, examine the information presented tonight and submit comments on the forms available at this meeting. Your participation in the US 24 project is very important to us. ■

Next Steps...

Now that the Preferred Alternative has been selected and the DEIS is being circulated to resource agencies and the general public, ODOT and INDOT are soliciting comments on the Alternatives D-1, its environmental impacts and the proposed mitigation measures. Once the comment period is officially closed (comment period ends on November 21, 2003), all comments will be compiled and reviewed. Responses will be prepared and included in the Final Environmental Impact Statement (FEIS), which is scheduled to be completed in the Spring of 2004. The Project Team will consider all comments submitted on the project. Additional changes to the alignment of Alternative D-1 could occur as a result of the agency and public comments.

Also, as design studies continue, the Project Team will focus on the refinement of mitigation strategies and plans. In particular, the Section 404 Permit and 401 water quality certification applications will be completed and submitted to resource agencies for review and approval. ■

Revisions to Alternative D-1

continued from cover

As a result of the decision to construct a four-lane divided freeway with full access control between I-469 and the Indiana/Ohio State Line, changes to the existing I-469/U 24 interchange to maintain free-flow operation for freeway-to-freeway movements (system-to-system interchange) are being evaluated. The existing interchange at I-469 and US 24, constructed a decade ago, has a partial cloverleaf configuration with loop ramps in the northeast and southwest quadrants. Three feasible alternatives for the interchange improvements (Alternatives 12, 13, and 14) were selected and developed in more detail. These alternatives for the interchange improvements and associated impacts are being presented for public review and comment at tonight's public hearing. Following the public comment period, a preferred interchange alternative will be selected and will be presented in the US 24 New Haven to Defiance Final Environmental Impact Statement (FEIS).

The current design of Alternative D-1 eliminates the existing intersection with US 24 at West High Street and Switzer Road. At the request of local officials, ODOT is investigating various options to provide access to US 24 in the vicinity of West High Street and Switzer Road. The four alternatives under study are:

1. An interchange at West High Street.
2. A stretch interchange from SR 15/18 to West High Street.
3. A new connector road that will connect West High Stre and Harding Street.
4. Upgrade the local roadway network, including SR 15/18 to handle the rerouted traffic.

Conceptual designs, preliminary costs, and environmental impacts for each of the options are being presented to the public for review comment at tonight's public hearing. Following the public comment period, a preferred option for the West High/ Switzer Road crossing will be selected and presented in the US 24 New Haven to Defiance Final Environmental Impact Statement (FEIS). ■

Your Comments Are Very Important

Comment forms are available at tonight's public hearing. All written comments will be included in the US 24 Final Environmental Impact Statement. Written comments are being accepted until November 21, 2002 and should be sent to:

US 24 Project Office
1800 Indian Wood Circle
Maumee, Ohio 43537

Comments can also be submitted on the project website: **www.us24.org**

If you have any questions after today's public hearing, or would like to speak with a member of the project team conducting the US 24 study, please contact:

Toll Free Hotline: 1-877-ASK-US24 (1-877-275-8724)

Jennifer Graf
Project Manager
Parsons Brinckerhoff Ohio, Inc.
(513) 639-2145

Ed Carmichael
Highway Alignment Manager
Parsons Brinckerhoff Ohio, Inc.
(614) 791-5185

Kirk Slusher
Planning Administrator
ODOT District 1-0
(419) 222-9055

Alternative D-1 Facts

The environmental impacts associated with Alternative D-1 are summarized below.

General Information

- Length – 36.4 miles
- Total freeway/expressway combination cost – $221,702,015
- Utilizes existing transportation corridors along 45 percent of its total length

Traffic

- Estimated travel time in year 2028 – 34 minutes
- Level of service in year 2028 – A (free flow conditions)
- Average Daily Traffic, 2028 (vehicles per day) – 11,196 – 16,732
- Number of local roadways closed/severed (number) – 17
- Number of at-grade intersections with the Preferred Alternative and local roads – 10
- Number of interchanges with the Preferred Alternative – 6
- Number of overpasses/underpasses constructed for local roads – 11

Displacements

- Number of single-family houses displaced – 31
- Number of residential trailers displaced – 10
- Number of business displacements – 3
- Number of land-locked parcels – 41
- Total acreage of land-locked parcels – 444

Farm Impacts

- Total acreage of farmland – 1,428.8
- Number of farm operations affected – 214
- Number of farms with residences – 10
- Number of agricultural districts affected – 6

Ecological Impacts

- Number of stream crossings – 26
- Total length of streams – 20,189 feet
- Total length of limited resource water streams – 17,513 feet
- Total length of warm water habitat streams – 2,363 feet
- Total acreage of wetlands – 22.5
- Total acreage of Category 3 wetlands – 2.3
- Total number of woodlots – 20
- Total acreage of wooded areas – 87.7
- Total acreage of floodplain area – 69.2

Historic Resources Impacts

- Number of sites eligible for listing on the National Register of Historic places – 3

Hazardous Materials

- Number of sites with above ground/underground storage tanks – 4
- Number of sites with past/current use of hazardous materials – 2
- Number of sites with other hazardous materials concerns – 1

Note: Impact estimates consider design changes at local road crossings made after the release of the DEIS.

Proposed Mitigation Measures

Beginning with the alternative development studies, avoidance, minimization, and/or mitigation of impacts to sensitive environmental resources have been considered to resolve potential impacts of the project. The development of minimization and mitigation strategies will continue through the final design studies. The design of Alternative D-1 includes a number of minimization strategi and mitigation measures, which are summarized below:

Minimization/Mitigation Measures

ECOLOGICAL RESOURCES

- Implementation of erosion and sedimentation control measures and stormwater management measures during construction.
- Abandonment of affected water wells.
- Implementation of wetland and stream mitigation plans in accordance with provisions of the Section 404 permit and 401 water quality certification.
- Completion of detailed hydraulic studies for affected streams.
- Implementation of adequate drainage measures with post-construction hydraulics matching pre-construction (existing) drainage conditions.
- Identification of potential roosting and brooding habitat for the Indiana bat prior to construction.
- Removal of potential roosting and brooding habitat for the Indiana bat to be restricted between April 15 and September 15.
- Review of data on mussel species present within the Maumee and Tiffin rivers to confirm presence of federal and/or state listed species.
- Coordination with Ohio Department of Natural Resources for the Maumee State Scenic River crossing in accordance with Section 1517.6 of the Ohio Revised Code.
- Coordination with the Ohio Department of Agriculture concerning condemnation of farmlands designated as Agricultural Districts.
- Provision of service roads to mitigate landlocking of active farmland.
- Coordination with local agencies and property owners concerning mitigation of impacts to farmland irrigation/drainage systems.
- Completion of asbestos and lead-based paint investigations on structures to be demolished for project and development of appropriate disposal plans (if required).
- Closure of underground and above-ground storage tanks in accordance with applicable regulations on three properties.
- Further investigation of storage drums found on one abandoned property.

DISPLACEMENTS/NEIGHBORHOODS/COMMUNITY RESOURCES

- Implementation of a Residential Relocation Assistance Program.
- Property acquisition and relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.
- Minimization of right-of-way impacts and avoidance of residential units at the Bohlman Trailer Park.
- Grade-separated crossings at Ryan/Bruick Road, Webster Road, and SR 101 in Allen County to support travel needs of the local farmers.
- Grade-separated crossings at Woodburn Road, C-176, and T-43 for safe access to Woodlan High School and Antwerp School complex.
- On-site replacement of salt storage, brine mixing, and other affected facilities at the ODOT Defiance County Garage.
- Implementation of landscape design features where feasible.
- Maintenance and protection of traffic during construction.
- Notifications to the general public and emergency service providers during construction concerning temporary local roadway impacts.

CULTURAL RESOURCES

- State Historic Preservation Office notification in the event of an unanticipated discovery of archaeological resources during construction.
- Development and implementation of a work plan for documentation of the unexcavated remains for the Gronauer Lock.
- Avoidance of properties listed on or eligible for inclusion in the National Register of Historic Places
- Preservation of existing vegetation between the right-of-way and the Harper House, Meyer/Gallmeyer Farm, and Smith/Rich/Krug House.

AIR QUALITY/NOISE

- Implementation of Best Management Practices to control dispersal of pollutants during construction.
- Implementation of Best Management Practices to control construction-related noise levels.

COMMENT SHEET
PUBLIC HEARING
US 24 NEW HAVEN TO DEFIANCE
October 28, 29, and 30, 2003

Thank you for taking the time to attend this Public Hearing for the US 24 New Haven to Defiance preliminary development project. Your comments and opinions are important to us. Please use this form to present any statements you have regarding the study, feel free to attach sheets as necessary. Return the comment sheet to the Ohio Department of Transportation or Indiana Department of Transportation representatives attending this hearing or mail it to the address below. The comment period officially closes on November 21, 2003.

Name:_____

Address:_____

City:_____ State:_____

Zip:_____ Phone:_____

If you would like to be added to the US 24 mailing list please check this box ☐

In the space below and on the back of this form, please provide any comments you have regarding the US 24 New Haven to Defiance project.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Return by: November 21, 2003

To: US 24 Project Office
1800 Indian Wood Circle
Maumee, Ohio 43537

APPENDIX C: AGENCY CORRESPONDENCE

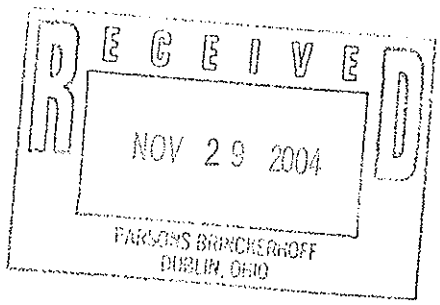
C. 1 Intergovernmental Review Letters

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003



Department of Adjutant General
2825 West Dublin-Granville Rd.
Columbus , Oh. 43235-2789

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

The Draft Environmental Impact Statement shall be available at the Ohio Department of Transportation, District One, 1885 North McCullough Street, Lima, Ohio 45801.

This Notice of Availability is in accordance with the code of Federal Regulations 771.119 and 771.121 for State and Local Intergovernmental Review as established under Executive Order 12372. If you have any question regarding this notice, please contact Kirk M. Slusher, ODOT District One Planning Administrator at (419) 222 9055, extension 238.

Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

State Records Administrator, General Services Division
Department of Administrative Services
4200 Surface Rd.
Columbus, Oh. 43228

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Elder Rights Unit
Department of Aging
50 West Broad Street 9th Floor
Columbus , Oh. 43215-3363

ATTN: Federal Review Coordinator

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Direct
Norman R. Redick, Deputy Directo.

September 29, 2003

Division of Administration
Department of Agriculture
8995 East Main Street
Reynoldsburg, Oh. 43068

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Division of Administration
Department of Commerce
77 South High Street
Columbus, Oh. 43266-0544

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Direct
Norman R. Redick, Deputy Directc.

September 29, 2003

Department of Development
77 S. High Street
Columbus , Oh. 43215-6108

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Department of Education
Federal Records
25 S. Front Street
Columbus, Oh. 43215-4183

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Directc
Norman R. Redick, Deputy Directo.

September 29, 2003

Federal Records Administrator
Ohio Bureau of Employment Services
145 South Front Street
Columbus , Oh. 43215

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Ohio Environmental Protection Agency
122 South Front Street
P.O.Box 1049
Columbus , Oh. 43215

ATTN: Federal Review Coordinator

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

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OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Directc
Norman R. Redick, Deputy Directo.

September 29, 2003

Federal Records Administrator-Department of Health
246 N. High Street
P.O.Box 118
Columbus , Oh. 43215

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Federal Records
Department of Human Services
30 E. Broad Street 32 Floor
Columbus , Oh. 43266-0423

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/red

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Direct
Norman R. Redick, Deputy Directo.

September 29, 2003

Administration Division -Department of Public Safety
1070 W. Broad Street
P.O.Box 182081
Columbus , Oh. 43223-1102

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Department of Taxation
30 E. Broad Street, 22 Floor
P.O.Box 530
Columbus , Oh. 43266-0030

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Directo
Norman R. Redick, Deputy Directo

September 29, 2003

Records Management
Ohio Water Development Authority
88 E. Broad Street-Suite 1300
Columbus , Oh. 43215-3516

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

An Equal Opportunity Employer

OHIO DEPARTMENT OF TRANSPORTATION

District One
1885 N. McCullough Street
Lima, Ohio 45801
419-222-9055
http://www.dot.state.oh.us/dist1

Bob Taft, Governor
Gordon Proctor, Director
Norman R. Redick, Deputy Director

September 29, 2003

Director's Office
Department of Youth Services
51 N. High Street
Columbus , Oh. 43215

ATTN: Federal Review Coordinator

This letter serves as Notice of Availability for the Draft Environmental Impact Statement for PAU/DEF US 24, the improvement and establishment of a 4-lane, limited access highway on a new alignment from Ft. Wayne, Indiana to Defiance, Ohio. The new alignment traverses through Allen County, Indiana as well as the counties of Paulding and Defiance in Ohio.

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Respectfully,

Kirk M. Slusher, P.E.
Planning & Programming Administrator

KMS/rcd

C.2 Agency Comments on the DEIS

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

November 3, 2003

RECEIVED
NOV 17 2003
PB OHIO, INC.

Jennifer Graf
Senior Project Manager
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, OH 45202-2720

Dear Ms. Graf:

Dr. Julie Gerberding asked me to respond directly to your letter. Thank you for providing Centers for Disease Control and Prevention (CDC) the Draft Environmental Impact Statement (DEIS) for US 24 Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio (PAU/DEF-US 24-24.00/0.00, PID 18904) for our public health review. On behalf of the U.S. Public Health Service, U.S. Department of Health and Human Services, CDC has completed the review.

We have reviewed this document for potential adverse health and safety effects on human populations. Overall, we agree that the proposed project will improve roadway safety, enhance the regional transportation network, and improve levels of service between New Haven, Indiana and Defiance, Ohio. The project will result in a more efficient and safer roadway that meets current design standards and should have a positive effect with the improvements that are proposed and the mitigation measures planned.

While the document does discuss many of our potential public health and safety concerns, we believe there are several additional issues that should be addressed in the final environmental impact statement (FEIS). We noted that no well head protection plans have be endorsed by the Ohio Environmental Protection Agency for the US 24 study in Paulding County, Ohio and no well head protection plans have been submitted for Defiance County, Ohio. Additionally, well head protection plans for the Allen County portion of the US 24 Study area have not been submitted to the Indiana Department of Natural Resources. The FEIS should include these plans.

It was unclear what environmental compliance inspection procedures would be followed during construction. In similar projects, experienced Environmental Inspectors are assigned to monitor construction activities and ensure that appropriate all construction activities are in compliance with applicable federal, regional, state, and local environmental permits and approvals. Please clarify how environmental inspections and construction monitoring will be accomplished.

The DEIS does state that a Storm Water Pollution Plan will be prepared. However, we also believe that the FEIS should address spill potential during construction with A Spill Prevention and Control Plan. The plan should include, but not be limited to: precautionary measures to prevent spills; sources of spills, such as equipment failure or malfunction; standard operating procedures in case of a spill; and appropriate training for all construction personnel.

We also have a concern for safety during construction. The FEIS should contain a statement of compliance with appropriate criteria and guidelines to ensure safety and health for both workers and the general public.

Thank you for the opportunity to review and comment on this DEIS. I would appreciate receiving a copy of the FEIS when it becomes available. Please submit your document directly to me, Dr. Paul Joe. Feel free to contact me with any questions at phone number 770-488-7091 or e-mail: pbj4@cdc.gov.

Sincerely,

Paul Joe

Paul Joe, DO, MPH
Medical Officer
Acting Chief, Chemical Demilitarization Branch
Division of Emergency and Environmental Health
National Center for Environmental Health

U.S. Department of Housing and Urban Development

Ohio State (Columbus) Office
Office of Community Planning and Development
200 North High Street
Columbus, Ohio 43215-2499

November 24, 2003

Jennifer Graf
Parsons Brinkerhoof of Ohio, Inc.
Senior Project Manager
312 Elm Street, 25th Floor
Cincinnati, OH 45202-2720

Dear Ms. Graf

This is in response to the request for comments concerning the project listed below. The U.S. Department of Housing and Urban Development has determined that the project does not present any special interests or concerns to HUD.

DRAFT ENVIRONMENTAL IMPACT STATEMENT
ODOT PROJECT PUD/DEF-US 24-24.00/00, PID 18904

Thank you for the opportunity to comment. If you should require any further input from HUD, I may be reached at (614) 469-5737, x8252 or by email at ross_carlson@hud.gov.

Sincerely,

Ross S. Carlson
Environmental Officer

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

December 3, 2003

RECEIVED
DEC - 8 2003
PB OHIO, INC.

Ms. Jennifer Graf
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, Ohio 45202-2720

Dear Ms. Graf:

Enclosed are comments on the Draft Environmental Impact Statement for US 24 Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Susan A. Kennedy
Acting NEPA Coordinator

Enclosure

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MEMORANDUM FOR: Susan A. Kennedy
Acting NEPA Coordinator

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: DEIS-0310-04 US 24 Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio.

The subject statement has been reviewed within the areas of the National Ocean Service (NOS) responsibility and expertise and in terms of the impact of the proposed actions on NOS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the National Geodetic Survey's home page at the following Internet World Wide Web address: http://www.ngs.noaa.gov After entering the this home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the National Geodetic Survey data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about geodetic control monuments, please contact Galen Scott; SSMC3 8620, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; Telephone: 301-713-3234 x139; Fax: 301-713-4175, Email: Galen.Scott@noaa.gov.

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

ER 03/818

DEC 4 2003

Mr. Dennis Decker
Division Administrator
Federal Highway Administration
200 North High Street
Columbus, Ohio 43215

Dear Mr. Decker:

As requested, the Department of the Interior (Department) has reviewed the September 2003 Draft Environmental Impact Statement (EIS) and Section 4(f) Evaluation for the **US-24 Upgrade** between I-469 in New Haven, Allen County, Indiana, and SR-15 in Paulding and Defiance Counties, Ohio. We note and appreciate the responses provided in the Draft EIS to comments and recommendations made by the Fish and Wildlife Service (FWS) in earlier coordination on this project. The Department offers the following comments and recommendations for your consideration.

SECTION 4(f) COMMENTS

The Department cannot concur with the Federal Highway Administration (FHWA) and the Ohio Department of Transportation (ODOT) that there are no feasible and prudent alternatives to the proposal as presented that would result in impacts to Section 4(f) properties. We, also, cannot concur that all possible planning needed to minimize potential harm to these resources has been employed.

The Draft EIS identified five public recreational resources and potential Section 4(f) properties within the project study area that could be affected by the project. These include the Maumee River Public Fishing Area, Riverside Park, Antwerp Local Schools Athletic Facilities, New Rochester Park, and the Maumee State Scenic and Recreational River. The Draft EIS and Section 4(f) Evaluation concludes that only two of these resources meet the criteria for Section 4(f) resources, the Maumee River Public Fishing Area and Riverside Park.

The Department, however, believes that the Maumee State Scenic and Recreational River meets the criteria as a Section 4(f) resource. It is publicly owned, it has been officially designated as a recreational river, and it provides recreation as a major function. The review documents provide two letters from FHWA to ODOT, dated January 18, 2001, and May 15, 2001, reminding ODOT that the Maumee Scenic and Recreational River within the project area must be considered as a Section 4(f) resource and, therefore, subject to all of the requirements of such resources.

The Department notes that the letter from the Ohio Department of Natural Resources (ODNR) dated June 18, 2001, and referenced on page 3-99 in section 3.2.6 of the Draft EIS, clearly indicates a reluctance to determine the State owned and officially designated State Scenic Recreational River to be "not significant." The ODNR was, however, willing to "exempt" the project from Section 4(f) review. Unfortunately, the ODNR does not have the authority to "exempt" a resource from review, only to determine that the resource is "not significant." Following FHWA's own policy paper on Section 4(f), the term "significance" is defined in question 2B, as follows:

> The meaning of the term 'significance' for purposes of Section 4(f) should be explained to the officials having jurisdiction. Significance means that in comparing the availability and function of the recreation, park, or wildlife and waterfowl refuge area with the recreational, park, and refuge objectives of that community, the land in question plays an important role in meeting those objectives. If a determination from the official with jurisdiction cannot be obtained, the Section 4(f) land will be presumed to be significant.

Absent a determination from the ODNR that the Maumee River is not a significant resource, it must be included in the Section 4(f) Evaluation. Since all of the alternatives cross the river, complete avoidance may not be possible. Accordingly, if a determination that there is no feasible and prudent alternative to the use of land from the property is made, the action shall include all possible planning to minimize harm to the property resulting from such use.

The Department also notes that the preferred alternative (D-1) will impact another Section 4(f) resource. The Meyer/Gillmayer Farm (003-383-40086) was established in the 1850s and is eligible for the National Register of Historic Places. As an eligible historic property, it is subject to the Section 4(f) review requirements and protections. A determination that there are no feasible and prudent alternatives to the use of land from this historic property was presented in appendix 4 of the review documents. To support this determination, the Section 4(f) Evaluation presents comparative information on the impacts associated with all of the alternatives, including those not selected as the preferred (e.g., alternatives E, F, G, and H), concluding that none of these alternatives are feasible or prudent.

The FHWA feels that this particular segment is "...one of the least preferred segments developed for the Feasible Corridors..." and it is "...not consistent with the objectives..." of local comprehensive plans. While the segment may not be preferred, the documentation does not demonstrate that its selection would meet what is known as the Overton Park criteria (*Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402 (1972)). In that case, the Supreme Court established that Section 4(f) lands are "...not to be lost unless there are truly unusual factors present...or...the cost of community disruption resulting from alternative routes reaches extraordinary magnitudes." Those thresholds of impact for the selection of this segment are not demonstrated here.

In addition, the four other alternatives E, F, G, and H, are argued to have impacts on productive farmlands, although the preferred alternative D-1 is quite comparable in the amount of impacted farmlands for the entire project. Alternative D-1 has slightly higher impacts than F and H and slightly lower impacts than E and G. The amount of impacted farmland for all these alternatives only differs by about 100 acres, with a range from 1,371.2 acres to 1,469.2 acres of impact; the preferred alternative D-1 has 1,428.8 acres of impact.

The impact on woodlots across the project, like the impacts to productive farmland, is used to justify the selection of the preferred alternative and the dismissal of the other alternatives as not feasible or prudent, but these impacts are actually very comparable to alternatives E, F, G, and H. The affected acreage of woodlots for alternative D-1 is slightly higher than E and G and slightly less than F and H. Alternative D-1 does have consistently less impacts on forested wetland over the entire project length, but these impacts on the other alternatives could be mitigated to reduce or minimize some of these impacts.

When considering these small differences weighed with other factors such as floodplain encroachment and the cost of construction, it remains unclear the selection of the other alternatives present truly unusual problems, or that the problems encountered result in costs of community disruption that reach an extraordinary magnitude. For these reasons, we cannot concur with the FHWA and the ODOT that there are no feasible and prudent alternatives to the proposal as presented that would result in impacts to Section 4(f) properties. We also cannot concur that all possible planning needed to minimize potential harm to these resources has been employed.

ENVIRONMENTAL IMPACT STATEMENT COMMENTS

Impacts to Fish and Wildlife Habitats

The preferred alternative, alternative D-1, has the second highest impact to upland forested habitats in the Ohio portion of the project (68.7 acres) of the 27 alternatives (Table 3.15). We understand, due to the physical constraints in the study area and efforts to avoid impacts to other resources such as wetlands, some impacts to certain upland forested resources cannot be completely avoided. However, we encourage the ODOT to minimize impacts to these areas by implementing, to the extent feasible, such measures as reducing the median width and limiting the cleared right-of-way to only what is necessary to facilitate construction. Various regulations require mitigation (compensation) for the loss of wetland and/or stream habitat. While the same may not be true for upland forested habitat, we, nevertheless, recommend that the ODOT take opportunities to replace the project-caused loss of the 68.7 acres of woodland habitat, where feasible, to develop meaningful forest habitat over time. We recommend the planting of native trees in blocks of assorted varieties on "odd areas" along the rights-of-way, as buffers around preserved and mitigation wetlands, and adjacent to steam corridors within and near the project area.

Similarly, there are significant impacts proposed to forested wetlands, one of the rarest and most significant wetland communities in Ohio. Total impacts to Ohio wetlands are as follows: 2.3 acres of forested Category 3 wetlands; 9.2 acres of forested Category 2 wetlands; and 9.6 acres of Category 2, non-forested wetlands. The total proposed wetland impacts are 22.5 acres for Alternative D-1, with the majority of those impacts (21.1 ac) in Ohio. This is a substantial loss of wetlands in a relatively limited area. In addition, these wetlands are all located in close proximity to the Maumee State Scenic and Recreational River. The Maumee River carries the highest sediment and nutrient loads of all tributaries to Lake Erie. Wetlands in agricultural communities in this drainage that help to filter out excess nutrients and capture sediments should be preserved whenever possible. We recommend modifications to the Ohio portion of the project to further avoid and minimize wetland (and specifically forested wetland) impacts.

Specific wetlands of concern include NO-15, W-4, R-4, R-1(A), and RC-1, due to the proposed amount of impact and significance of the ecological community. For example, impacts to wetlands NO-15 and R-4 might be avoided or minimized by shifting the road alignment slightly to the south. We understand that, due to the physical constraints in the study area, some impacts to these resources cannot be completely avoided. We encourage minimization of impacts to these areas by including such measures as reducing the median width; limiting the cleared right-of-way to only what is necessary to facilitate construction; and utilizing bridges over significant habitat areas, where feasible and appropriate.

ENDANGERED SPECIES ACT COMMENTS

The Ohio portion of preferred alternative D-1 will impact 68.7 acres of upland forest and 11.5 acres of forested wetland, for a total of 80.2 acres of forest habitat impacts. Although biologists from the FWS have not inspected these forested areas, the FWS believes it is likely that at least some of the forested areas provide suitable roosting and foraging habitat for the Indiana bat, a federally listed endangered species. Appendix 9 of the Draft EIS contains a copy of a June 6, 2001, letter of agreement between the FWS's Reynoldsburg, Ohio, Ecological Services Field Office and ODOT. The letter provides that as long as tree clearing is only done before April 15 or after September 15, projects are not likely to impact the Indiana bat. Although this may be true in many cases, the FWS retains discretion over deciding if the determination applies to individual projects. Currently, the letter of agreement is being revised to more specifically outline when adherence to tree cutting restrictions would be sufficient to avoid impacts to the bat and when further studies (such as a habitat suitability evaluation and/or mist net survey) may be necessary to ensure that project impacts will not result in adverse effects to the Indiana bats. The FWS believes that in some instances, such as this project, further analysis of potential impacts to the bat is necessary before determining whether abiding by the tree cutting guidelines alone will adequately avoid and minimize impacts.

For this specific project, the FWS wants to gather more information to determine the quantity and quality of Indiana bat habitat among the potentially impacted woodlots. If any high quality suitable habitat areas are found to exist, the FWS would recommend a mist net survey for the

bats at these locations. Based on the results of the mist net surveys, a determination would then be made concerning the possible need for any additional avoidance and minimization measures.

The Department has a continuing interest in working with the FHWA and ODOT to ensure that impacts to resources of concern to the Department are adequately addressed. For matters related to Section 4(f) resources, please contact the Regional Environmental Coordinator, National Park Service, Midwest Regional Office, 1709 Jackson Street, Omaha, Nebraska, 68102, telephone 402-221-7286. For continued consultation and coordination with the FWS on fish and wildlife matters and threatened and endangered species, please contact the Field Supervisor, U.S. Fish and Wildlife Service, 6950 Americana Parkway, Suite H, Reynoldsburg, Ohio 43068-4127, telephone 614-469-6923.

We appreciate the opportunity to provide these comments.

Sincerely,

Willie R. Taylor
Director, Office of the Environmental
Policy and Compliance

cc:
Mr. Gordon Proctor, Director
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 2 0 2003

REPLY TO THE ATTENTION OF:

RECEIVED B19J
DEC - 1 2003
PB OHIO, INC.

Mark Vonder Embse
Federal Highway Administration
Ohio Division Office
200 North High Street
Columbus, Ohio 43215

RE: US 24 Transportation Improvement Project, New Haven, Indiana to Defiance, Ohio, CEQ # 030443

Dear Mr. Vonder Embse:

In accordance with Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed US 24 Transportation Improvements Project, New Haven, Indiana to Defiance, Ohio.

The project is to improve the Level of Service, decrease congestion, and accommodate current high levels of truck travel on US 24 between New Haven, Indiana in eastern Allen County and Defiance, Ohio in Paulding County. The DEIS presents a broad range of modal alternatives, but settles on highway alternatives as the feasible approach to satisfy the stated purpose and need. Twenty-seven highway alternatives are evaluated in the DEIS, encompassing new alignments, improvements to existing US 24, and a no-build alternative. The Preferred Alternative D-1 relocates US 24 on a new alignment as a four-lane divided highway with limited access. After the preliminary DEIS, Alternative C was selected as the Preferred Alternative, but local citizens and public officials in the Defiance, Ohio area asked the Ohio Department of Transportation (ODOT) to reconsider Alternative D. Alternative D-1 was developed following additional studies.

U.S. EPA provided early coordination comments on the Alternatives Summary in November, 1999. In February, 2001, we commented on the preliminary DEIS and concurred with the Purpose and Need statement. We commend the Federal Highway Administration (FHWA), the Indiana Department of Transportation (IDOT), and ODOT for their attention to minimizing impacts to wetlands as much as possible and for working extensively with affected citizens and communities. For the Final Environmental Impact Statement (FEIS), however, we recommend the further clarification about the rationale for selecting Alternative D-1 over the previously selected Alternative C, a description of the wetlands mitigation plan, and a discussion of

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stormwater runoff management. In addition, we recommend that the FEIS address anticipated noise impacts, which are predicted by models for many receptors. We have enclosed comments about these and other matters.

Based on our review of the information provided in the DEIS, we have rated the present DEIS as EC-2. The "EC" means that we have environmental concerns with the proposed action, and the "2" means that additional information needs to be provided in the Final Environmental Impact Statement (FEIS). The U.S. EPA's ratings system is enclosed.

If you have any questions or wish to discuss any aspect of the comments, please contact Anna Miller of my staff at (312) 886-7060.

Sincerely,

Kenneth A. Westlake, Chief
Environmental Planning and Evaluation Branch
Office of Strategic Environmental Analysis

Enclosures

cc: Tim Hill, Ohio Department of Transportation
Kirk Slusher, Ohio Department of Transportation

U.S. Environmental Protection Agency - Region 5 Comments
Draft Environmental Impact Statement (DEIS)
US 24 Transportation Improvement Project, New Haven, Indiana to Defiance, Ohio,
CEQ # 030443

Preferred Alternative Selection

Please clarify why Alternative D was reconsidered over the previously-selected Alternative C.

The DEIS mentions several times that local officials and citizens in the Defiance, Ohio area asked ODOT to reconsider Alternative D as the preferred alternative. The reason behind the preference is not explained in the DEIS. This stated preference appears to have been an important factor behind reconsidering the Preferred Alternative and developing the 27th alternative, Alternative D-1. We ask that the FEIS give a fuller explanation of this decision and factors influencing it because it led to developing a Preferred Alternative, D-1, that has greater overall wetlands impacts of 22.5 acres as compared to Alternative C's 17.1 acres. We note that Alternative D-1 was developed as a minimization alignment in order to impact a smaller area of sensitive Category 3 forested wetlands than Alternatives C or D. The DEIS states also that Alternative D-1 was preferred by the Army Corps of Engineers, and both Ohio EPA and the Corps have stated that preserving wetlands RC-1 and R-1 with creation of a forested buffer would be acceptable mitigation for wetlands impacted by this Alternative.

Wetlands

Please describe wetlands mitigation more completely in the FEIS.

We commend the effort to minimize and avoid wetlands impacts and note that the Preferred Alternative has the among the lowest impacts to wetlands of all the alternatives. We also note the additional field surveys ODOT carried out with the Ohio EPA and the Corps to further assess the wetlands around the segments that differentiate Alternatives C and D (Segments 14, 15, 18, and 19). The Preferred Alternative will result in a loss of 22.5 acres of wetlands, of which 2.3 acres are forested. The DEIS discusses possible mitigation, including acquisition and preservation of specific wetlands along the Preferred Alternative. In general, the U.S. EPA favors creation of wetlands as compensation for wetlands loss that cannot be avoided or minimized. We expect a comprehensive wetland mitigation plan that appropriately addresses the lost functions and values will be developed as part of the wetland permitting process. In addition, appropriate design options should be evaluated in order to avoid and minimize impacts to wetlands that are not filled during construction.

Please discuss stormwater runoff management in the FEIS.

The DEIS does not describe the potential impact of stormwater runoff. As a result of implementing the build alternatives, additional stormwater runoff will be generated with

potential impacts to adjacent agricultural lands, rivers, creeks, drains, and wetlands. We are concerned with roadway runoff that has metals, de-icing compounds containing chloride, and other contaminants. For example, we are concerned that changes in the quantity and quality of water discharging into adjacent wetlands could alter vegetation communities, resulting in additional adverse impacts to wetlands. Stormwater BMPs include the use of vegetated swales, detention basins, and infiltration basins to store, filter and direct stormwater. We would expect that FHWA, ODOT, and IDOT will utilize these and other measures to ensure that the stormwater runoff does not adversely impact any wetlands or water bodies.

Noise

The FEIS should include additional information in its a noise analysis and address abatement.

According to the analysis in the DEIS, the Preferred Alternative will result in noise impacts on 127 noise sensitive receptors. In particular, the Bohlman Trailer Park, a low-income community, will experience an increase of approximately 10 dBA. It is unclear whether other Alternatives would yield a noise impact, except for Alternative D, which would displace the mobile homes altogether. The DEIS should include information on noise impacts to the Bohlman Trailer Park from other Alternatives for comparison. The DEIS states that ODOT has not completed discussions with the Bohlman Trailer Park community about noise abatement. We urge ODOT finalize these discussions and include noise abatement plans for this and other receptors in the FEIS.

Wellhead Protection

Delineated Wellhead Protection Areas should be identified on relevant maps. We recommend the FEIS include protective measures for these areas as well.

The DEIS states that Alternatives A-H, including the Preferred Alternative may lie within the Village of Antwerp's delineated wellhead protection area. The delineated area, and any others in the project's vicinity, should be included on maps. The U.S. EPA encourages avoiding delineated wellhead protection area. We support using all available measures to avoid and minimize impacts to these areas, including signage as well as other measures mentioned in the DEIS. We encourage ODOT to complete its coordination with the Village of Antwerp and include protective measures in the FEIS.

We offer the following correction to the information on page 3-6, first paragraph under Project Impacts: the U.S. EPA does not, in fact, approve comprehensive wellhead protection area plans for individual public water supply systems. The last two sentences in this paragraph may be struck or otherwise changed to reflect Indiana and Ohio wellhead protection program requirements for individual communities.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
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RECEIVED
NOV - 3 2003
PB OHIO, INC.

October 31, 2003

Ms. Jennifer Graf, Senior Project Manager
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, OH 45202-2720

RE: US 24 New Haven to Defiance Draft Environmental Impact Statement (DEIS)

Dear Ms. Graf:

Thank you for the opportunity to review the draft Environmental Impact Statement for the 40 mile long, US 24 Improvement Project. Naturally, we are particularly interested in the 13 mile segment located in Allen County, Indiana, between New Haven and the Indiana-Ohio border. Generally, the Indiana Department of Environmental Management (IDEM) believes that the impact of transportation projects on water quality (streams and wetlands) should be minimized. Therefore, we are pleased that alternatives C, D, and D-1, all of which focus on avoiding wetlands, will be strongly considered during the selection of a preferred alternative for this project.

Please also accept the following general comments regarding the DEIS:

WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before dredging and/or filling in any wetlands or other waters of the state of Indiana, such as rivers, lakes, streams, and ditches. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands.

   A valid jurisdictional wetlands determination can only be made by the Corps of Engineers, using the 1987 Wetland Delineation Manual. Much of northern Indiana is served by the Corps of Engineers District Office in Detroit, while the central and southern portions of the state are served by their Louisville District Office. Contacts for these offices can be found at:

www.in.gov/idem/water/planbr/401/reglinks.html. IDEM recommends that, to the extent possible, impacts to wetlands and other resources simply be avoided.

2. In the event a Section 404 wetlands permit is required from the Corps of Engineers, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality. Even if the Corps of Engineers determines that the activity or area associated with your project is not under their jurisdiction, you may still need to obtain authorization for the project from this office. The relocation, channelization, widening, or other such alteration of a stream would also require a 401 Water Quality Certification. Contact the Office of Water Quality at 317-233-8488 for additional information. In general, IDEM is opposed to such changes to streams, and would require additional information in order to provide more project specific comments.

3. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to waterbodies such as the creation of a dam or a water diversion, you should seek additional input from Section 401 Water Quality Certification staff. Consult this web site: www.in.gov/idem/water/planbr/401/staff.html for the appropriate staff contact to discuss your project further.

4. The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected waterbodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

5. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of five (5), or more, acres of total land area, contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for of a Rule 5 Storm Water Permit. (See: www.in.gov/idem/guides/permit/water/stormwaterconstruction.html and www.in.gov/idem/water/npdes/permits/wetwthr/storm/rule5.html). If the land disturbing activity results in the disturbance of less than five (5) acres of total land area, but is part of a larger common plan of development or sale (such as the development of a subdivision or industrial park), it is still subject to storm water permitting. In addition, new federal standards lowering the acreage threshold for which a permit is required, are expected to take effect later this year. Hence, if your project area is greater that one acre, and you intend to begin your project after October 31, 2003, you should first check with IDEM to see whether the new Rule 5, one acre permitting threshold has taken affect.

6. Regardless of the size of your project, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize soil erosion. The use of straw bale barriers, silt fencing, earthen berms or other appropriate techniques around disturbed areas are recommended to prevent soil from leaving the construction site. Information and assistance regarding control of construction-related soil erosion are available from the Soil and Water Conservation District (SWCD) offices, co-located with the local field office of the USDA Natural Resource Conservation Service (NRCS) in each county. (To find a SWCD office: www.agry.purdue.edu/swq/swcd.htm)

7. For projects involving work within floodways of waterbodies, contact the Department of Natural Resources - Division of Water (317/232-4160) regarding the need for permits.

8. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.

9. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits. (www.in.gov/idem/guides/permit/water/drinkingwater.html)

10. For projects involving effluent discharges to waters of the State of Indiana, contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.

11. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits. (www.in.gov/idem/guides/permit/water/wwconstructionpermits.html)

AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (www.in.gov/idem/guides/permit/air/openburning.html#maintenance) under specific conditions (www.in.gov/idem/guides/permit/air/openburning.html#conditionsallowed). You also can seek an open burning variance from IDEM. See:www.in.gov/idem/guides/permit/air/openburning.html#variances).

   However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

2. Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized. See: www.in.gov/idem/guides/permit/air/fugitivedust.html.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus Histoplasma capsulatum, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

3. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (www.ai.org/legislative/iac/t03260/a00080.pdf)

4. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

   If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

   For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

   However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at www.in.gov/icpr/webfile/formsdiv/44593.pdf.

   Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of $150 per project; projects below these amounts will be billed a fee of $50 per project. All notification remitters will be billed on a quarterly basis.

   For more information about IDEM policy regarding asbestos removal and disposal, visit: www.in.gov/idem/guides/permit/waste/asbestosremoval.html.

5. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: www.in.gov/idem/guides/permit/waste/leadabatement.html.

6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: www.ai.org/legislative/iac/t03260/a00020.pdf.) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.

7. For more information on air permits visit: www.in.gov/idem/guides/permit/air/index.html, or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD@dem.state.in.us.

LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.

2. If any contaminated soils are discovered during this project, they may be subject to disposal as either special or hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.

3. If PCBs are subsequently found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.

4. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes." (Asbestos removal is addressed above, under Air Quality.)

The IDEM Office of Land Quality reserves the right to provide additional comments, or to undertake other appropriate actions, if additional information becomes available that reveals potential waste disposal or contamination problems at the site.

FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period. For additional information and forms: www.in.gov/idem/guides/permit/landdevelopment/notification.html.

IDEM reserves the right for further review if the scope of the project, or any of its aspects, should change significantly from that which has been proposed, or we are made aware of factors which could have detrimental environmental effects.

Please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of either the Indiana Department of Environmental Management or any other Indiana state agency.

The IDEM makes all information pertaining to environmental reviews available to the public. During regular business hours these files are accessible in the IDEM file room is located in Room N1201, Indiana Government Center North, 100 North Senate Avenue, Indianapolis.

Should you have any questions relating to our review or recommendations, please feel free to contact me at 317-233-4638 or at dparry@dem.state.in.us.

Sincerely,

Timothy J. Method
Deputy Commissioner

TM:dp

CC: Mrs. Janice Osadezuk, INDOT
Mr. Robert E. Dirks, Federal Highway Administration

DNR Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.state.in.us

Frank O'Bannon, Governor
John Goss, Director

HISTORIC PRESERVATION AND ARCHAEOLOGY

November 13, 2003

RECEIVED
NOV 18 2003
PB OHIO, INC.

Jennifer Graf
Senior Project Manager
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, Ohio 45202-2720

Federal Agency: Federal Highway Administration

Re: Draft Environmental Impact Statement concerning the improvement of a forty-mile segment of US 24 between New Haven, Indiana to Defiance, Ohio (ODOT Project PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Ms. Graf:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated October 6, 2003, and received on October 14, 2003, for the above indicated project in Maumee, Milan and Jefferson townships, Allen County, Indiana.

Thank you for providing our office an opportunity to comment on the environmental assessment. Based upon the information provided, and as long as archaeological concerns are addressed as per the document, we do not have any additional comments.

A copy of the revised 36 C.F.R. Part 800 that went into effect on January 11, 2001, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call our office at (317) 232-1646. Questions about archaeological issues should be directed to Jim Mohow. Questions about buildings or structures should be directed to Karie A. Brudis.

Very truly yours,

James A. Mohow

for Jon C. Smith
Deputy State Historic Preservation Officer

JCS:KAB:JAM:jam

cc: Kate Quinn, Acting Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
James E. Juricic, Indiana Department of Transportation

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Frank O'Bannon, Governor
John Goss, Director

DNR Indiana Department of Natural Resources
Environmental Unit
Division of Water
402 W. Washington Street, Rm. W264
Indianapolis, IN 46204-2641
(317) 232-4160
1-877-928-3755
Fax: (317) 233-4579

OCT 17 20
PB OHIO

October 14, 2003

Ms. Jennifer Graf, Senior Project Manager
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, Ohio 45202-2720

RE: US 24 from New Haven, Indiana to Defiance, Ohio Draft Environmental Impact Statement; ODOT Project PAU/ DEF-US 24-24.00/0.00, PID 18904 ~ DNR # CTS-ER- 10500

Dear Ms. Graf:

This is an informational letter in response to your request for an Environmental Review received at the Division of Water on October 14, 2003 for the above project in Allen County, Indiana. We would like you to know that the review is in process. If you should want to check on the status of the review, you may call the number listed above. Please refer to the above DNR # when calling and on all future correspondence regarding this project.

For your information, as of March 4, 2002, the Environmental Unit has been relocated to the Division of Water office, and I have taken over the position of Steve Jose as the new Environmental Coordinator. Also, if you have sent any Environmental Review requests to anyone in the Division of Outdoor Recreation, please eliminate this process immediately (that Division does not comment on these reviews unless the project is on or near a Land and Water Conservation Fund site). This will help in eliminating duplicate requests. **Please send any future Environmental Review requests to:**

Department of Natural Resources
Division of Water, Environmental Unit
Christie Kiefer, Environmental Coordinator
402 West Washington Street, W264
Indianapolis, IN 46204-2641

For future reference, always send three (3) entire copies of your Environmental Review request (in the same envelope preferably). When we receive these, we route one entire copy for review by the Division of Water and the Division of Nature Preserves, the second copy to the Division and Fish and Wildlife, and the third copy is forwarded to the Division of Historic Preservation for a separate review. If you have already sent or are going to send an Environmental Review request to the Division of Historic Preservation separately, **please state it on your cover sheet and submit only two (2) copies.**

If you have any questions or comments, please contact Alysson Slott, Environmental Secretary at the number above, or email her at aslott@dnr.state.in.us.

Sincerely,

Christie L. Kiefer

Christie L. Kiefer
Environmental Coordinator

"Rogers, Matt"
<Matt.Rogers@dnr.state.oh.us>
11/14/03 08:16 AM

To: "'Alcala, Noel'" <nalcala@dot.state.oh.us>
cc: "'Steck, Fred'" <fredric.steck@dot.state.oh.us>, "'Coleman, Art'" <art.coleman@epa.state.oh.us>, Becky Jenkins <Becky.Jenkins@dnr.state.oh.us>, Bob Fletcher <Bob.Fletcher@dnr.state.oh.us>, Debbie Woischke <Debbie.Woischke@dnr.state.oh.us>, Deborah Lindsley <Deborah.Lindsley@dnr.state.oh.us>, "Fay, Laura" <laura.fay@epa.state.oh.us>, Joe Mion <Joe.Mion@dnr.state.oh.us>, "Lammers,Kenneth" <Kenneth_Lammers@fws.gov>, Matt Rogers <Matt.Rogers@dnr.state.oh.us>, "Osterfeld, Dan" <dan.osterfeld@epa.state.oh.us>, Randy Sanders <Randy.Sanders@dnr.state.oh.us>, "Selbo, Sarena" <sarena_selbo@fws.gov>, "Seymour, Megan" <Megan_Seymour@fws.gov>
Subject: ODOT PAU/DEF-us24-24.00/0.00 PID 18904

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 in consultation with the Division of Wildlife and other divisions within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Environmental Policy Act, other applicable laws and regulations, and on our experience as a resource management agency. These concerns/comments 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.

The description of corridor geology in Section 3.1.1 of the DEIS does not provide a complete overview of geologic conditions in the study area. This deficiency may in part be due to the fact that the authors of the DEIS relied primarily on three county "soils" reports and U.S. Geological Survey (USGS) topographic maps to write this section of the report. No geologic reports from the state geological surveys of Ohio and Indiana, nor the USGS, are cited as being utilized in the writing of this section. While soils reports provide valuable information on the nature of surficial materials to be found within the upper five-feet of Earth's surface, they provide no information on geologic conditions below this depth. A description of all major, unconsolidated surficial-material units (as can be distinguished using water-well logs, existing engineering borings, etc.) from the surface down to bedrock is necessary to more fully characterize glacial and recent alluvial sediments in the project area. In addition, there is no description or discussion in this section of bedrock geology underlying the glacial drift.

The description of ground-water geology in Section 3.1.2 uses bedrock stratigraphic nomenclature that is very badly out of date. For example, the section on ground-water conditions in Paulding County refers to the Columbus Limestone and Delaware Limestone. These units are no longer recognized by geologists of the ODNR, Division of Geological Survey as being present in the study area. Bedrock units described by the authors of the DEIS as Columbus Limestone and Delaware Limestone are probably strata of the Detroit River Group and Dundee Limestone. The use of out-of-state stratigraphy for the project area is disturbing in consideration that the ODNR, Division of Geological Survey recently completed a statewide, reconnaissance-detail bedrock-geology mapping program, funded in part by a grant from the Ohio Department of Transportation, that included: 1) production of 1:24,000-scale bedrock-geology, bedrock-topography, and bedrock-structure maps for the project area, and 2) generation of descriptions for mapped bedrock units.

ODNR appreciates the opportunity to provide these comments.

Ohio EPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184

MAILING ADDRE
P.O. Box 1(
Columbus, OH 43216-10

November 12, 2003

Timothy M. Hill, Administrator, OES
Ohio Department of Transportation
Office of Environmental Services
PO Box 899
Columbus, Ohio 43216-0899

Re: Draft Environmental Impact Statement
PAU/DEF -US-24.00/0.00, PID 16904

Dear Mr. Hill:

We appreciated reviewing the Draft Environmental Impact Statement (DIES) and Wetland Delineation Study Addendum regarding the above referenced project. We received these reports in our office on September 30, 2003.

The environmental report and addendum are part of an ODOT investigation, in conjunction with the Indiana Department of Transportation (INDOT), for the purpose of developing improvements to SR 24, between New Haven, Indiana and Defiance, Ohio. After review of several feasible corridors and feasible alternatives within corridors, Preferred Alternative D-1 is being considered for further investigation.

Among the improvements to SR 24 presented, we believe Preferred Alternative D-1 warrants further consideration as a viable alternative. However, we would like to see further refinements of the Preferred Alternative to minimize habitat fragmentation and impacts to wooded habitat and wetlands scattered within the project boundary. Basically, this reiterates USFWS comment (Table 5.4, page 5-24) in regards to protecting wetlands and remnant habitats of the Great Black Swamp.

We offer the following focused comments:

1. **Importance of Swales and Ditches** - The linear swales/ditches and associated/adjacent wetlands and riparian vegetation (e.g. RC-14, RC -2, RC -5, RC-1(a)) running along railroad and road corridors could potentially be used as breeding habitat or migration corridors for wildlife, especially forms exhibiting metapopulation dynamics, such as amphibian populations. We encourage ODOT to consider methods to reduce or avoid direct and secondary impacts to these aquatic resources. The impacts could disrupt amphibian populations and preclude their migration between adjacent wooded habitats.

2. **Impact To Wetland RC - 2** - If Wetland RC-2 is impacted by Alternative D-1 could this potentially effect the hydrology of Wetland R-4. If the hydrology of Wetland R-4 is disturbed, will the a hydrological connection be reinestablished to this wetland?

3. **Habitat Fragmentation Assessment** - Page 3 - 32 states that approximately 75.4 acres and 20 individual woodlots will be impacted by Preferred Alternative D-1. Would it be possible to elaborate on these impacts in the context of habitat fragmentation in a format similar to that described in Pages III - 54 to III - 61 in the HOC/ATH PDEIS (HOC/ATH-33-17.00/0/00, PID 14040)? We are primarily interested in the extent and significance of habitat fragmentation from a cumulative perspective, and its influence on wildlife and community dynamics (e.g. interior forested/wooded community). If such an analysis is conducted, would it be possible to provide a discussion on the significance of "edge effects" and its influence on the propagation of invasive species.

4. **Impact To Remnant Wabash and Erie Canal** - Will Preferred Alternative D-1directly impact remnants of the Wabash and Erie Canal near Antwerp and CR - 180? Are there any efforts you are aware of to protect or restore this feature?

5. **Wetland R-1 and S-4 Complexes** - Both the Wetland R-1 complex and Wetland S-4, collectively, may provide water quality improvements to the Maumee River. We noted the water quality improvement potential of these high-quality wetlands in our February 26, 2002 letter to ODOT. Wetland S-4 may have a greater influence on water quality than R-1 because of its close proximity to the Maumee. The combined surface area of R-1 and S-4 should enhance the quality of water discharging into the Maumee. In addition, Stevens Ditch, in Pauling and Defiance Counties, may be an important source of hydrology for these wetlands. Therefore, we believe it is important to maintain the integrity of these wetlands and Stevens Ditch, to the best extent practicable. Do you believe this is a valid observation? Please explain.

6. **Mitigation and Restoration Opportunities in the Great Black Swamp area** - In addition to the wetland and stream mitigation strategies described on Page 3-15 and 3-19 of the DEIS, we would like to make you aware that the Black Swamp Conservancy is developing plans to restore a parcel of the original Great Black Swamp in Marie Delarme Creek near Antwerp, Ohio. The contact person on this

project, and similar efforts in the area, is Tim Schetter, Executive Director. We find your tentative mitigation proposal to acquire and preserve Wetlands R-1, RC -1, S-4, and associated buffer habitats appropriate and encourage further consideration of this action.

7. **Design Refinements:** Under Section 4.2 (Design Refinements), ODOT is considering the evaluation of the potential use of the Maumee & Western Railroad right-of-way. Could you elaborate on what ODOT is considering as potential use applications for the right-of-way?

This concludes our remarks on the submittals. If you would like a further discussion of the proposed project, you can reach me at (614) 644-2138.

Sincerely,

Arthur L. Coleman, Jr.
Environmental Specialist
Division of Surface Water

cc: Theresa Hudson, Buffalo District, USACOE
Wayne Gorski, USEPA, Reg. V
William Cody, OES, ODOT
Mike Pettegrew, OES, ODOT
Noel Alcala, OES, ODOT
Randy Sanders, REALM
Tom Balduf, DSW, NWDO
Kenneth C. Lammers, USFWS

NORTHEASTERN INDIANA REGIONAL COORDINATING COUNCIL

November 24, 2003

Ms. Jennifer Graf
Senior Project Manager
Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, 25th Floor
Cincinnati, OH 45202-2720

RE: US 24 Corridor Improvement

Dear Ms. Graf,

A concern has arisen over the alignment of Webster Road in Allen County, Indiana north of the selected route for the US 24 "Fort to Port" Project. The current alignment of Webster Road at its transition to Woodburn Road consist of a 90° angle. This transition occurs approximately 3200' north of the planned interchange of US 24 and Webster Road. The interchange will increase the volume of traffic on Webster Road and the existing alignment will not be conducive to safe and efficient traffic flow.

I have enclosed a letter from Mike Fitch, P.E., Executive Director of the Allen County Highway Department. The letter further describes the concern with the Webster Road alignment and includes a map with a proposed solution. Mike and I would appreciate consideration for improving the Webster Road alignment as part of the US 24 project.

Thank you for the opportunity to provide comment on the US 24 Project. If you have any questions or concerns, please feel free to contact me at (260) 449-7309.

Sincerely,

Daniel S. Avery
Executive Director

Enclosures

Copies provided to: Roger Manning - Indiana Department of Transportation
Brad Steckler - Indiana Department of Transportation
John Leckie - Indiana Department of Transportation

630 City-County Building
One East Main Street
Fort Wayne, Indiana 46802-1804

Executive Director: Daniel S. Avery
Telephone: (260) 449-7309
Fax: (260) 449-7682

Allen County Highway

One West Superior Street - Room 211 Fort Wayne, Indiana 46802
Pone: 260-449-7369 Fax: 260-449-7594

November 7, 2003

Mr. Dan Avery, Director
Northeastern Regional Coordinating Council
City-County Building, Room 630
Fort Wayne, Indiana 46802

Subject: US24 Improvements from Fort Wayne to Toledo

Dear Dan:

Last Wednesday evening I attending the US24 Public Hearing for the above-indicated project. Upon reviewing the plans, I noticed that the Webster Road/Woodburn Road Intersection, located just north of the new Webster Road interchange, has very poor geometric design. The existing ninety-degree (90°) turn and the three-way stop intersection on Woodburn Road will need improvements (see attached map). Webster Road is now a lightly traveled road; however, after the interchange is installed, this will be a major access point for the Town of Woodburn and Woodburn High School.

My recommendation would be to realign Webster Road (see attached map) with the existing three-way stop intersection and eliminate the ninety-degree (90°) turn. It may also be a good idea to relocate the Woodburn Road approach to the south to allow for a longer left turn stacking distance for southbound traffic turning left onto Woodburn Road.

I discussed this issue with Jennifer Graft, from Parsons Brinckerhoff Ohio Inc., at the Public Hearing. At first, she was hesitant to say it would be considered in the design of the project; however, later she pointed out that County Road T61, in Ohio, has a similar situation, where a new intersection was going to be built on an existing unimproved county road. Ohio had agreed to include the reconstruction of this road, as part of the US24 improvements. She recommended we submit the request and see what happens.

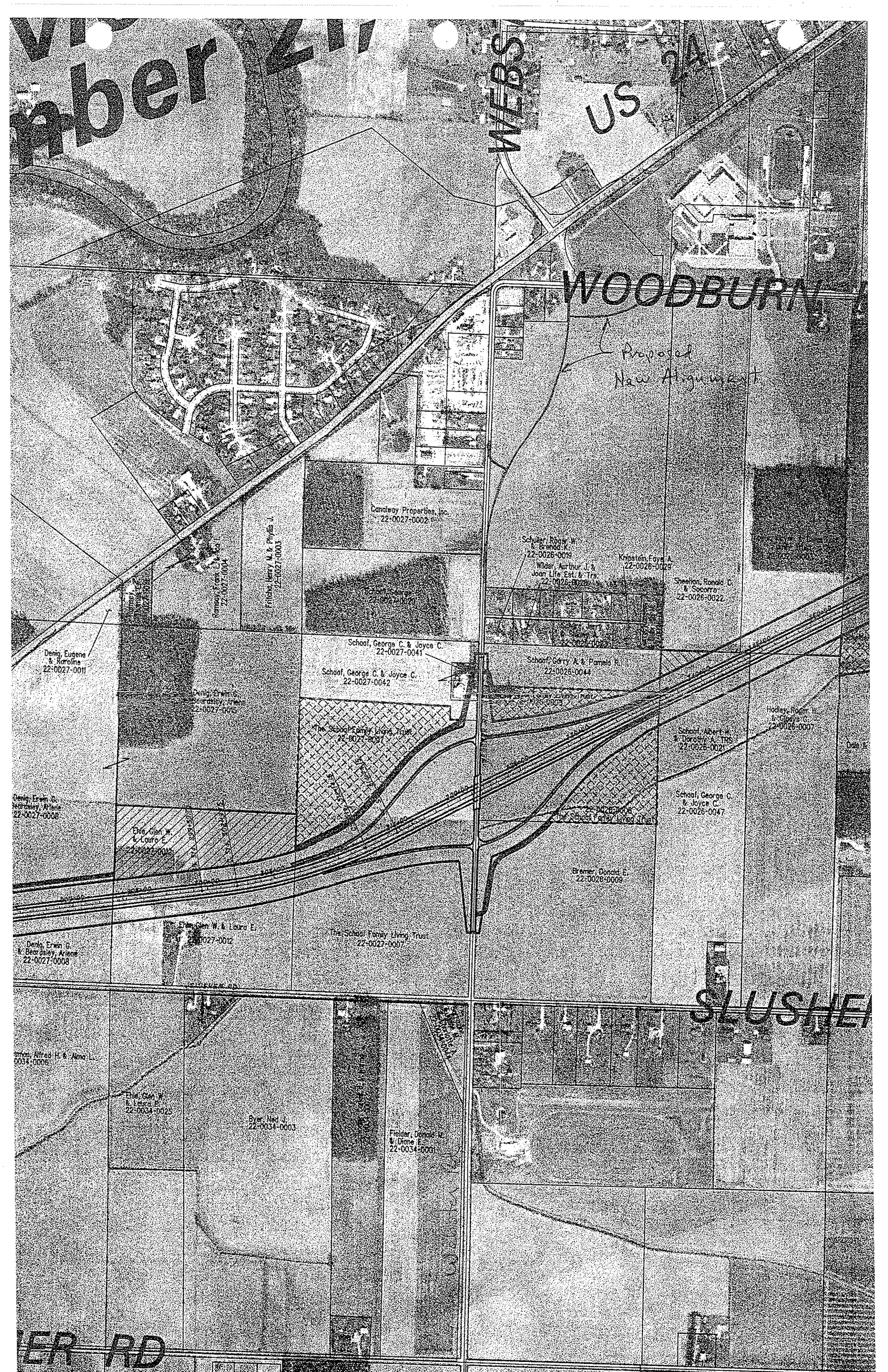
Please review this information and, if you feel this request is worthy of consideration by INDOT, please forward these comments to them for consideration.

Sincerely yours,

Michael R. Fitch, P.E.
Executive Director

MRF/mrs

Enc.



WEBS
US 24
WOODBURN
Proposed New Alignment
Canalway Properties, Inc. 22-0027-0002
Schuller, Roger W. & Brenda K. 22-0026-0019
Wilder, Arthur J. & Joan Life Est. & Trs. 22-0026-0028
Kristein, Faye A. 22-0026-0029
Sheehan, Ronald C. & Socorro 22-0026-0022
Fritcha, Henry M. & Phyllis J. 22-0027-0003
Ramsey, Frank L. & Ida 22-0027-0004
Denig, Eugene & Karoline 22-0027-0011
Schaaf, George C. & Joyce C. 22-0027-0041
Schaaf, George C. & Joyce C. 22-0027-0042
Schaaf, Garry A. & Pamela R. 22-0026-0044
Denig, Erwin G. & Beardsley, Arlene 22-0027-0015
The Schaaf Family Living Trust 22-0027-0007
Hadley, Roger H. & Gladys G. 22-0026-0007
Schaaf, Albert W. & Dorothy A. TRS 22-0026-0021
Schaaf, George C. & Joyce C. 22-0026-0047
Denig, Erwin G. & Beardsley, Arlene 22-0027-0008
Ehle, Glen W. & Laura E. 22-0027-0012
Bremer, Donald E. 22-0026-0009
The Schaaf Family Living Trust 22-0027-0007
Denig, Erwin G. & Beardsley, Arlene 22-0027-0008
SLUSHER
Ehle, Glen W. & Laura E. 22-0034-0025
Byer, Ned J. 22-0034-0003
Fielder, Donald M. & Diane E. 22-0034-0001
ER RD

C.3 Stream and Wetland Correspondence

Public Notice

U S Army Corps
of Engineers
Huntington District

In reply refer to Public Notice No.
200500745

Issuance Date:
August 8, 2005

Stream: NORTH CREEK

Closing Date:
September 8, 2005

Please address all comments and inquiries to:
U.S. Army Corps of Engineers, Huntington District
ATTN: CELRH-OR-F Public Notice No. (*reference above*)
502 Eighth Street
Huntington, West Virginia 25701-2070Phone: (304) 399-5210

RECEIVED
AUG 16 2005
PARSONS BRINCKERHOFF
DUBLIN, OHIO

PUBLIC NOTICE: The purpose of this public notice is to inform you of a proposal for work in which you might be interested. It is also to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest. We hope you will participate in this process.

REGULATORY PROGRAM: Since its early history, the U.S. Army Corps of Engineers (Corps) has played an important role in the development of the nation's water resources. Originally, this involved construction of harbor fortifications and coastal defenses. Later duties included the improvement of waterways to provide avenues of commerce. An important part of our mission today is the protection of the nation's waterways through the administration of the Corps Regulatory Program.

SECTION 404: The Corps is directed by Congress under Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharge of dredged and fill material into all waters of the United States, including wetlands. The intent of the law is to protect the nation's waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical and biological integrity.

TO WHOM IT MAY CONCERN: The following application has been submitted for a Department of the Army Permit under the provisions of Section 404 of the Clean Water Act. This notice serves as the Corps of Engineers' request to the Ohio Environmental Protection Agency (OEPA) to act on Section 401 Water Quality Certification for the following application:

APPLICANT: Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

LOCATION: The proposed project is located within the Maumee River, Tiffin River, North Creek, Zuber Cutoff, Sixmile Cutoff, Steven Ditch, Dowe Ditch and their unnamed tributaries and adjacent wetlands along the 26-mile alignment of the relocated U.S. Route 24 in Paulding and Defiance Counties, Ohio.

DESCRIPTION OF THE PROPOSED WORK: The applicant proposes to construct 26-miles of U.S. Route 24 on a new alignment between the Ohio/Indiana state line in Paulding County to State Route 18 in Defiance County, Ohio. The eastern portion of this corridor, which has been identified as a strategic link in the region's and nation's highway network, provides the most direct access between Fort Wayne, Indiana and Toledo, Ohio. The Ohio Department of Transportation (ODOT) and the Indiana Department of Transportation (INDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to improve this stretch of U.S. Route 24. In a letter dated April 12, 2001, the Corps of Engineers – Buffalo District indicated the Ohio portion of the proposal would be evaluated as a "single and complete" project. INDOT would obtain authorization for work within waters of the United States along the new alignment from Fort Wayne to the Indiana/Ohio border. The Corps of Engineers – Detroit District would handle permit evaluation for the Indiana segment of the proposal. ODOT will obtain authorization for impacts to waters of the United States along the new 26-mile alignment from the Indiana/Ohio border to Defiance, Ohio.

According to the applicant, this stretch of 2-lane roadway cannot accommodate current traffic demand due to inadequate capacity and does not meet current design criteria. The proposed relocation project would provide an acceptable Level of Service and safety and improve mobility and transportation efficiency along this segment of State Route U.S. 24. The proposal would result in impacts to 7,944' of eleven stream channels and 20.03 acres of eighteen jurisdictional wetlands.

Work associated with the proposal would consist of the construction of a new 4-lane highway with 12' wide driving lanes, 60' grass median, 10' paved right side shoulder, and 4' wide left side shoulder bordered by grass drainage ditches and embankments. The existing bridges over the Maumee and Tiffin Rivers would be removed and replaced and the existing interchange at State Route 15/18 and U.S. 24 would be upgraded. Six service roads would be constructed to provide access to 139 acres of land that would otherwise be landlocked by the proposal. As a result of public comment, a connector road would be constructed to link West High Street to State Route 15/18. Impacts to waters of the United States would include culvert/bridge construction, stream relocation, temporary stream de-watering, and roadway construction. Specifics regarding the proposed impacts can be found in Tables A-F. A total 26,405 cubic yards of clean fill material will be placed in approximately 22.3 acres of waters of the United States in conjunction with the proposal.

MITIGATION PLAN: The applicant has submitted a conceptual compensatory mitigation plan (CMP) to compensate for permanent impacts to waters of the United States regulated by the United States Army Corps of Engineers. The applicant proposes to incorporate natural stream channel design techniques within relocated segments of streams on-site, implement best management practices, restore and preserve wetlands/streams on-site, and obtain conservation easements along stream channels within the affected watershed.

The applicant proposes to incorporate natural stream channel design techniques into approximately 2,025' of the relocated segment of Stevens Ditch. The reconstructed stream channel would incorporate meanders, a two-stage channel, riffle/pool complexes, gradual sloping benches (10:1 to 24:1), and

vegetated riparian corridors. The sloping benches would provide for a bank-full width and areas for the establishment of hydrophytic vegetation and the riparian corridor. The riparian corridor would include four native tree species (red maple, pin oak, American sycamore, black willow), one native shrub species (buttonbush), and a native low growing slope seed mixture. Erosion protection would be established along the outside bank of meander locations to provide for channel stability. Other on-site stream mitigative techniques would include implementation of a sediment and erosion control plan, stormwater detention/treatment facilities, and oversized, buried culverts.

The applicant has proposed the 163-acre Plummer Property, which consists of two parcels, 291-WD and 291-WD1, as the primary mitigation site. The parcel is located south of the existing U.S 24/SR 424 intersection in Defiance County. The applicant proposes to preserve 3,268' of Stevens Ditch and 1,060' of an unnamed tributary of Stevens Ditch, 33 acres of mature woodland, 7.6 acres of Category 3 forested wetland, and 9.0 acres of agricultural land on parcel 291-WD. The applicant also proposes to restore approximately 26 acres of forested, shrub-scrub, and emergent wetland and preserve 53 acres of forested Category 3 wetland and 39 acres of mature deciduous woodland on parcel 291-WD1.

The proposed wetland restoration activities would include re-grading the existing agricultural field located in the southwestern corner of parcel 291-WD1. Soils at the site consist of Paulding Clay (hydric) and Roselms silty clay loam (hydric components). Hydrology at the site would be dictated by the flat topography of the site and the low permeability of the soils. The re-grading activities and construction of low berms would help to capture and hold water on the parcel. One outflow structure would be placed at the northern corner of the site to regulate water levels in the wetland, if necessary. Native hydrophytic plant species similar to those species found within the adjacent Category 3 wetlands would be established within the wetland area. Vernal pools, with a maximum depth of 1 foot, would also be constructed within the western section of the woodlot adjacent to the existing Category 3 wetlands. The applicant is also in the process of negotiating the purchase of conservations easements along 5,205' of the Maumee River, which would include 35 acres of wooded riparian corridor and agricultural land.

All restored wetlands and stream channels would be monitored for a period of at least five years. All preserved wetlands and stream channels would be preserved in their natural state via a deed restriction and/or conservation easement. Copies of the conceptual mitigation plan are available for review upon request.

A total of 20.03 acres of jurisdictional wetland would be filled as a result of the proposal. The project does not require access to or sitting within the wetlands to fulfill its basic purpose and is considered a non-water dependent activity. The Section 404(b)(1) Guidelines state that for non-water dependent activities, practicable alternatives that do not involve wetlands are presumed to be available unless clearly demonstrated otherwise. The applicant is required to provide an alternative analysis that must overcome the presumption prior to receiving authorization for the placement of fill material. The applicant has submitted the required alternative analysis and it is currently being reviewed.

Plans of the proposed work are attached to this notice.

A section 401 Water Quality Certification is required for this project. It is the applicant's responsibility to obtain the certification from the Ohio Environmental Protection Agency.

HISTORIC AND CULTURAL RESOURCES: The National Register of Historic Places has been consulted and it has been determined no sites eligible for the Register are located within the project area. The applicant conducted Phase I and II Cultural Resources Surveys at the site and found no sites eligible for the Register. The Ohio State Historic Preservation Office (OSHPO) concurred with this finding. A copy of this public notice will be furnished to the OHSPO for their review. Comments concerning archeological sensitivity of the project area should be based upon collected data.

ENDANGERED/THREATENED SPECIES REVIEW: The project is located within the known or historic range of the following endangered species:

Indiana bat
Clubshell mussel
Eastern massasauga
Copperbelly water snake

The Huntington District has consulted the most recently available information and based on the proposed avoidance and minimization measures, the project is not likely to adversely affect the Indiana bat and clubshell mussel and would have no effect on the eastern massasauga and copperbelly water snake or designated critical habitat for these Federally listed species. This public notice serves as a request to the U.S. Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).

PUBLIC INTEREST REVIEW AND COMMENT: Any person who has an interest that may be adversely affected by the issuance of a permit may request a public hearing. The request must be submitted in writing to the District Engineer on or before the expiration date of this notice and must clearly set forth the interest which may be adversely affected and the manner in which the interest may be adversely affected by the activity. This application will be reviewed in accordance with 33 CFR 320-331, the Regulatory Program of the U. S. Army Corps of Engineers (USACE), and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the U. S. Environmental Protection Agency pursuant to Section 404(b) (1) of the CWA. Interested parties are invited to state any objections they may have to the proposed work. The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit that reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered including the cumulative effects thereof; of those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline

erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. Written statements on these factors received in this office on or before the expiration date of this public notice will become a part of the record and will be considered in the final determination. A permit will be granted unless its issuance is found to be contrary to the public interest.

SOLICITATION OF COMMENTS: The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. For accuracy and completeness of the administrative record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before the close of the comment period listed on page one of this Public Notice. If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to:

Kimberly Courts-Brown, Regulatory Project Manager
North Regulatory Section, CELRH-OR-FN
U. S. Army Corps of Engineers Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070.

Please note names and addresses of those who submit comments in response to this public notice may be made publicly available. Thank you for your interest in our nation's water resources. If you have any questions concerning this public notice, please contact Kimberly Courts-Brown of the North Regulatory Section at 304-399-5210.

for Mark A Taylor
Ginger Mullins, Chief
Regulatory Branch

(O)

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

RECEIVED
MAR 28 2005
OFFICE OF
ENVIRONMENTAL SERVICES

March 24, 2005

Timothy M. Hill, Administrator
Office of Environmental Services
Ohio Department of Transportation
1980 West Broad Street
Columbus, OH 43223

Dear Mr. Hill:

Scenic Rivers staff has reviewed your request of using only the DOW exclusionary dates for the Maumee River crossing, PAU/DEF-24 (PID 18904). We concur based on the following – this portion of the Maumee State Scenic River is impounded due to Independence Dam, and this impounded area is lacking in good in-stream habitat for any sensitive species.

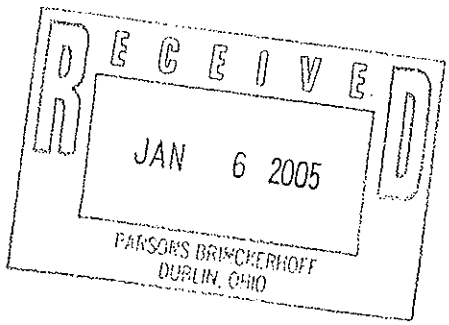
Sincerely,

Robt. A. Vargo

Robert A. Vargo
NW Ohio Scenic River Manager
ODNR/DNAP

OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, P.O. BOX 899, COLUMBUS, OHIO 43216-0899
OFFICE OF ENVIRONMENTAL SERVICES

December 29, 2004



Black Swamp Conservancy
115 West Front Street
PO Box 332
Perrysburg, Ohio 43552-0332
Attention: Mr. Pete Tait

RE: Stream Mitigation Opportunity
PAU/DEF-24 (PID 18940)

Dear Mr. Tait;

The Ohio Department of Transportation (ODOT) appreciates you and members of your organization taking the time to meet with our environmental staff on December 9, 2004 to discuss a proposal that would create a partnership between our organizations. This partnership would be utilized for the sole purpose of acquiring conservation easements on properties adjacent to the Forrest Woods Nature Preserve owned and managed by the Black Swamp Conservancy in Defiance County, Ohio. Additionally, there is an opportunity for the BSC to acquire a 160+/- acre wetland mitigation parcel from ODOT if an agreement can be reached on the aforementioned partnership proposal and the additional requirements placed on the wetland mitigation parcel.

As a result of the December 9th meeting, ODOT staff was able to make the following observations and conclusions. They are as follows.

1. The BSC board members, in attendance, had a few concerns with the proposal and expressed a need to discuss some key points of the meeting with fellow BSC members. It was determined that this opportunity would be placed on two future meeting agendas, one of which was scheduled for December 21, 2004 and the other in mid January. A final decision on partnership would be made after the January meeting.

2. The BSC currently only accepts easements through donation. These same property owners are required to make a voluntary donation of funds for the BSC to manage these parcels. The BSC is requesting that ODOT consider adding stewardship language to the conservation instrument to assist the BSC with the management of any easements acquired through this partnership. ODOT environmental staff will ask the Attorney General office for assistance on the topic. Additionally, the BSC may not have the capability to properly fund or monitor the wetland mitigation site but may be willing to partner with a local university to assit with the monitoring requirements of the ODOT 404/401 permits.

3. The BSC needs time to evaluate the conservation easement instrument language presented by ODOT. If the BSC agrees to pursue a partnership with ODOT then potential changes and additions to the instrument will be provided to ODOT by January 14, 2005.

We believe this is an amazing opportunity for the Black Swamp Conservancy (BSC). This opportunity will provide your organization with the chance to expand the protection of two very high quality streams within this region of Ohio, that being the Marie DeLarme and the Maumee State Scenic River and potentially acquire a very large category 3 wetland complex.

In closing, ODOT is prepared to approach the Forest, Harper and Gordon families but must first understand your organization's position before going into negotiations. As requested in the meeting, ODOT environmental staff would greatly appreciate an answer to the items above on or before January 14, 2005.

If you have any questions or concerns please feel free to contact Mr. Don Rostofer at (614) 387-3057 between 7:00 am and 3:30 pm, Monday thru Friday or by email at don.rostofer@dot.state.oh.us.

Sincerely,

Paul Graham, for

Mr. Timothy M. Hill, Administrator
Office of Environmental Services

TMH:WRC:MAP:DER

cc: Kirk Slusher, Noel Alcala, Jennifer Graf, file, permit file, reading file

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

RECEIVED
DEC 30 2004
PB OHIO, INC.

REPLY TO
ATTENTION OF:

December 28, 2004

Regulatory Branch

SUBJECT: Department of the Army Application No. 1999-02122(4)

Mr. Timothy M. Hill
Ohio Department of Transportation
Office of Environmental Services
P.O. Box 899
Columbus, Ohio 43216-0899

Dear Mr. Hill:

I am writing to you in regard to your request for a wetland delineation verification and a jurisdictional determination for the proposed preferred alternative right-of-way for the new Route 24 limited access road project, PID 24334, located in Paulding and Defiance Counties, Ohio.

On January 9, 2001, the U.S. Supreme Court issued a ruling that affected the Corps of Engineers authority to regulate isolated, non-navigable, intrastate waters under the Clean Water Act (Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers, No. 99-1178). Specifically, the case involved statutory and constitutional challenges to the assertion of Clean Water Act jurisdiction over isolated, non-navigable, intrastate waters where use of the site by migratory birds established the necessary interstate commerce connection. The U.S. Supreme Court found that use of the site by migratory birds alone is **not** sufficient to establish Federal jurisdiction over isolated wetlands, and that such areas are not waters of the United States and are **not** subject to regulation under Section 404 of the Clean Water Act.

In light of the recent Supreme Court decision, I have reviewed various maps and the administrative record for the project. Based on this review, I have determined that the following wetlands within the proposed right-of-way are isolated, non-navigable, intrastate waters that are not subject to regulation under Section 404 of the Clean Water Act: L-8(A), L-8(B), No-15, W-4(B), W-4(C), W-4(D), W-4(E), W-4(G), W-4(H), 1, 2, 3, and 4. Accordingly, you do not need Department of the Army authorization to commence with work within those wetlands.

Based on those same criteria, the following wetlands remain subject to Federal jurisdiction: L-9(B), L-6, 10, 9, 9a, 8, RC-10, RC-14(B), W-4(A), W-4(F), W-4(I), OH-6, RC-1, RC-2, RC-5,

Regulatory Branch
SUBJECT: Department of the Army Application No. 1999-02122(4)

R-4, S-4, R-1(A), R-1(B), R-1(C), R-1(F), and R-1(G).

I am hereby verifying the Federal wetland boundary within the proposed right-of-way only, as shown on the attached wetland delineation maps dated November 20, 2004. This verification was confirmed on 11/29/2004 and will remain valid for a period of five (5) years from the date of this correspondence. At the end of this period, a new wetland delineation will be required if a project has not been completed on this property and additional impacts are proposed for waters of the United States.

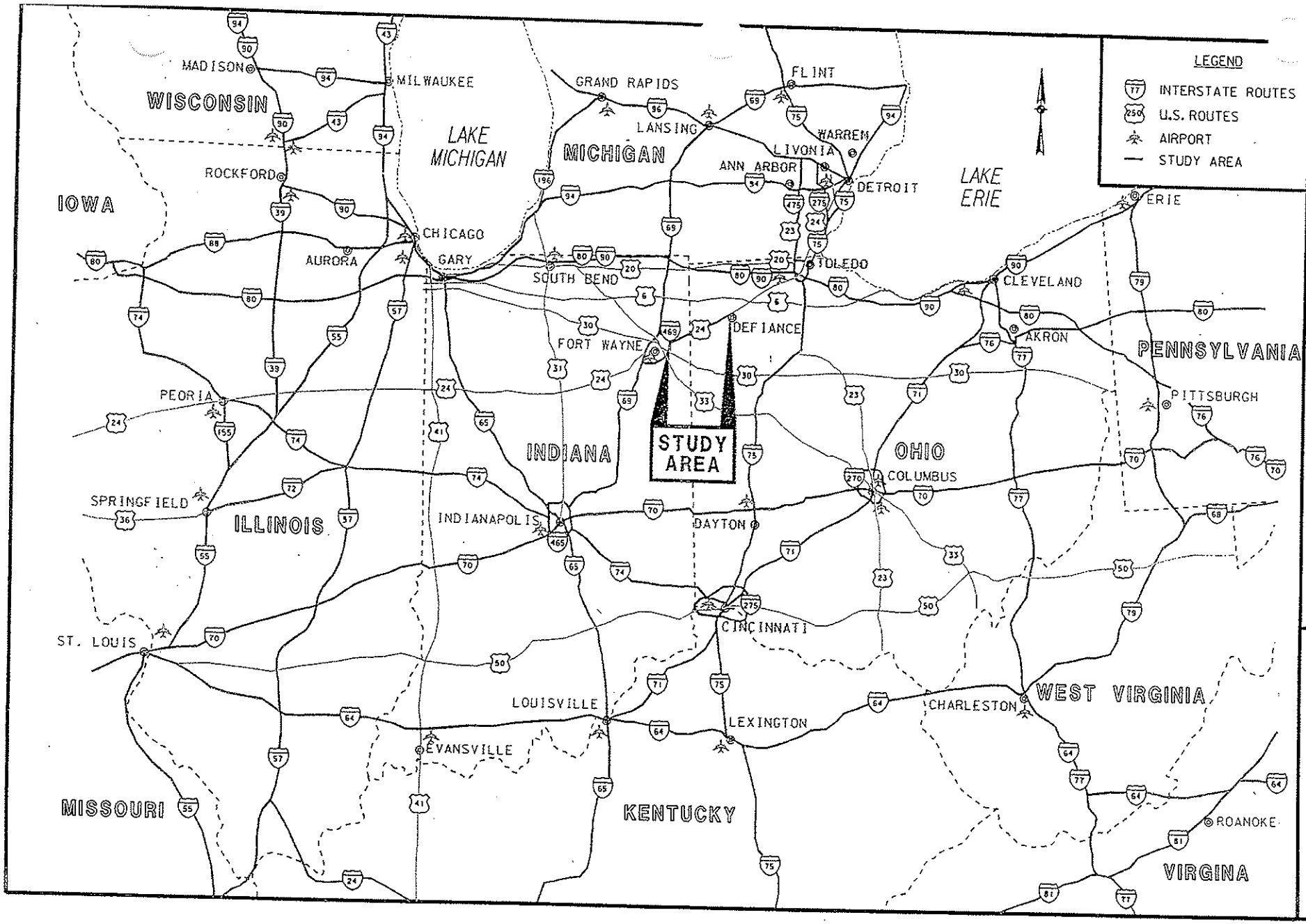
I encourage you to contact the appropriate state and local governmental agencies, including the Ohio Environmental Protection Agency (OEPA), to insure that the proposed work complies with their requirements. You can reach the OEPA Division of Surface Water at (614) 644-2001.

A copy of this letter has been forwarded to: Ms. Jennifer Graf, Parsons Brinkerhoff Ohio, Inc., and Mr. Art Coleman, Ohio Environmental Protection Agency.

Questions pertaining to this matter should be directed to Elizabeth W. Stone at (716) 879-4363, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207, or by e-mail at: elizabeth.w.stone@usace.army.mil

Sincerely,

Elizabeth W. Stone
Project Manager, Regulatory Branch



PARSONS BRINCKERHOFF
OHIO, INC.

REGIONAL CONTEXT MAP

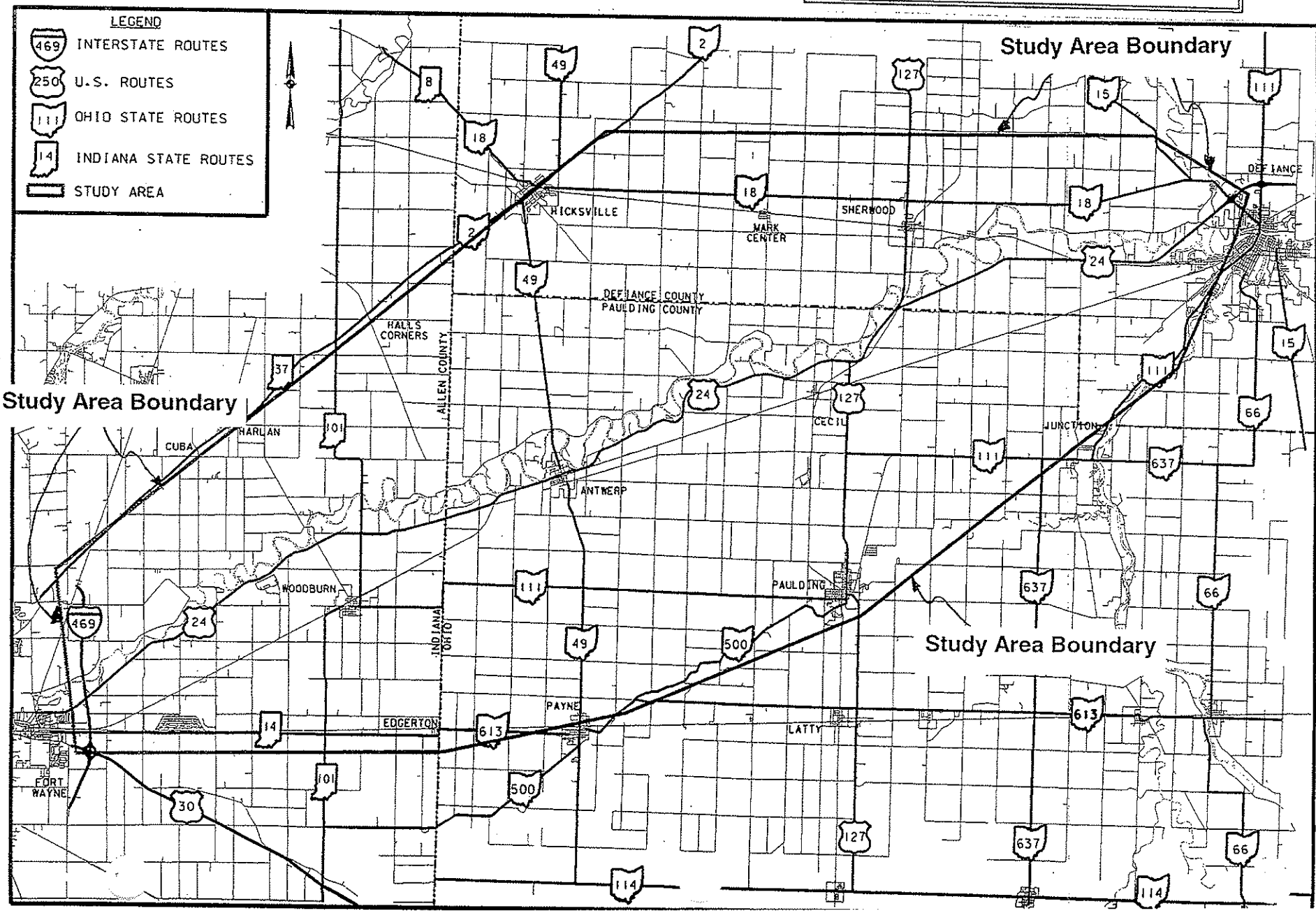
FIGURE 1

PAUDEF-24-0.000.00
OHIO DEPARTMENT
OF TRANSPORTATION

2

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 1 of 26 GENERAL STUDY AREA

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 2 of 26 STUDY AREA BOUNDARIES



PARSONS BRINCKERHOFF
OHIO, INC.

STUDY AREA BOUNDARIES

FIGURE 2

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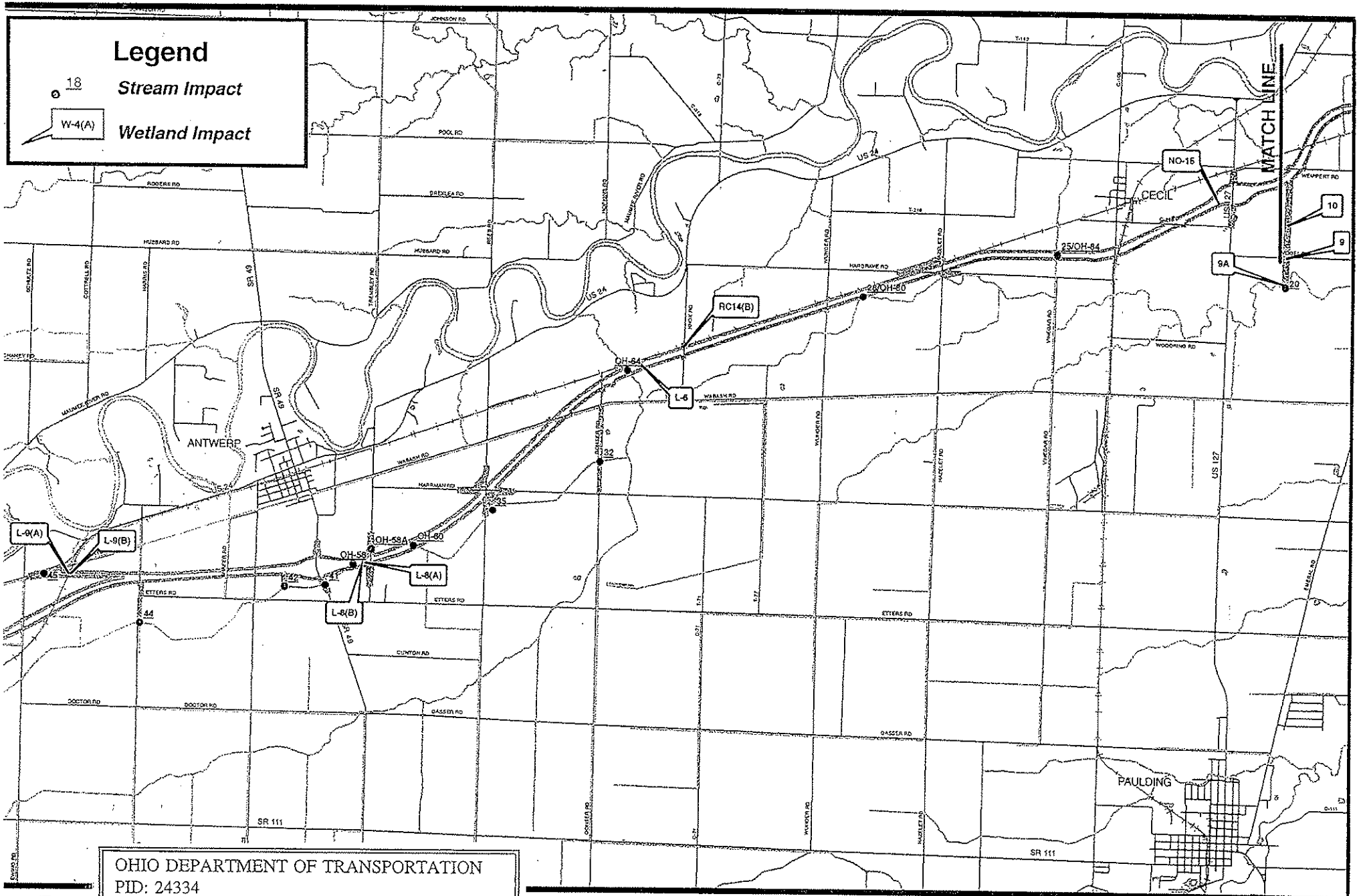
OHIO DEPARTMENT
OF TRANSPORTATION

Project # P201A1E3 October 2004// p201a1/gis/permit figures.mxd



OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 3 of 26 LOCATION MAP 1 OF 2

Location Map
Wetland and Stream Impacts
PAU/DEF 24-0.00 PID 24334

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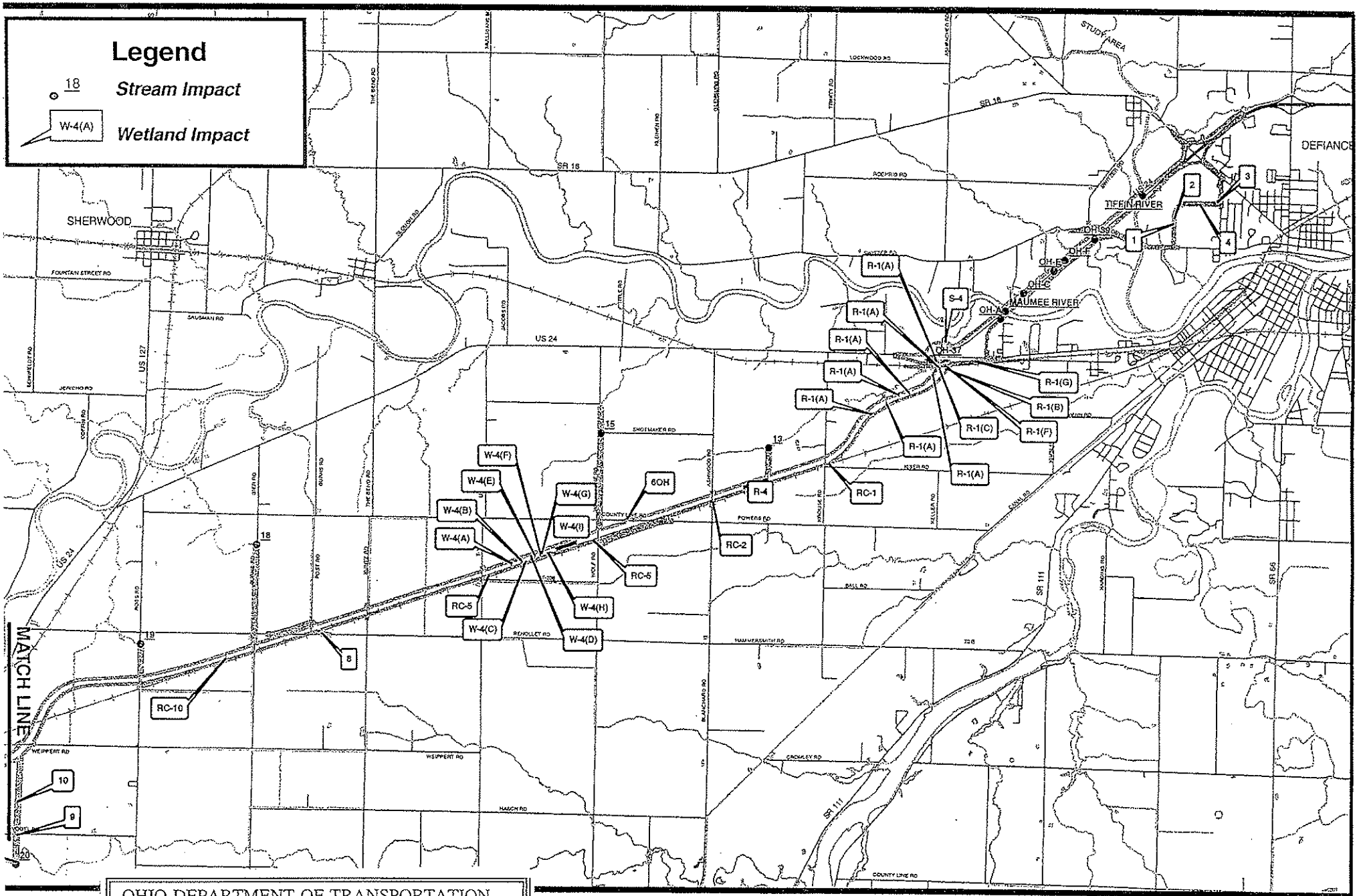

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
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[illegible] 4 of 26 LOCATION MAP 2 OF 2

Location Map
Wetland and Stream Impacts
PAU/DEF 24-[illegible] PID 24334

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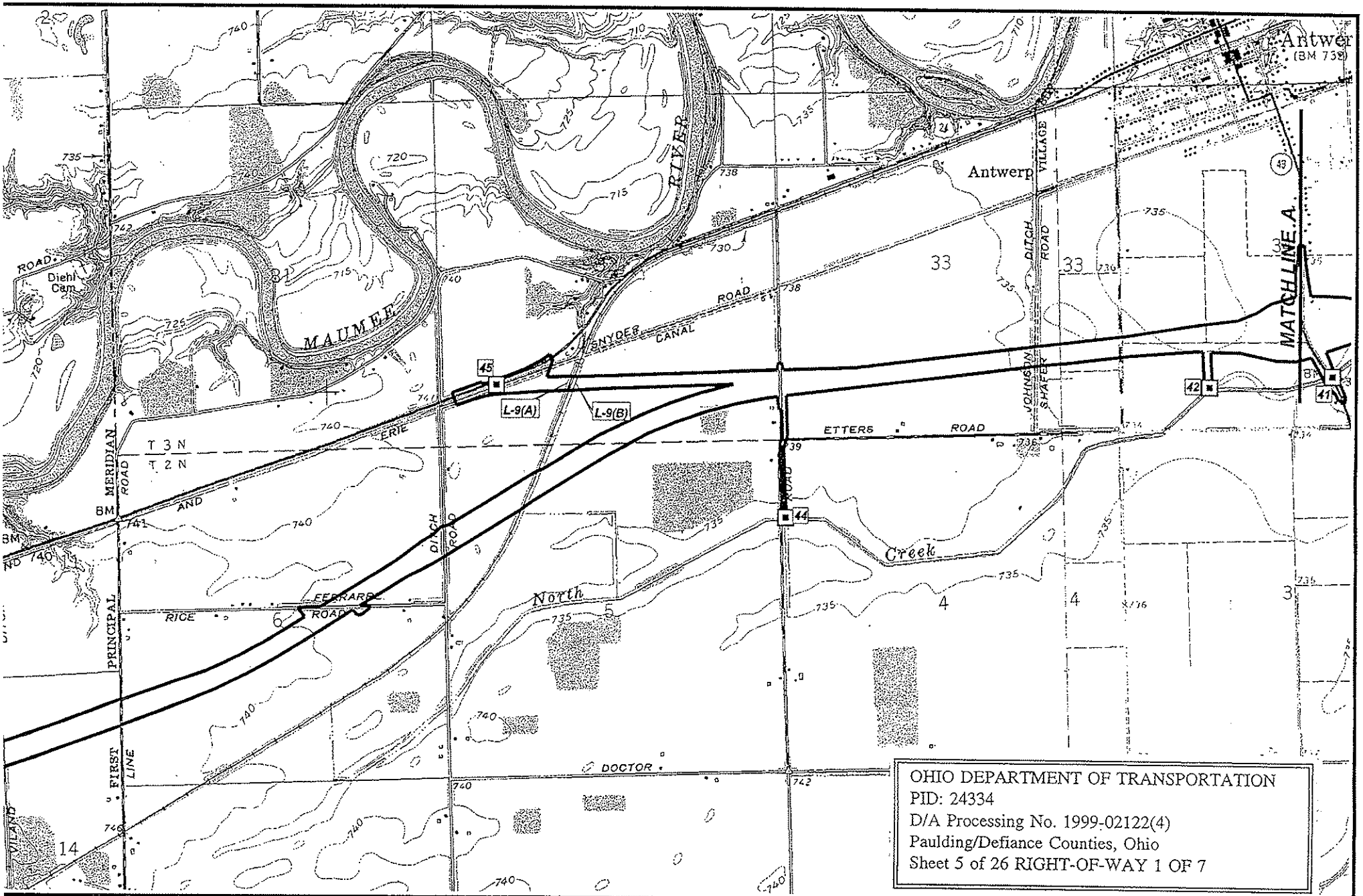
Project # P201A1E3C NOVEMBER 2004



OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 5 of 26 RIGHT-OF-WAY 1 OF 7

Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
Civil Engineering, Surveying and Environmental Consulting
TOLEDO ♦ MONROE ♦ DETROIT

PAU/DEF 24-0.00 PID 24334
RIGHT-OF-WAY MAP

Legend
Right-of-Way
Stream Impact
Wetland Impact

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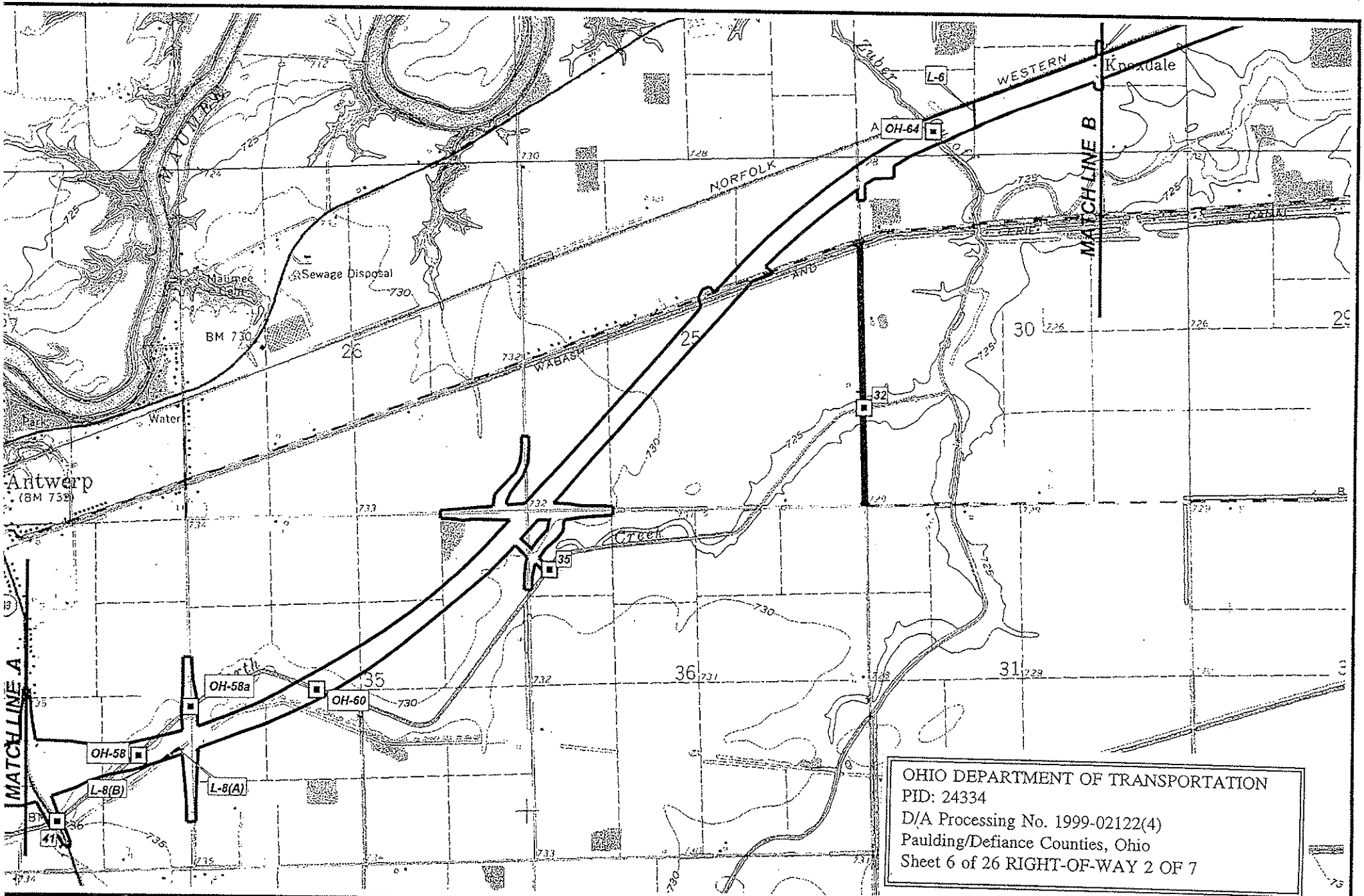
Project # P201A1E3C NOVEMBER 2004



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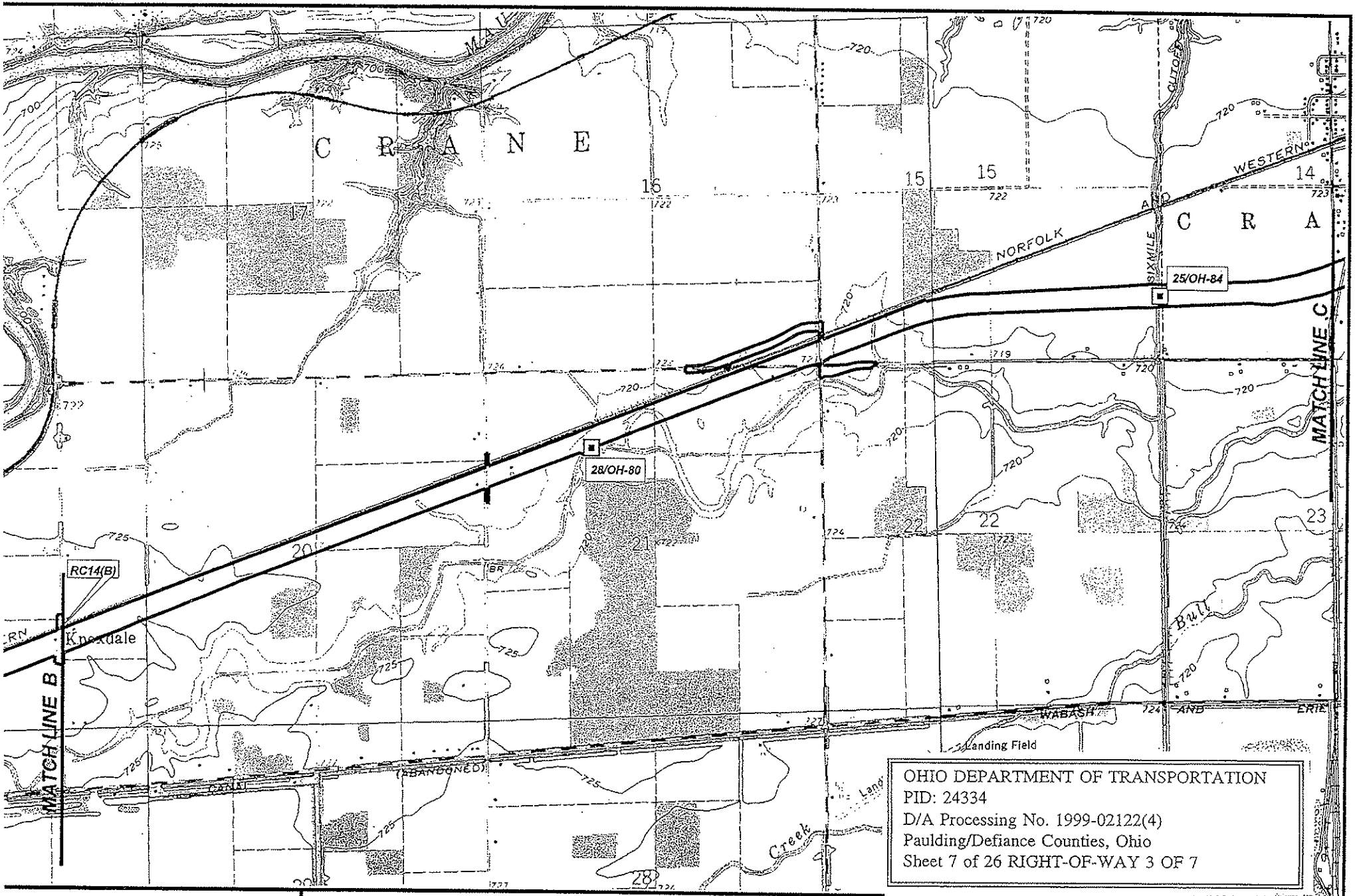

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 7 of 26 RIGHT-OF-WAY 3 OF 7

The Mannik & Smith Group
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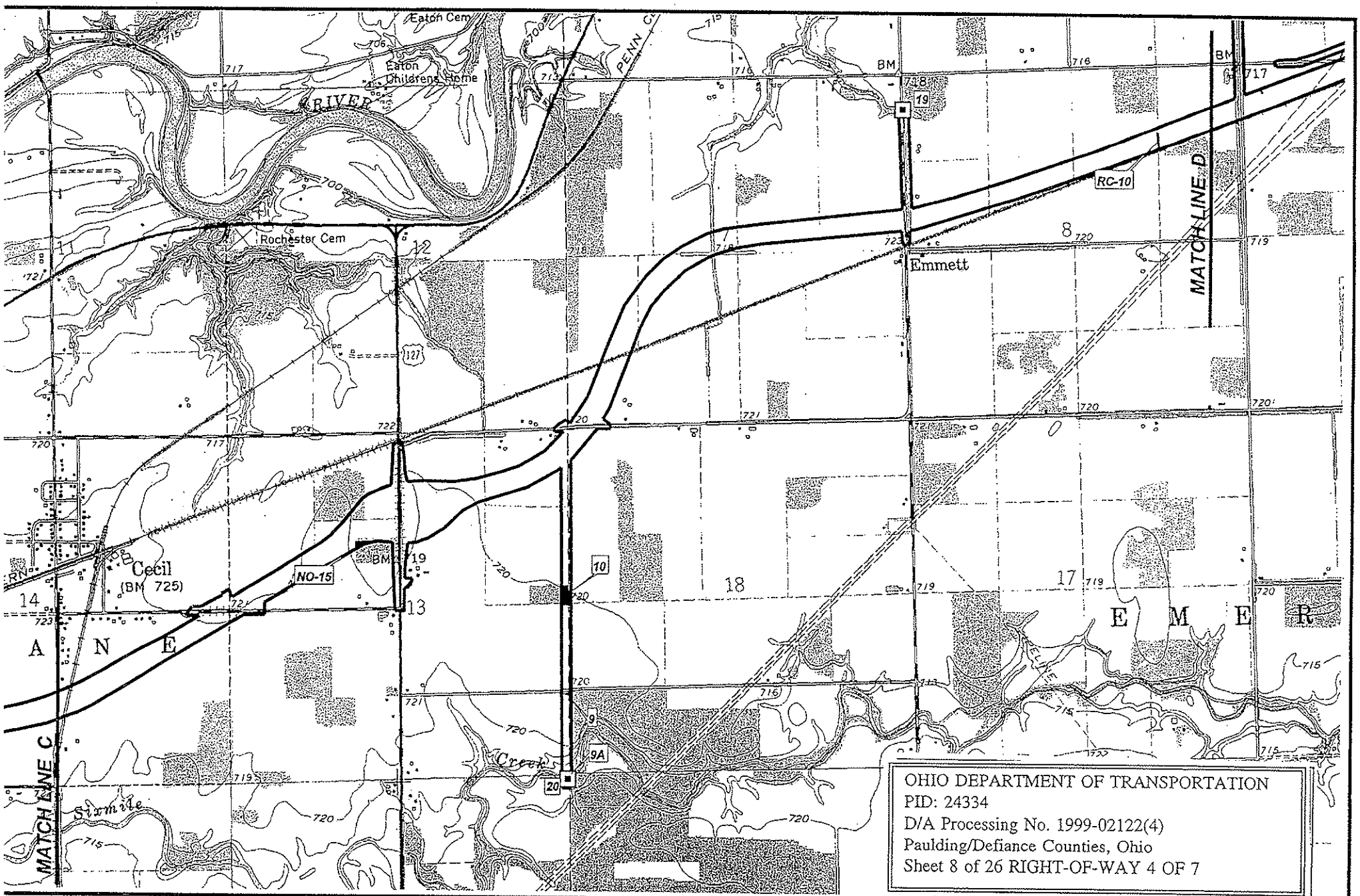

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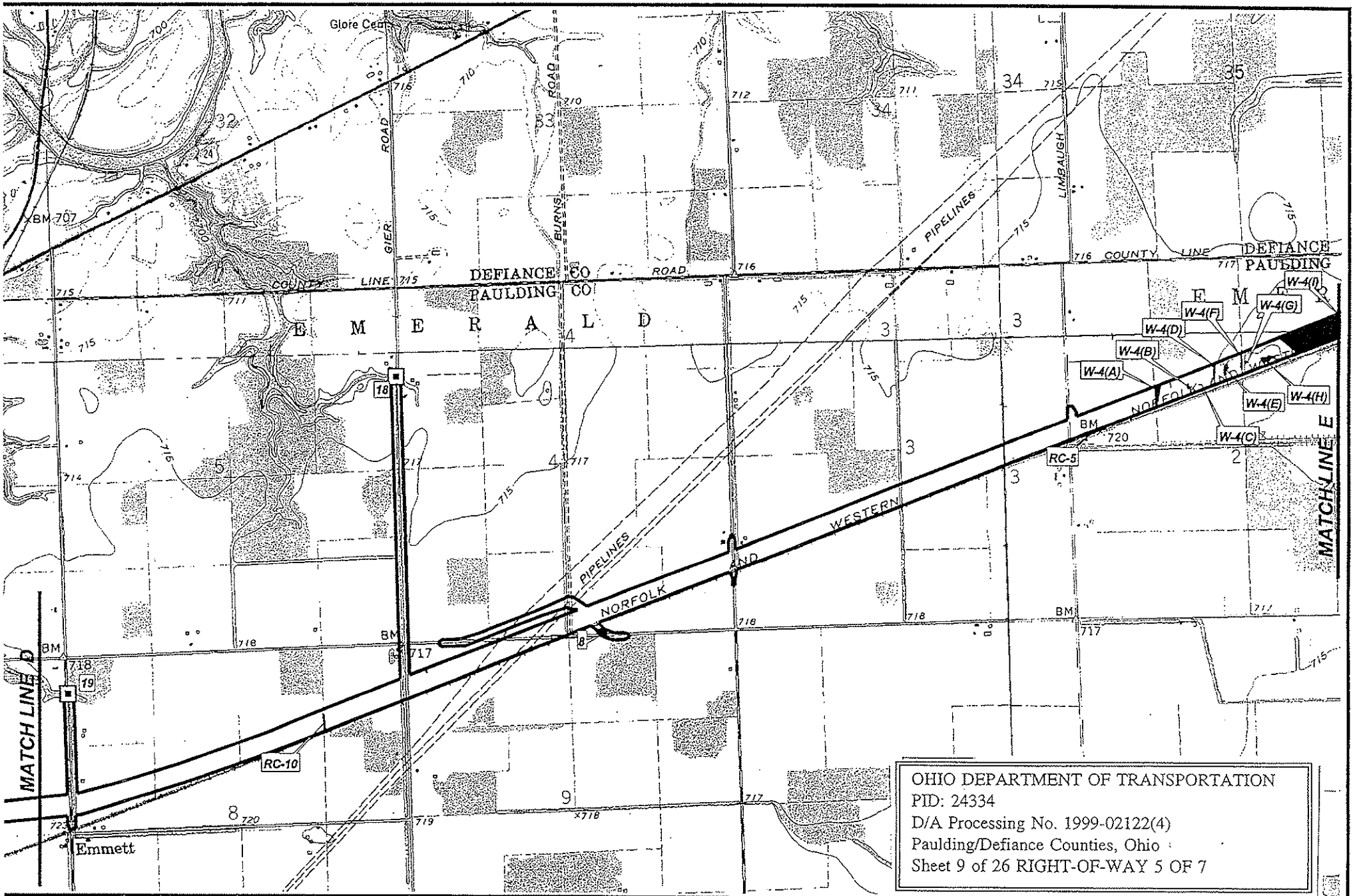

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 9 of 26 RIGHT-OF-WAY 5 OF 7

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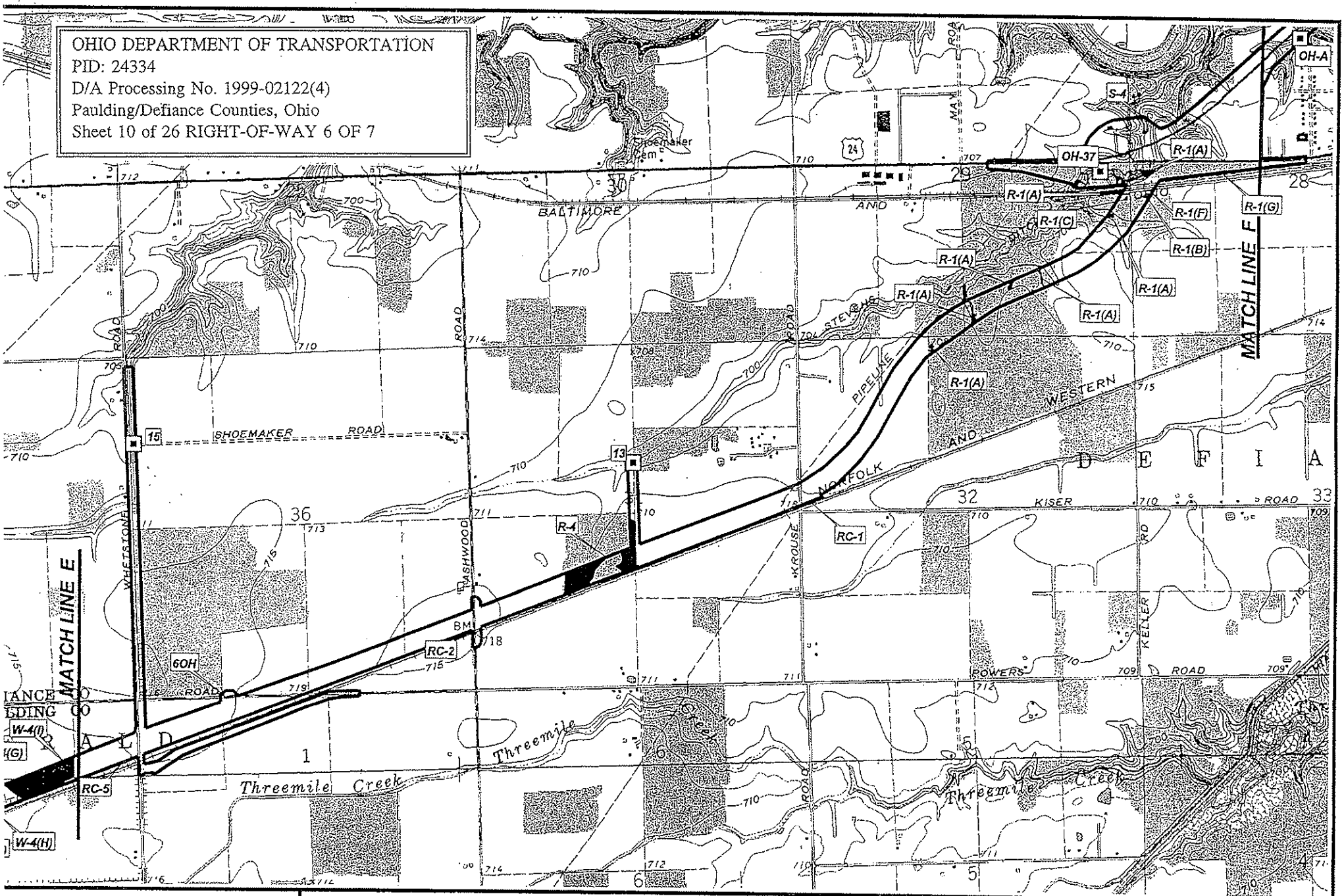

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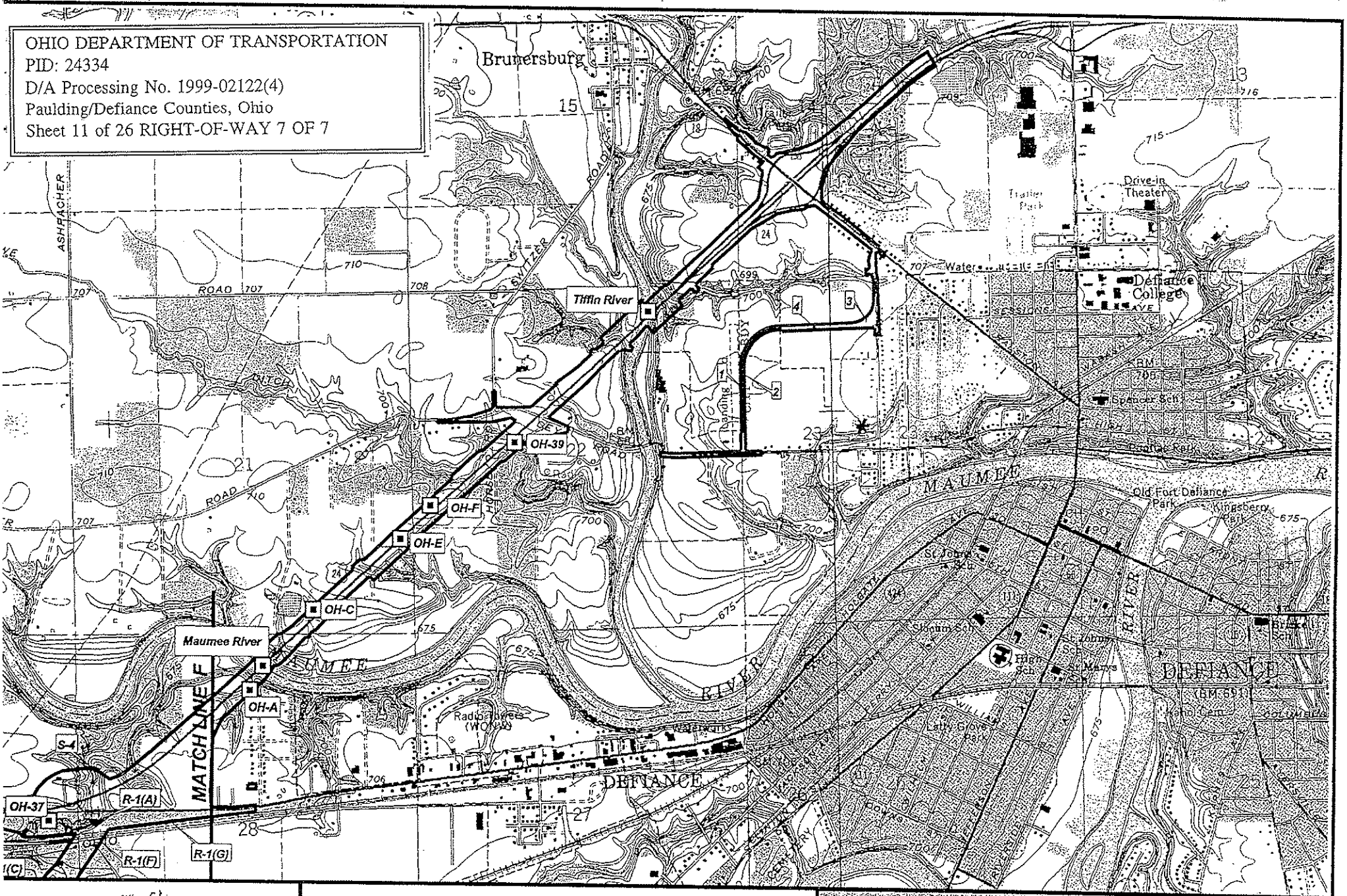
OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 11 of 26 RIGHT-OF-WAY 7 OF 7



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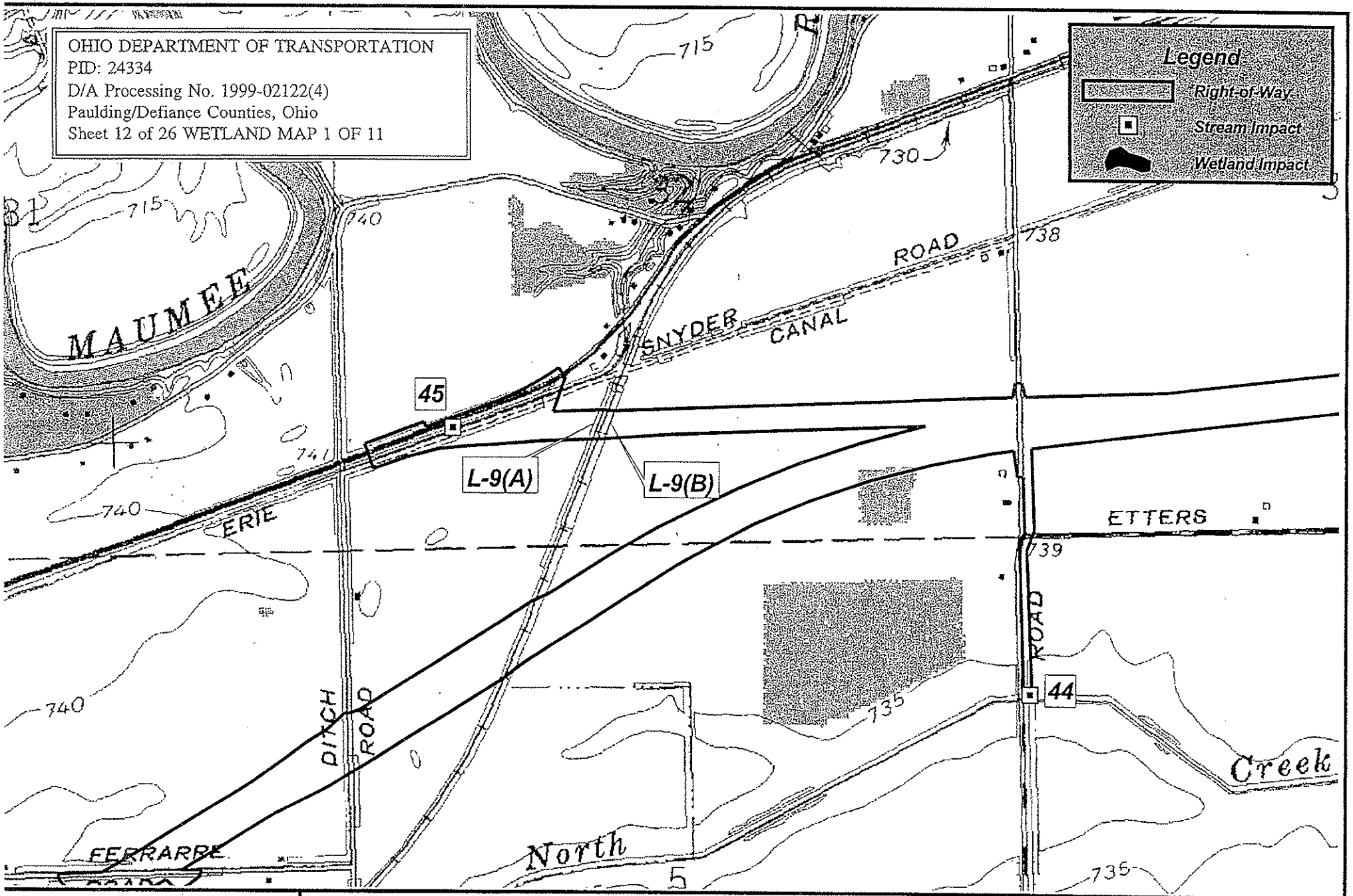

The Mannik & Smith Group
800 Indian Wood Circle
Maumee, Ohio 43537
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Fax: (419) 891-1595
Civil Engineering, Survey Environmental Consulting
TOLEDO ♦ H... ♦ DETROIT

Figure 1
Impacted Jurisdictional Streams a[illegible] Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Woodburn N., IN/OH 1958
Photoinspected 1994

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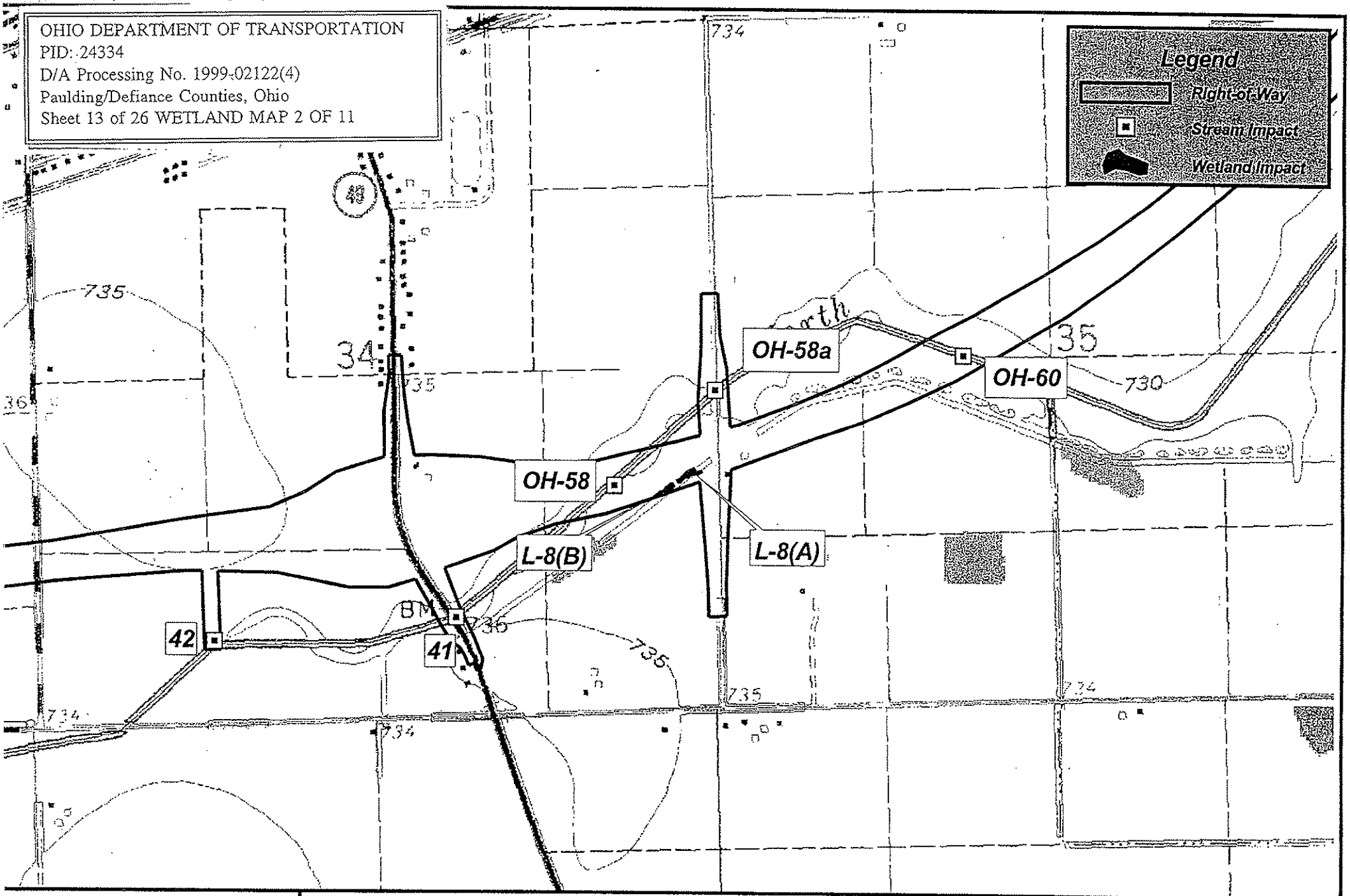
OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 13 of 26 WETLAND MAP 2 OF 11



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Civil Engineering, Surveying and Environmental Consulting
TOLEDO ♦ MONROE ♦ DETROIT

Figure 2
Impacted Jurisdictional Streams and Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Antwerp, Paulding Co., OH 1960

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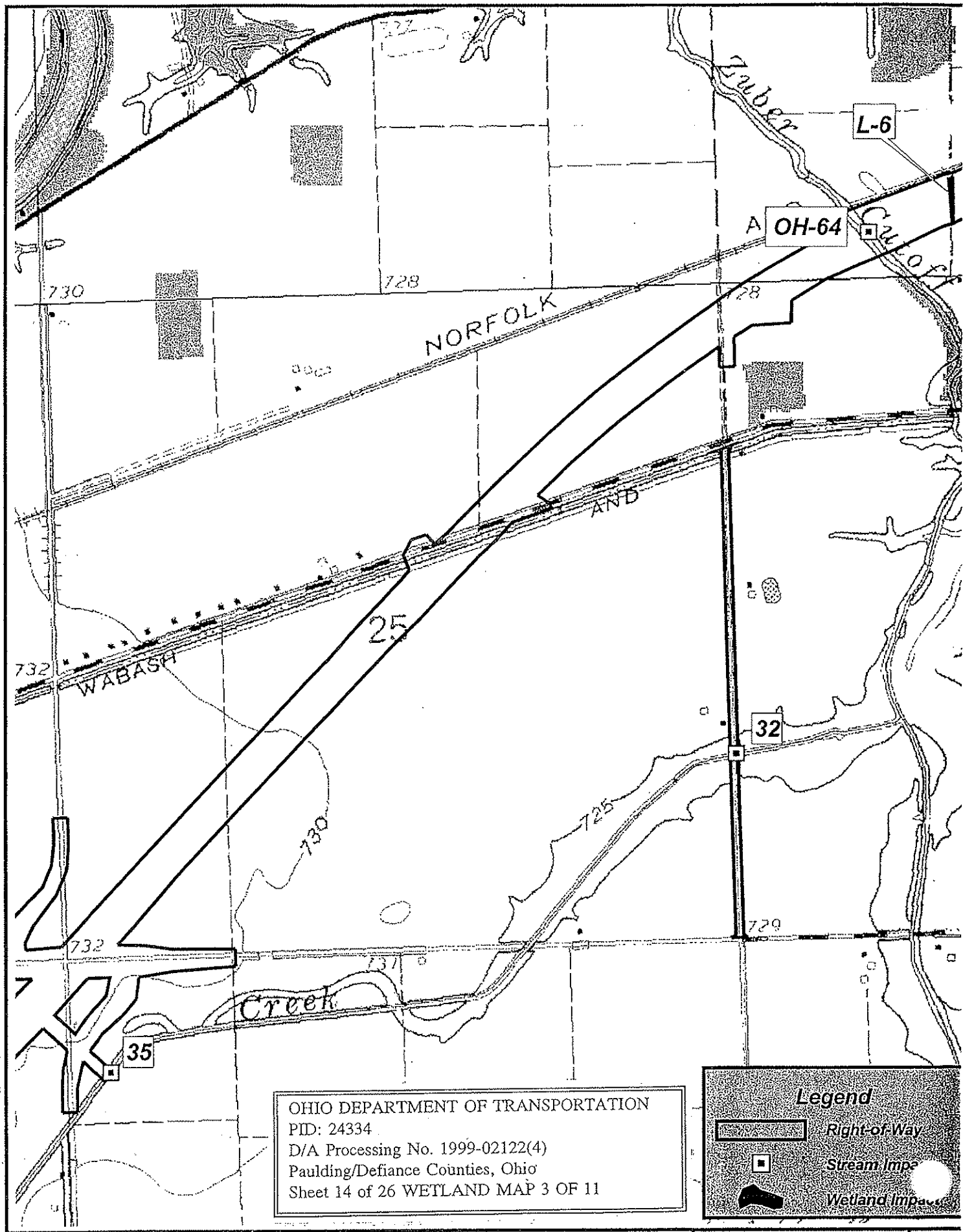

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 14 of 26 WETLAND MAP 3 OF 11

The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
Civil Engineering, Surveying and Environmental Consulting

Figure 3
Impacted Jurisdictional Streams and Wetlands

Legend

USGS Quadrangle
7.5' Series Topographic
Antwerp, Paulding Co., OH 1960

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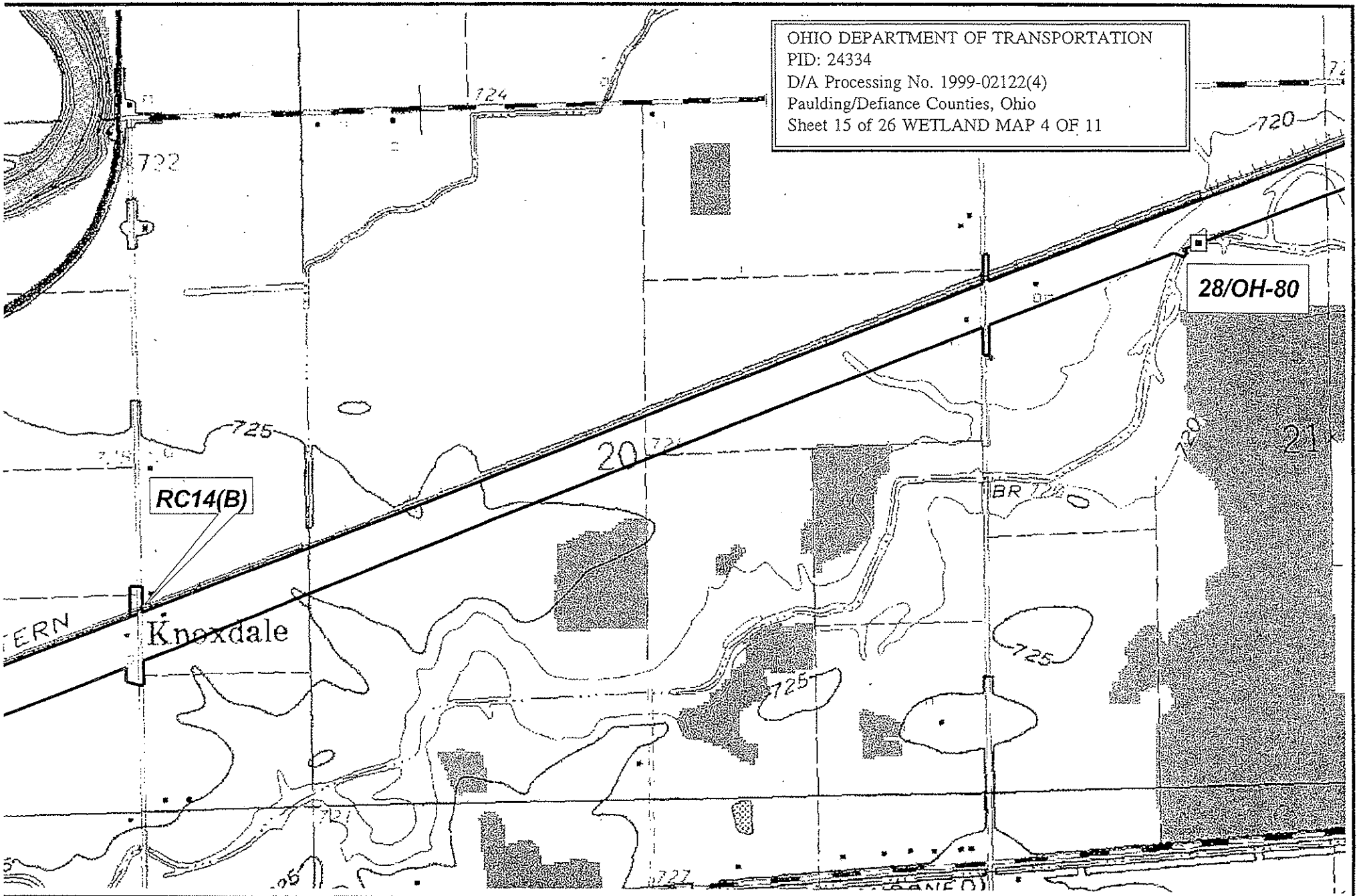
roject # P201A1E3A November 2004 usace_b7w.apr



Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax (419) 891-1595
Civil Engineering, Surveying and Environmental Consulting
TOLEDO ♦ MONROE ♦ DETROIT

Figure 4
Impacted Jurisdictional Streams and Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Antwerp, Paulding Co., OH 1960

N

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 16 of 26 WETLAND MAP 5 OF 11

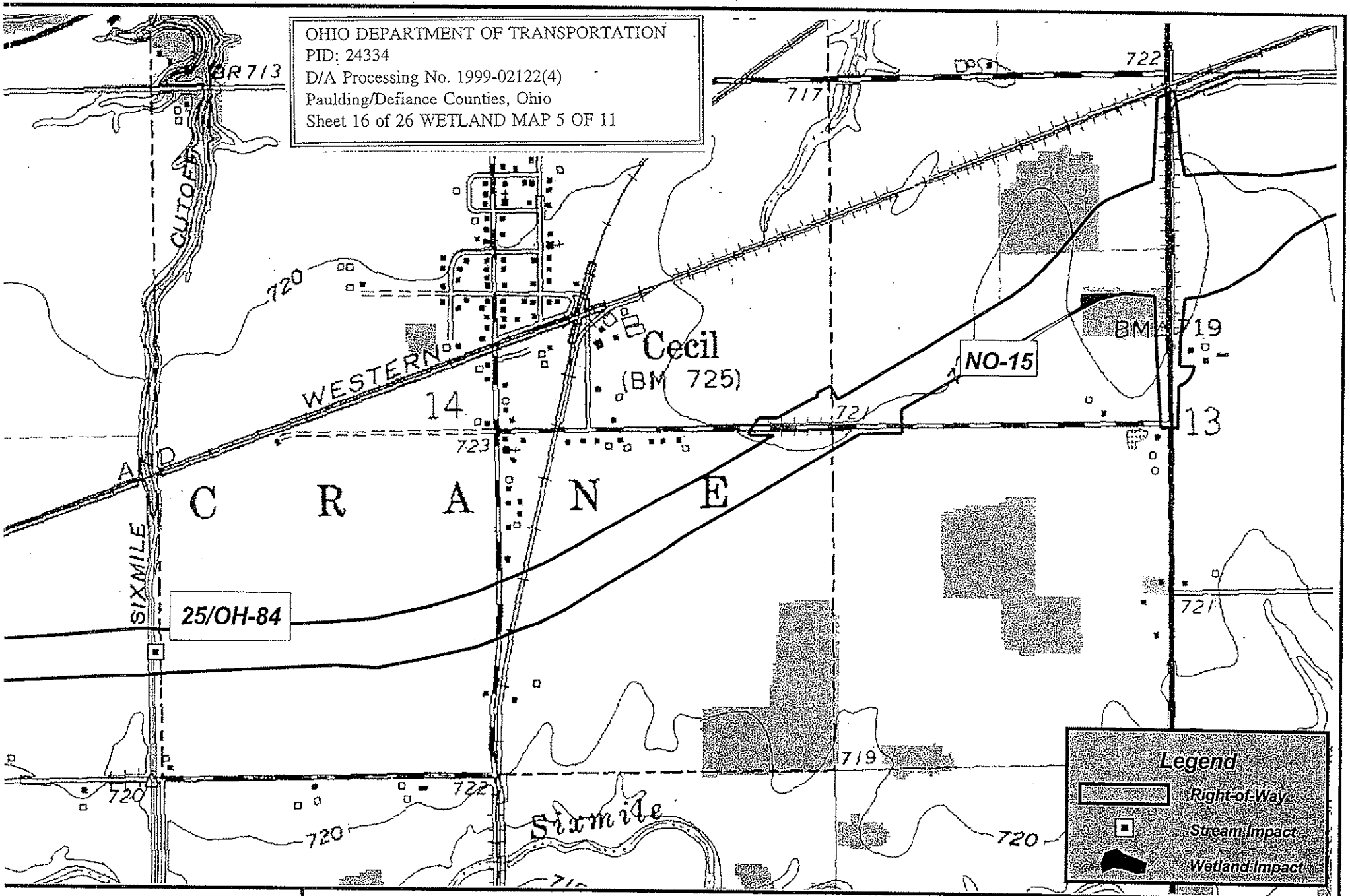


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Figure 5
Impacted Jurisdictional Streams a Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Paulding, Paulding Co., OH 1S
Photoinspected 1977

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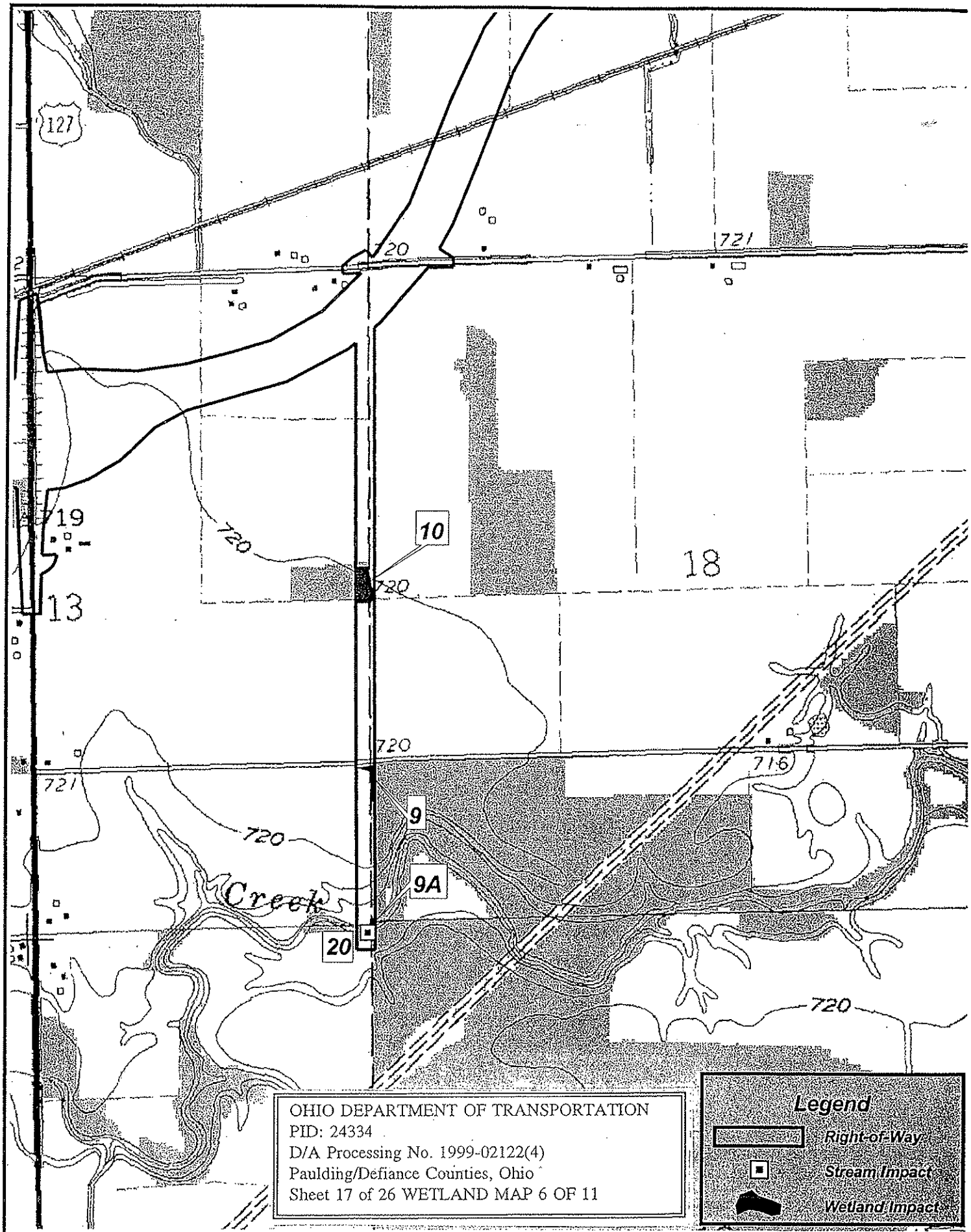
1 : 12,000



OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
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Paulding/Defiance Counties, Ohio
Sheet 17 of 26 WETLAND MAP 6 OF 11

Legend
- Right-of-Way
- Stream Impact
- Wetland Impact

The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
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Figure 6
Impacted Jurisdictional Streams and Wetlands

Notes
USGS Quadrangle
7.5' Series Topographic
Paulding, Paulding Co., OH 1960
Photoinspected 1977

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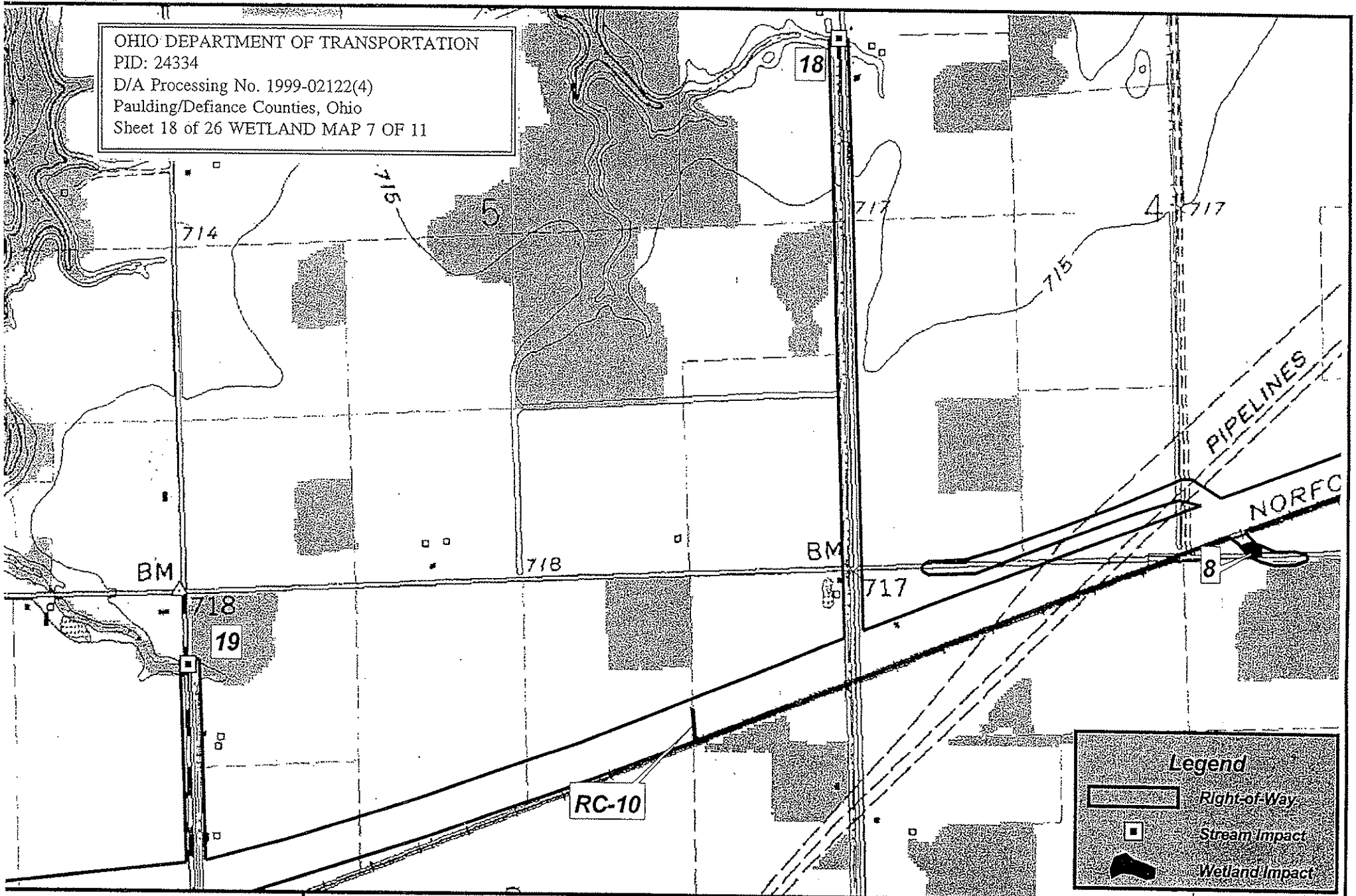
roject # P201A1E3A November 2004 usace_b7w.apr



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Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
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Figure 7
Impacted Jurisdictional Streams a Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Paulding, Paulding Co., OH 19
Photoinspected 1977

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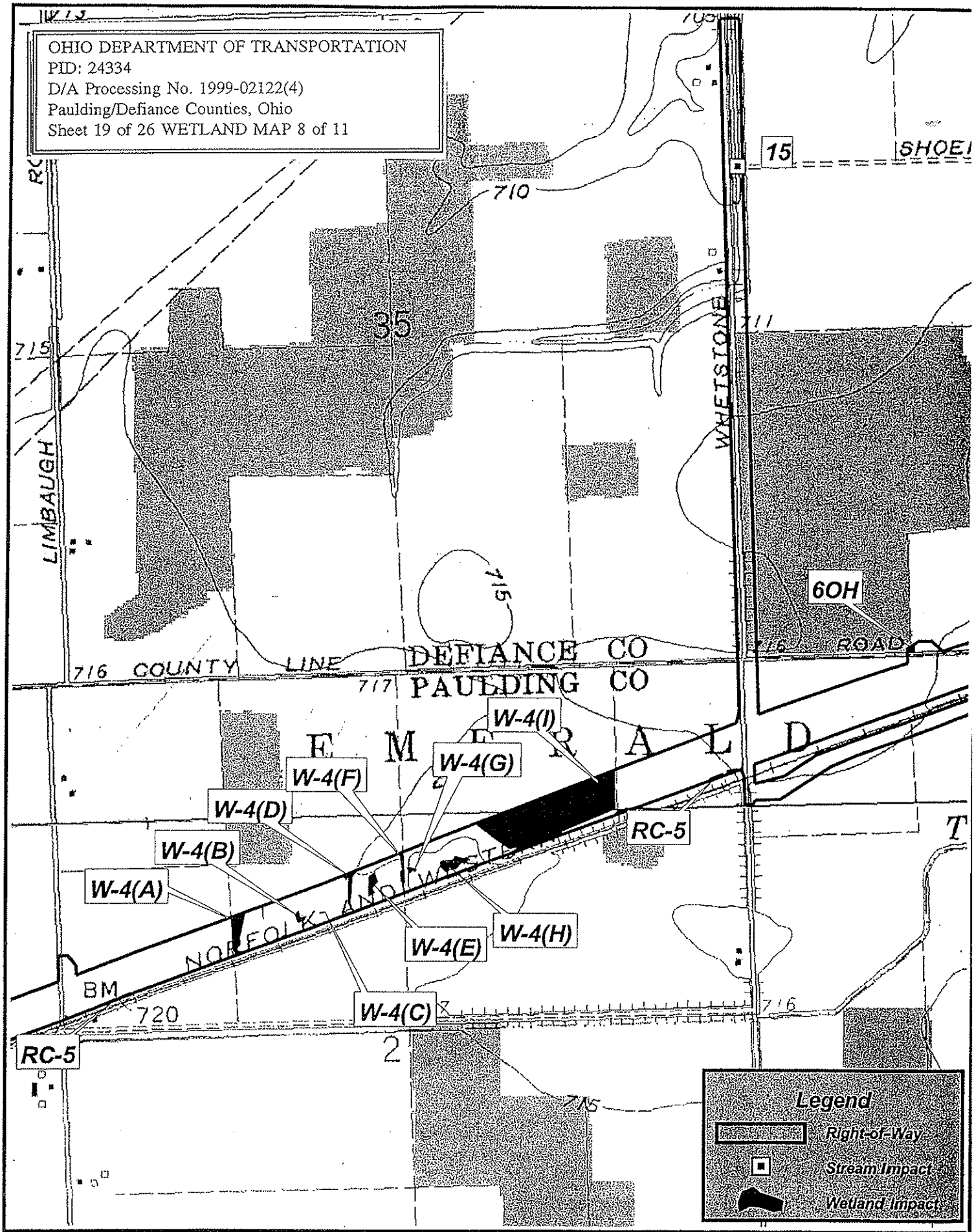

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Figure 8
Impacted Jurisdictional Streams and Wetlands

Notes
USGS Quadrangle
7.5' Series Topographic
Junction, OH 1960 Photorevised 73

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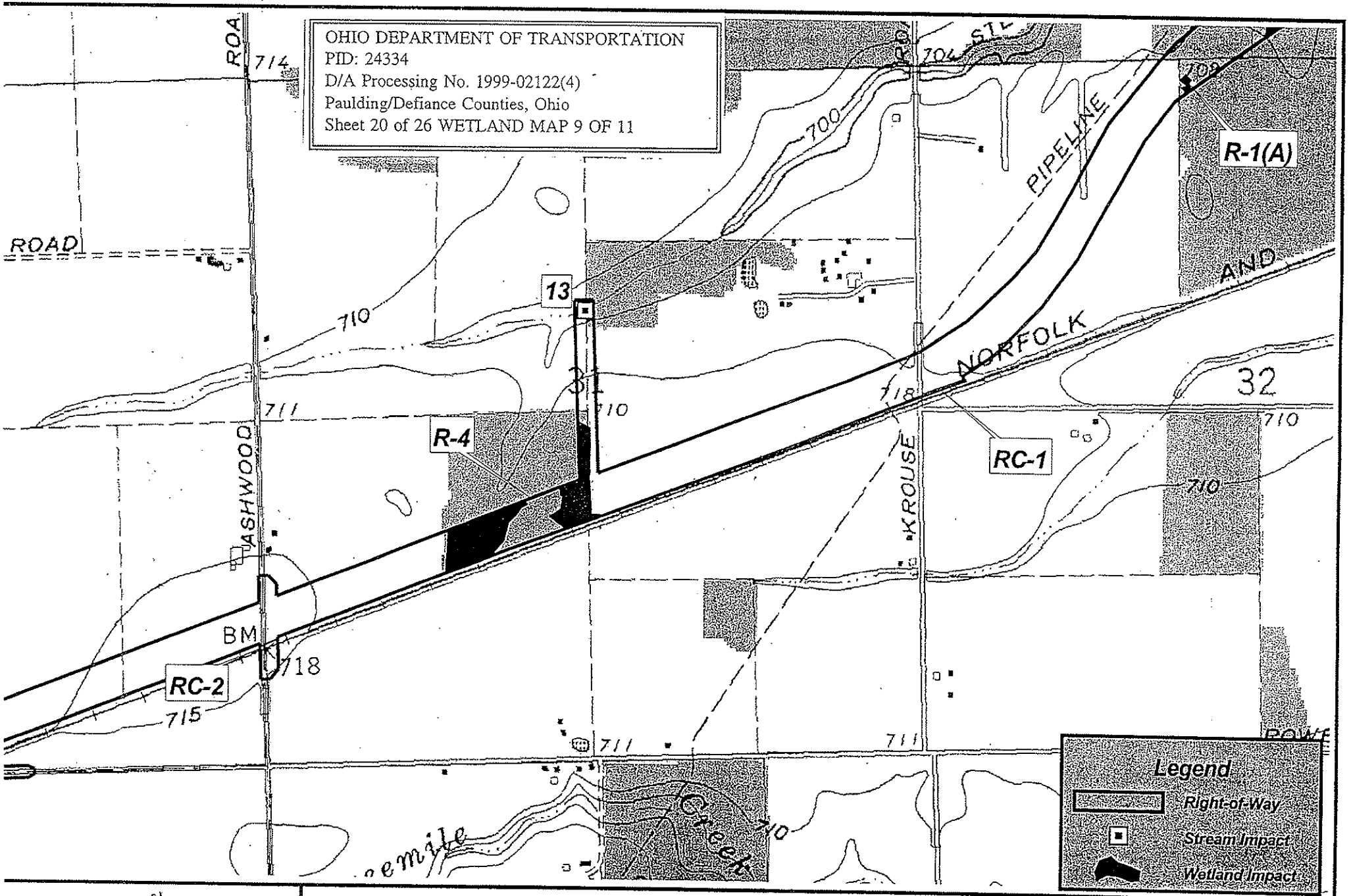

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Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
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Figure 9
Impacted Jurisdictional Streams a Wetlands

Notes

USGS Quadrangle
7.5' Series Topographic
Defiance W., OH 1960
Photoinspected 1977

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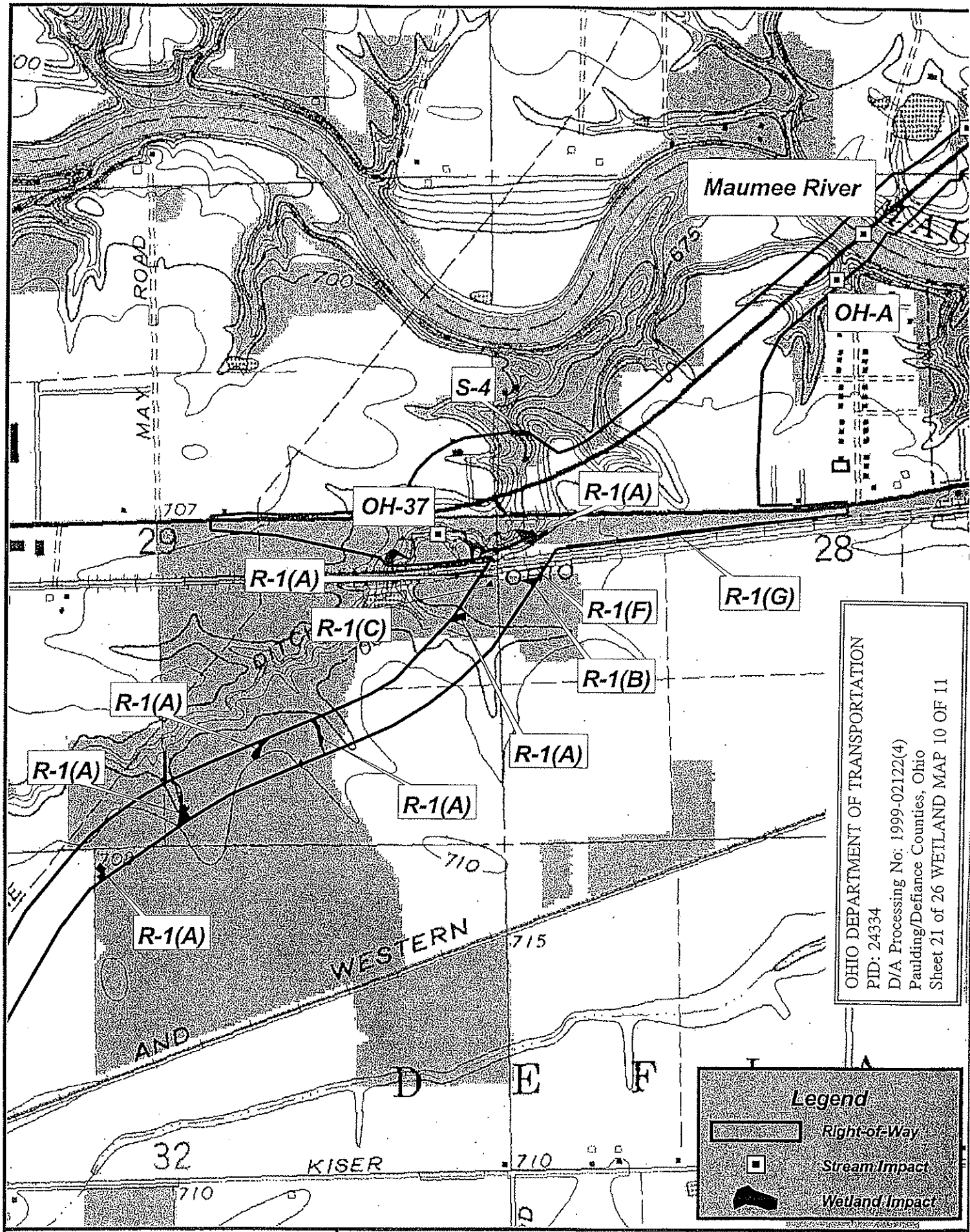
1 : 12,000



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The Mannik & Smith Group
1800 Indian Wood Circle
Maumee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
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Figure 10
Impacted Jurisdictional Streams and Wetlands

Notes
USGS Quadrangle
7.5' Series Topographic
Defiance W. OH 1960
Photoinspected 1977

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PID: 24334
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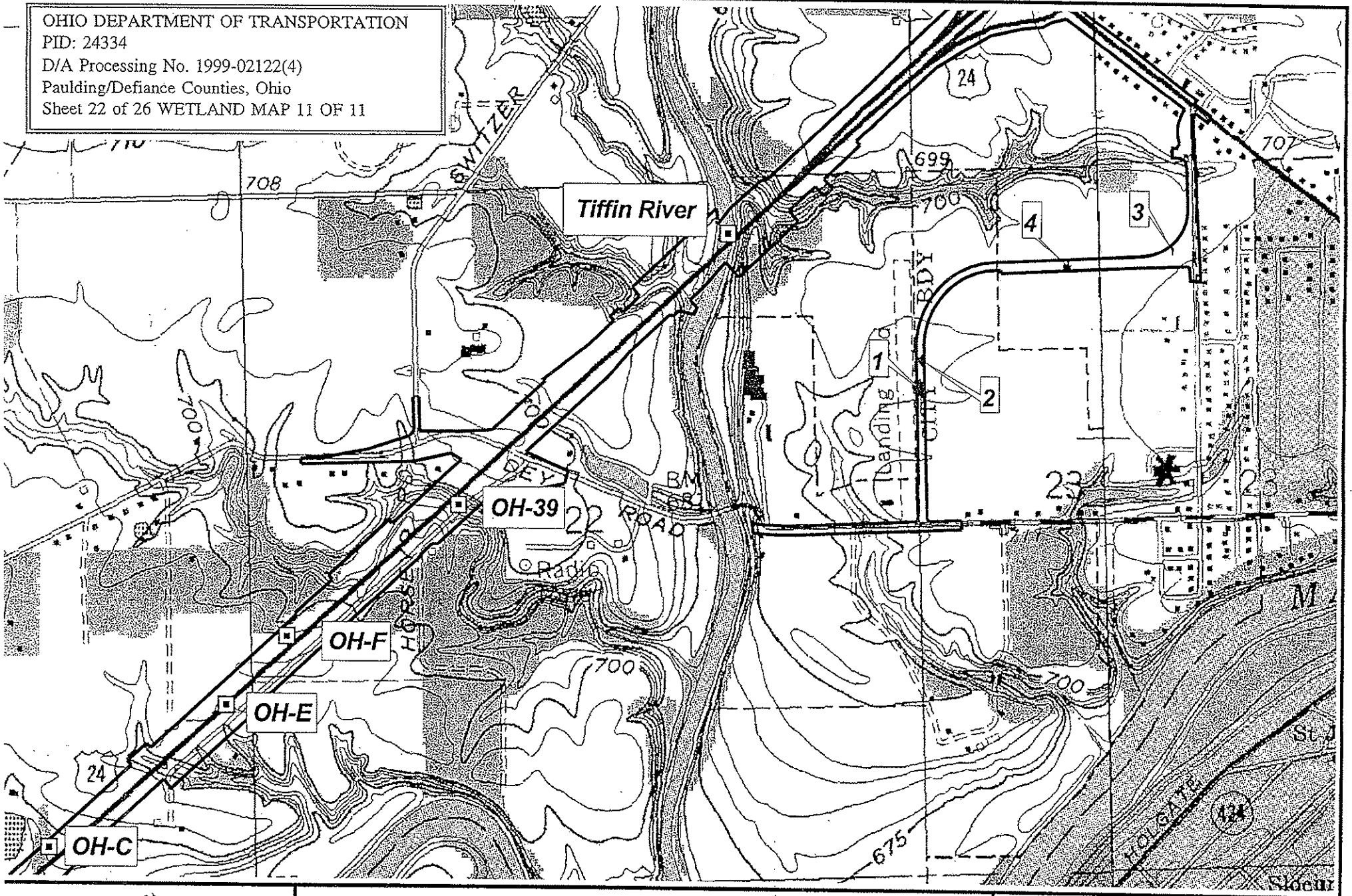
Paulding/Defiance Counties, Ohio
Sheet 22 of 26 WETLAND MAP 11 OF 11



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umee, Ohio 43537
(419) 891-2222
Fax: (419) 891-1595
Civil Engineering, Surveyir ironmental Consulting
TOLEDO • MI DETROIT

Figure 11
Impacted Jurisdictional Streams an etlands

Notes

USGS Quadrangle
7.5' Series Topographic
Defiance W., OH 1960, Photoinspecte
Defiance E., OH 1959 Photorevised 19

N

1 : 12,000

There are a total of 10.32 hectares (25.39 acres) of wetland impacts in Ohio.

WETLAND IMPACTS FOR OHIO

Wetland	Location	Wetland Type	ORAM Score	Provisional ORAM Category	Isolated / Non-Isolated	Total Wetland Area Hectares (acres)	Impacted Area Hectares (acres)
L-9 (B)	South of Snyder Road and US 24, east of Maumee & Western Railroad, Paulding County	Palustrine emergent persistent	28	1	Non-Isolated	0.04* (0.10)	0.02 (0.04)
L-8 (A)	North of T-162, east of US 49, Paulding County	Palustrine forested broad-leaved deciduous	38.5	Modified 2	Isolated	0.10 (0.24)	0.10 (0.24)
L-8 (B)	North of T-162, east of US 49, Paulding County	Palustrine forested broad-leaved deciduous	38.5	Modified 2	Isolated	0.13* (0.31)	0.08 (0.19)
L-6	South of Maumee& Western Railroad, west of T-69, Paulding County	Palustrine forested broad-leaved deciduous	41	Modified 2	Non-Isolated	0.50* (1.24)	0.12 (0.29)
RC-14 (B)	South of Maumee & Western Railroad, west of T-69, Paulding County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	41	Modified 2	Non-Isolated	0.50* (1.21)	0.02 (0.04)
NO-15	South of C-216, west of US 127, Paulding County	Palustrine forested broad-leaved deciduous	43.5	2	Isolated	1.82 (4.49)	0.12 (0.30)
Wetland 10***	North of T-208 and East of US 127, Paulding County	Palustrine forested broad-leaved deciduous	57.5	2	Non-Isolated	1.79* (4.42)	0.34 (0.84)
Wetland 9***	South of T-208 and East of US 127, Paulding County	Palustrine forested broad-leaved deciduous	63	3**	Non-Isolated	7.5* (18.0)	0.12 (0.29)
Wetland 9a***	South of T-208 and East of US 127, Paulding County	Palustrine forested/ Scrub/Shrub broad-leaved deciduous/ Palustrine emergent persistent	63	3**	Non-Isolated	0.16 (0.40)	0.05 (0.13)
RC-10	South of Maumee & Western Railroad, east of C-115, Paulding County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	37.5	Modified 2	Non-Isolated	0.86* (2.13)	0.19 (0.47)
Wetland 8***	North of C-232 and East of T-129, Paulding County	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	48.5	2	Non-Isolated	0.36 (0.89)	0.14 (0.34)

Wetland	Location	Wetland Type	ORAM Score	Provisional ORAM Category	Isolated / Non-Isolated	Total Wetland Area Hectares (acres)	Impacted Area Hectares (acres)
W-4 (A)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous	55.5	2	Non-Isolated	0.57 * (1.41)	0.21 (0.51)
W-4 (B)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	55.5	2	Isolated	0.04 (0.09)	0.04 (0.09)
W-4 (C)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	55.5	2	Isolated	0.004 (0.01)	0.004 (0.01)
W-4 (D)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine scrub-shrub broad-leaved deciduous	55.5	2	Isolated	0.45* (1.12)	0.25 (0.61)
W-4 (E)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine scrub-shrub broad-leaved deciduous	55.5	2	Isolated	0.08 (0.20)	0.08 (0.20)
W-4 (F)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	55.5	2	Non-Isolated	0.10 * (0.25)	0.09 (0.22)
W-4 (G)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine scrub-shrub broad-leaved deciduous	55.5	2	Isolated	0.02 (0.04)	0.02 (0.04)
W-4 (H)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine scrub-shrub broad-leaved deciduous	55.5	2	Isolated	0.14 (0.35)	0.14 (0.35)
W-4 (I)	North of Maumee & Western Railroad, south of County Line Road, east of T-239, Paulding County	Palustrine emergent persistent	55.5	2	Non-Isolated	4.40* (10.87)	3.01 (7.43)

Wetland	Location	Wetland Type	ORAM Score	Provisional ORAM Category	Isolated / Non-Isolated	Total Wetland Area Hectares (acres)	Impacted Area Hectares (acres)
OH-6***	North of Defiance Paulding County Line Road and East of Whetstone	Palustrine forested broad-leaved deciduous/ Palustrine emergent persistent	55.5	2	Non-Isolated	37.0 * (91.0)*	0.43 (1.07)
RC-5	North of Maumee & Western Railroad, west of Whetstone Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	55.5	2	Non-Isolated	1.31 (3.24)	0.23 (0.57)
RC-2	North of Maumee & Western Railroad, west of Krouse Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	46	2	Non-Isolated	0.43 (1.06)	0.01 (0.03)
R-4	North of Maumee & Western Railroad, east of Ashwood Road, Defiance County	Palustrine forested broad-leaved deciduous	46	2	Non-Isolated	6.98 (17.23)	2.78 (6.86)
RC-1	North of Maumee & Western Railroad, east of Krouse Road, Defiance County	Palustrine Scrub-Shrub Broad-leaved Deciduous/ Palustrine emergent persistent	73.5	3	Non-Isolated	1.10 (2.72)	0.06 (0.15)
R-1 (A)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous/ Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent/ Riverine perennial emergent	73.5	3	Non-Isolated	26.02 (64.27)	1.13 (2.78)
R-1 (B)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous	45	2	Non-Isolated	0.39 (0.96)	0.06 (0.14)
R-1(C)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine forested broad-leaved deciduous	39.5	Modified 2	Non-Isolated	0.02 (0.04)	0.02 (0.04)
R-1 (F)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	14	1	Non-Isolated	0.06 (0.15)	0.04 (0.09)

Wetland	Location	Wetland Type	ORAM Score	Provisional ORAM Category	Isolated / Non-Isolated	Total Wetland Area Hectares (acres)	Impacted Area Hectares (acres)
R-1 (G)	South of US 24/SR 424, east of Krouse Road, Defiance County	Palustrine emergent persistent	32	Modified 2	Non-Isolated	0.23 (0.56)	0.23 (0.57)
S-4	North of US 24/SR 424, Defiance County	Palustrine forested broad-leaved deciduous	73	3	Non-Isolated	8.0* (20.0)	0.05 (0.11)
Wetland 1***	North of C-42 and West of Christy Rd, Defiance County	Palustrine forested broad-leaved deciduous/scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	44.5	Modified 2	Isolated	0.18* (0.44)	0.06 (0.15)
Wetland 2***	North of C-42 and West of Christy Rd, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	42	Modified 2	Isolated	0.15* (0.37)	0.04 (0.10)
Wetland 3***	North of C-42 and West of Christy Rd, Defiance County	Palustrine emergent persistent	25	1	Isolated	0.01 (0.02)	0.01 (0.02)
Wetland 4***	North of C-42 and West of Christy Rd, Defiance County	Palustrine scrub-shrub broad-leaved deciduous/ Palustrine emergent persistent	45.5	2	Isolated	0.07* (0.18)	0.03 (0.08)

Notes: * Total wetland area estimated from aerial photograph.
** Pending determination from agency field review from March 30, 2004.
*** Wetlands identified in June 2004 as a result of shift in preferred alignment.

OHIO DEPARTMENT OF TRANSPORTATION
PID: 24334
D/A Processing No. 1999-02122(4)
Paulding/Defiance Counties, Ohio
Sheet 26 of 26 WETLAND ACREAGES

Parsons Brinckerhoff Ohio, Inc.
312 Elm Street, Suite 2500
Cincinnati, OH 45202
513-639-2120
Fax: 513-421-1040

A Parsons Brinckerhoff Company

August 5, 2004

Mr. Bob Vargo, Northwest Assistant Regional Manager
Ohio Department of Natural Resources
Division of Areas and Preserves
1889 Fountain Square, Building F-1
Columbus, Ohio 43224

RE: ODOT Project PAU/DEF 24-0.00/0.00 (PID # 18904)
Proposed Maumee River Bridge

Dear Mr. Vargo:

The Ohio Department of Transportation (ODOT) is proposing to improve the 40-mile segment of US 24 between New Haven, Indiana and Defiance, Ohio. In general, US 24 will be upgraded to a four-lane highway on new alignment. In Defiance County, a two-mile section of the proposed highway will follow the alignment of existing US 24. Within this two-mile section is the Maumee River bridge, which will be replaced as part of the US 24 improvements. The existing structure is a four-span, continuous, welded, haunched steel plate girder bridge with reinforced concrete deck and substructure. The deck is approximately 34.5-feet wide.

Proposed for the Maumee River crossing are two parallel four-span concrete beam structures.The stage 1 engineering design for the parallel bridges is complete. Submitted for your review and comment are the site plan and associated bridge details for the structures over the Maumee River. Your comments provided during the field review held on March 24, 2004 and submitted via email were taken into consideration in the design of the structures.

Several alternatives were considered for the Maumee River bridge crossing. These alternatives were reduced to two possible options: a three-span steel girder superstructure on new concrete substructures and a four-span prestressed concrete I-beam superstructure on concrete substructures. The following are descriptions summarizing these options.

Three-Span Structure

Two parallel three-span steel girder structures would locate two piers (for each structure) in the river at the edges of the riverbank and eliminate the need for central piers in the Maumee River. The two piers (for each structure) would be located in close proximity to the existing piers. Steel girders were proposed for the superstructure because of the span lengths that resulted from the elimination of the central pier. Concrete would not be able to support the weight of the deck with the increased span length. The use of steel allows for construction on a taper, limiting the amount of materials necessary for the deck. The length of the exterior spans was determined by maintaining an acceptable ratio of the center span. In order to provide a reasonable design, the exterior spans are set at 60% of the center span. Although this ratio is at the lower end of design standards, the length of the bridge was extended above what is currently in place.

A cost estimate of the major construction items was completed for the three-span steel option. The estimated cost for the three-span, tapered steel option was $4,500,000 for both structures.

Four-Span Structure

Two parallel four-span concrete beam structures would have one center pier and two piers at the edges of the river bank (for each structure). The exterior piers were set to avoid interference with the existing pier footings. The spans were established to allow the use of equal length concrete beams for each span. The limits for the concrete bridge are significantly less than that of the steel bridge option discussed above. Although the span limits for the structures are outside of the generally accepted ODOT parameters for semi-integral design, Parsons Brinckerhoff was authorized by ODOT to proceed with the semi-integral design at this site.

A cost estimate of the major construction items was completed for the four-span concrete option. The estimated cost for the four-span, concrete option was $3,400,000 for both parallel bridges.

Two parallel four span structures result in a saving of approximately $1,100,000 over the steel option. Due to the lower cost of the concrete option, the proposed Maumee River crossing will consist of two parallel four-span concrete beam structures with prestressed concrete I-beams on modified semi-integral abutments.

Construction of the Preferred Option

The existing four pier structure with an approximately 34.5-feet wide deck will be replaced by two parallel four pier structures. The structure carrying westbound traffic will be 45.0-foot wide while the structure carrying eastbound traffic will be 60.5-feet wide.

Because the existing four-pier structure will be replaced, special consideration was provided to the construction details of the new piers. The center pier will be set at the same location as the existing center pier footing, and could present considerable challenges during construction. Several contractors provided a variety of opinions as to how remove the existing pier including removal with no cofferdams to removal with cofferdams or partial removal with shafts drilled through the existing footing. For the purposes of construction cost estimation, a $100,000 allowance was made for construction and removal of a cofferdam in order to remove the existing pier and construct the new one.

The two remain piers located in the river along the riverbank, will be cut off approximately one-foot below the flow line. The new piers will be located "inside" of the existing piers and be built using drilled shafts and not cofferdams. Drilled shaft construction calls for a 5-foot diameter steel tube that will be augured into bedrock. Water would be removed from the shaft before it is reinforced and filled with concrete.

To the greatest extent possible, Best Management Practices (BMPs) will be used to minimize the amount of siltation resulting from construction. Water removed from the cofferdam of the central pier and from the drilled shafts of the two remaining piers will be filtered to remove as much suspended sediments as possible before reintroduction into the Maumee River.

In addition, in order to drill the shafts for the piers and set the superstructure, a temporary construction pad will be built across the Maumee River. This temporary pad will reach an elevation of approximately one foot above the ordinary high water mark (668 feet msl). Normal flow will continue through pipes built into the pad. The pad will be built to allow for flooding to occur overtop, should any occur during construction. Near the surface of the river, the pad will be approximately 20-feet wide. In all, the temporary fill plan area is 45,330 square feet and the temporary fill volume of the pad is 15,062 cubic yards.

It should be noted that the use of a barge in lieu of a temporary pad within the river, was considered for construction. After reviewing areas along the Maumee River, a feasible location for launching a barge with equipment could not be identified.

Conclusion

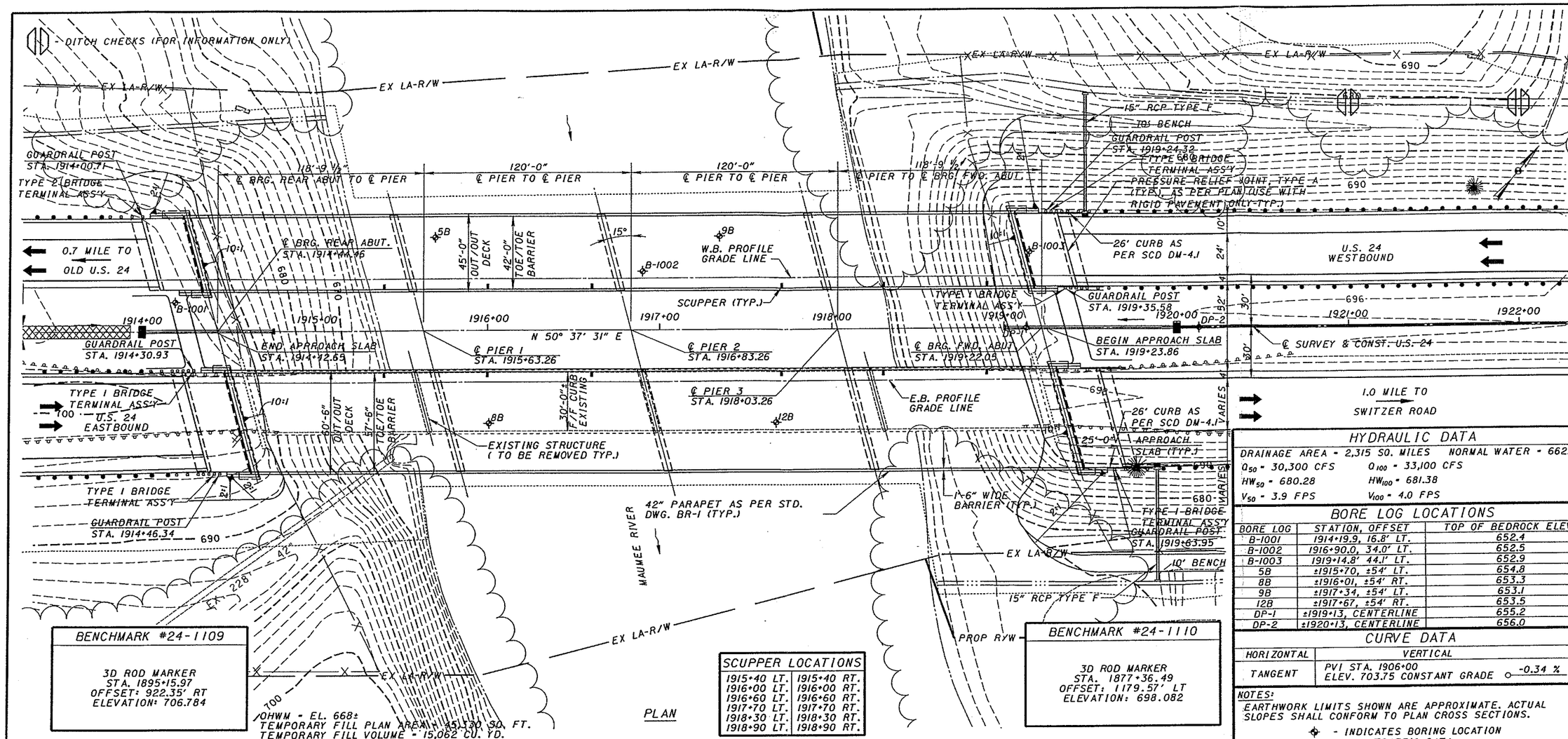
At this time we request that you review the site plan and associated bridge detail s for the parallel structures over the Maumee River. We look forward to your comments and recommendations on the Stage 1 engineering design plans. If you have any questions or concerns regarding the attached information please do not hesitate to contact me at 513-639-2145.

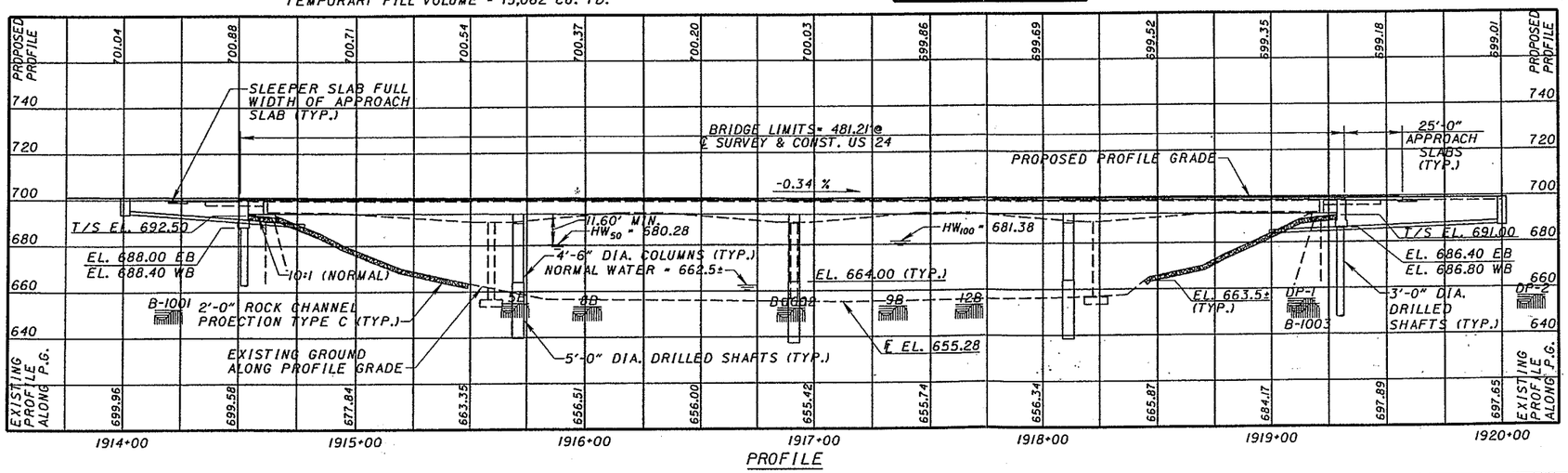
Sincerely,
PARSONS BRINCKERHOFF OHIO, INC.

Jennifer Graf
Senior Project Manager

Enclosure

Cc: Kirk Slusher
Noel Alcala





HYDRAULIC DATA

DRAINAGE AREA = 2,315 SQ. MILES	NORMAL WATER = 662.5±
Q_{50} = 30,300 CFS	Q_{100} = 33,100 CFS
HW_{50} = 680.28	HW_{100} = 681.38
V_{50} = 3.9 FPS	V_{100} = 4.0 FPS

BORE LOG LOCATIONS

BORE LOG	STATION, OFFSET	TOP OF BEDROCK ELEV.
B-1001	1914+19.9, 16.8' LT.	652.4
B-1002	1916+90.0, 34.0' LT.	652.5
B-1003	1919+14.8' 44.1' LT.	652.9
5B	±1915+70, ±54' LT.	654.8
8B	±1916+01, ±54' RT.	653.3
9B	±1917+34, ±54' LT.	653.1
12B	±1917+67, ±54' RT.	653.5
DP-1	±1919+13, CENTERLINE	655.2
DP-2	±1920+13, CENTERLINE	656.0

CURVE DATA

HORIZONTAL	VERTICAL
TANGENT	PVI STA. 1906+00 ELEV. 703.75 CONSTANT GRADE -0.34 %

NOTES:
EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

⌖ - INDICATES BORING LOCATION

TRAFFIC DATA
CURRENT ADT (2008) = 13,031
DESIGN ADT (2028) = 20,264
DESIGN ADTT (2028) = 9,322

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED HAUNCHED PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 96.5'-132'-132'-96.5' c/c BRGS.
ROADWAY WIDTH: 30'-0" F/F 2'-3" SAFETY CURBS
LOAD FREQUENCY: CF-2000 (57)
SKEW: 15° R.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54, 25' LONG
ALIGNMENT: TANGENT
EXIST. SFN = 2001179 DATE BUILT: 1962

PROPOSED STRUCTURE

TYPE: FOUR SPAN COMPOSITE CONCRETE BEAM WITH REINFORCED CONCRETE DECK, MODIFIED SEMI-INTEGRAL ABUTMENTS AND DRILLED SHAFTS
SPANS: 118-9½"-120'-0"-120'-0"-118'-9½" ℄ ABUT BRGS TO ℄ PIER
ROADWAY WIDTH: 42'-0" (WB), 57'-6" (EB) TOE/TOE BARRIERS
SKEW: 15°00'00" R.F. WITH ℄ SURVEY U.S. 24
WEARING SURFACE: MONOLITHIC CONCRETE
LOADING: HS-25 AND ALTERNATE MILITARY LOADING
FUTURE W.S. = 60 P.S.F.
ALIGNMENT: TANGENT
APPROACH SLABS: AS-1-81, 25'-0"
SUPERELEVATION: NONE
LATITUDE: 41°16'52"N LONGITUDE: 84°24'30"W

DESIGN AGENCY
DR
Parsons Brinckerhoff Ohio, Inc.
6235 Enterprise Court
Dublin, Ohio 43016

DATE	REVISED	DRAWN	DESIGNED
04/16/04	EBS	LEL	PJL
STRUCTURE FILE NUMBER LEFT-2001180 RIGHT-2001160		REVISED	CHECKED

DEFIANCE COUNTY
STA. 1914+42.65
STA. 1919+23.86

SITE PLAN
DEF-24-0827 L & R
US 24 OVER MAUMEE RIVER

DEF-24-7.99

1

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08/02/2004

C.4 Section 4(f)
Correspondence

U.S. Department
of Transportation
Federal Highway Administration

200 N. High Street
Columbus, OH 43215

February 20, 2004

In Reply Refer To:
HTO-OH

Ohio Division Office

Mr. Timothy Hill, Administrator
Office of Environmental Services
Ohio Department of Transportation
Central Office
P.O. Box 899
Columbus, Ohio 43216-0899

Dear Mr. Hill:

In your submission dated February 5, ODOT requested determination of Section 4(f) applicability to the Maumee River in association with existing and new river crossings upstream from the City of Defiance. The scope of the project (PAU/DEF-24-0.00/0.00, PID 18904) is to construct US-24 as a four-lane facility on new location between Fort Wayne, Indiana and Defiance. The intent of this letter is to bring formal closure to the issue of 4(f) raised in our previous letters dated January 18 and May 15, 2001.

Our staff thoroughly investigated the recreational status of the Maumee River in relation to the highway project. We conducted multiple interviews with ODNR officials. We discovered the nearest recreational area on the Maumee River is located three miles downstream of the existing US-24 Bridge. Any relationship between the recreational status of the Maumee River and the existing river crossing is the convenience of the latter as a familiar landmark along the Maumee River. The bridge does not demarcate a specific point in the river whose primary function is recreation, but rather serves merely as a point of general reference. Based on coordination with the resource agency and ODOT, review of the available documentation, and our knowledge of the project, it is our determination that Section 4(f) is not applicable to the Maumee River in the vicinity of the existing US-24 Bridge.

Thank you for your continued cooperation in this project. If you have any questions, please contact Mr. Mark Vonder Embse at 280-6854 or email at: Mark.VonderEmbse@fhwa.dot.gov.

Sincerely yours,

Mark L. Vonder Embse

For: Dennis A. Decker
Division Administrator

Your confirmation is very much appreciated. Please sign below indicating that you agree with the above statements and return the signed original copy of this letter to the address below. If you have any questions concerning this request, please do not hesitate to call Noel Alcala at (614) 466-6552, or Mac Vance at (614) 752-2175.

Sincerely,

Andrea Stevenson for

Timothy M. Hill
Administrator - Office of Environmental Services
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223

Robt. A. Vargo 1-23-04

Mr. Bob Vargo, ODNR Northwest Regional Scenic River Manager Date

TMH:ALS:mev
c: File - Reading File - T. Hill - A. Stevenson - N. Alcala - K. Young - K. Slusher, D-2 - M. Vonder Embse, D. Snyder, FHWA - J. Graf, PB - B. Gable, ODNR

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OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, P.O. BOX 899, COLUMBUS, OHIO 43216-0899

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ODNR

January 15, 2004

Mr. Bob Vargo, Northwest Assistant Regional Manager
Ohio Department of Natural Resources
Division of Natural Areas & Preserves
1889 Fountain Square, Bldg. F-1
Columbus, OH 43224

Re: Maumee Recreational River Boundary
ODOT Project: PAU/DEF - US24 (PID#18904)

Dear Mr. Vargo,

As you are aware, the Ohio Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) are currently planning to improve United States Route 24 to a four-lane limited access highway between New Haven, Indiana and Defiance, Ohio. As you are the ODNR - Northwest Ohio Scenic River Regional Manager, the reason for this letter is to request your confirmation regarding the boundaries of the State Scenic and Recreational Maumee River and our above mentioned project's association with it.

According to information we have gathered, and discussions with you, the portion of the river that is designated as the "Recreational River Area" is to the east, downstream of the existing US 24 bridge over the Maumee River to Perrysburg, and not a specific milepost in the river. Therefore, upon completion of our planned widening of the existing US 24 bridge, this improved bridge will become the new boundary for the recreational segment. In addition, construction of a new bridge upstream will also not cross the recreational segment of the river. New piers in the water will not affect the designated Maumee State Recreational River.

Although our subject project will not affect the portion of the Maumee River designated as recreational, it is designated as scenic. All possible negative impacts will minimized through conditions of approval in accordance with Section 1517.16, and through proper implementation of Best Management Practices. Final approval will be sought from you upon submission and review of the final plans.

OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, P.O. BOX 899, COLUMBUS, OHIO 43216-0899
OFFICE OF ENVIRONMENTAL SERVICES

February 5, 2004

Mr. Dennis Decker
Division Administrator
Federal Highway Administration
200 N. High Street
Columbus, OH 43215

ATTN: Mark Vonder Embse

Re: Section 4(f) Determination of Non-Applicability
PAU/DEF - US24 PID: 18904

Dear Mr. Decker,

Attached is a letter signed by the Ohio Department of Natural Resources, Northwest Scenic River Regional Manager in which he confirms that upon completion of our planned widening of the existing US 24 bridge over the Maumee River, the improved bridge will become the new boundary for the state designated recreational segment. Therefore, the widening of the bridge will not affect the state designated Maumee Scenic & Recreational River.

Therefore, based on the attached letter and 23 CFR 771.135 Section 4(f)(b), ODOT is requesting your concurrence in our determination that Section 4(f) is not applicable to the subject river. Please notify us of your findings at your earliest convenience. If you have any questions concerning this request, please do not hesitate to call Mac Vance at: (614) 752-2175 or by email at: mac.vance@dot.state.oh.us.

Sincerely,

Andrea Stevenson for

Timothy M. Hill
Administrator
Office of Environmental Services

Attachment
TMH:ALS:mev
c: File - Reading File - 4(f) File - T. Hill - A. Stevenson - N. Alcala - K. Young - K. Slusher, D-1 - D. Snyder, FHWA - J. Graf, PB

C.5 Section 106 Correspondence and Programmatic Agreement

U.S. Department
of Transportation
Federal Highway Administration

Indiana Division

575 North Pennsylvania Street, Room 254
Indianapolis, Indiana 46204

October 13, 2005

HDA-IN

Mr. Don L. Klima
Director, Office of Federal Agency Review
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

Dear Mr. Klima:

The Indiana Department of Transportation (INDOT) proposes to use Federal-aid funding to improve US 24 in Allen County, Indiana. Previously, we notified the Advisory Council on Historic Preservation (Council) that an archaeological resource, the Gronauer Lock site (12-Al-1674), is within the US 24 and I-469 interchange footprint and that interchange will be improved by the project. Due to limited information on the boundaries of the Gronauer Lock site, and the limited design information available for the US 24 and I-469 interchange, the FHWA and Indiana SHPO agreed to complete a Programmatic Agreement to identify the actions FHWA and INDOT will take to satisfy FHWA's Section 106 responsibilities. The Council declined to participate in the consultation to develop the Programmatic Agreement.

Enclosed, please find the fully executed Programmatic Agreement between the Indiana SHPO, the INDOT, and the FHWA. Also, please find three maps, two showing the location of the entire undertaking from New Haven, Indiana to Defiance, Ohio. The final map shows the US 24 and I-469 interchange location, the proposed design configuration of the new interchange, and the approximate location of the Gronauer Lock site.

If you require further information please contact Matt Fuller of this office at (317) 226-5234.

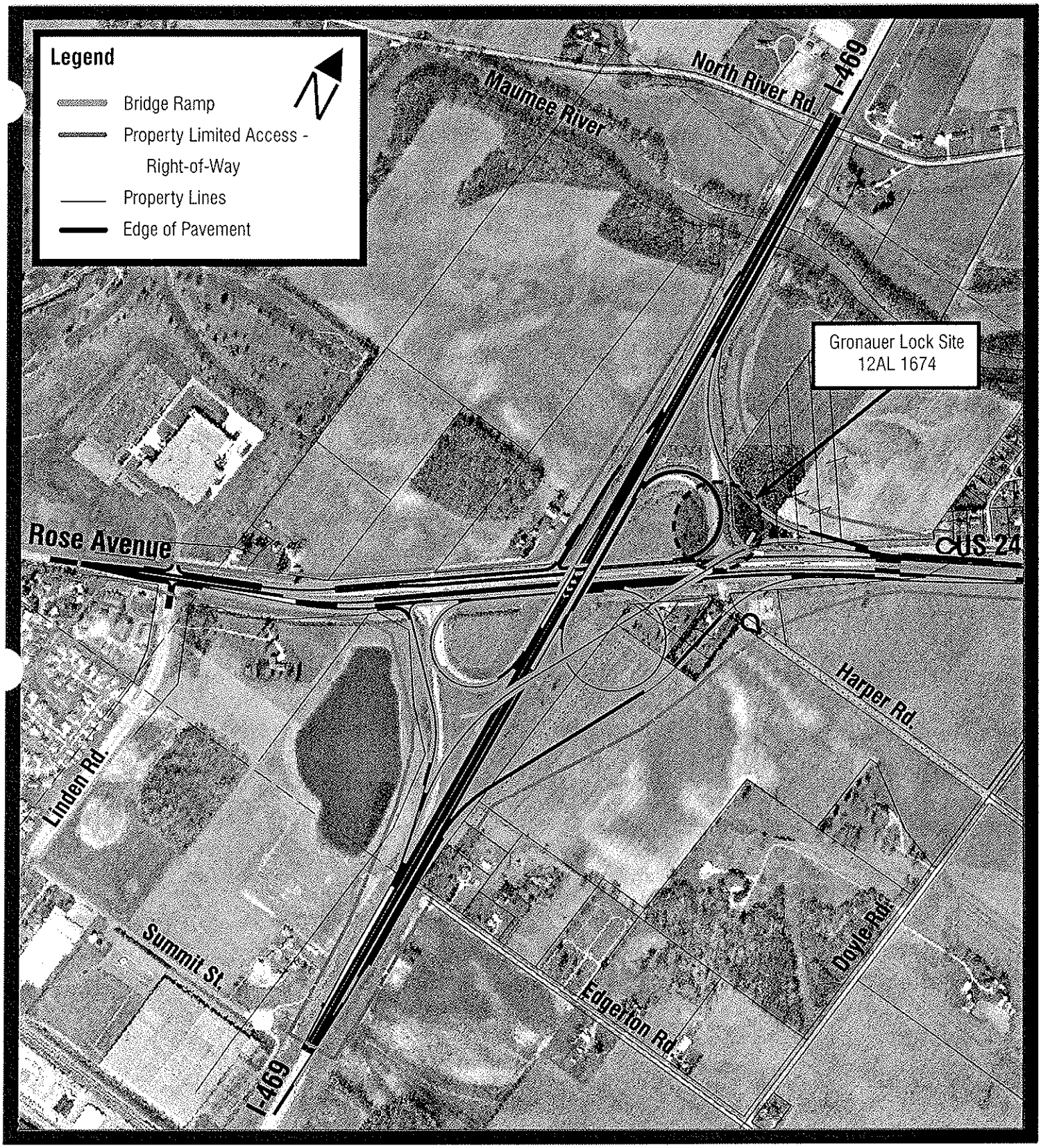
Sincerely,

for Robert F. Tally, Jr., P.E.
Division Administrator

Enclosure

cc:
Mr. Kyle J. Hupfer, Indiana SHPO (w/ copy of PA)
Dr. Rick Jones, IDNR-DHPA (w/ copy of PA)

Mr. Christopher Koeppel, IDNR-DHPA (w/ copy of PA)
Mr. Roger Manning, INDOT (w/ copy of PA)
Mr. Curtis Tomak, INDOT (w/ copy of PA)
Mr. Mark VonderEmbse, FHWA-Ohio Division (w/ copy of PA)
Ms. Jennifer Graf, Parsons Brinkerhoff Ohio, Inc., 312 Elm Street, Suite 2500, Cincinnati, Ohio 45202

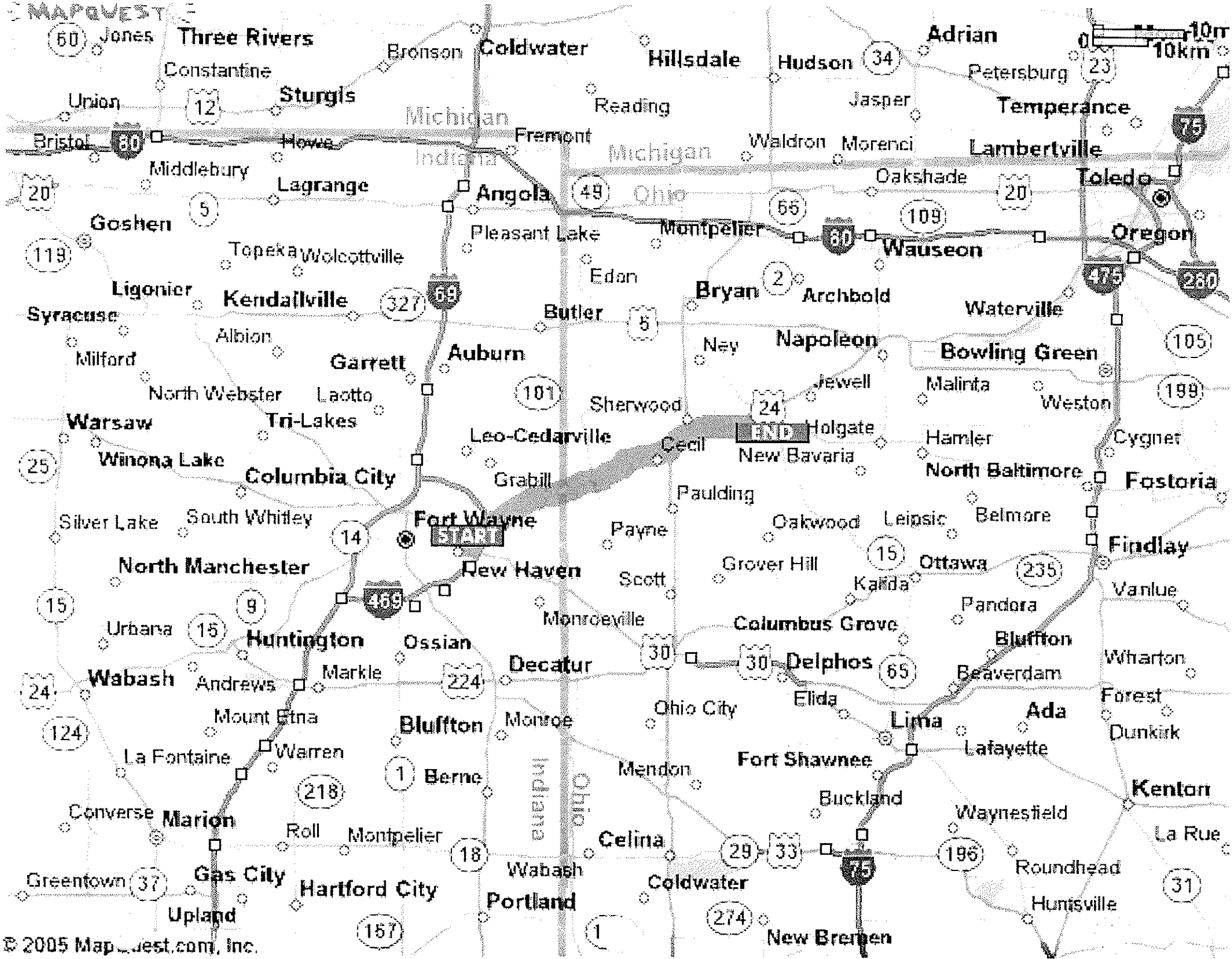


STATE OF OHIO DEPARTMENT OF TRANS.
US24 New Haven to Defiance

I-469/US 24 Interchange
Preferred Alternative 13 Modified

Figure 2

PB 100 YEARS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Syracuse
Albion
Milford
Garrett
Auburn
North Webster
Laotto
Warsaw
Tri-Lakes
Winona Lake
Columbia City
Silver Lake
South Whitley
Fort Wayne
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Huntington
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La Fontaine
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Upland
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Wabash
Celina
Coldwater
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Montpelier
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Archbold
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Jewell
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New Bavaria
Grover Hill
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Fort Shawnee
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Findlay
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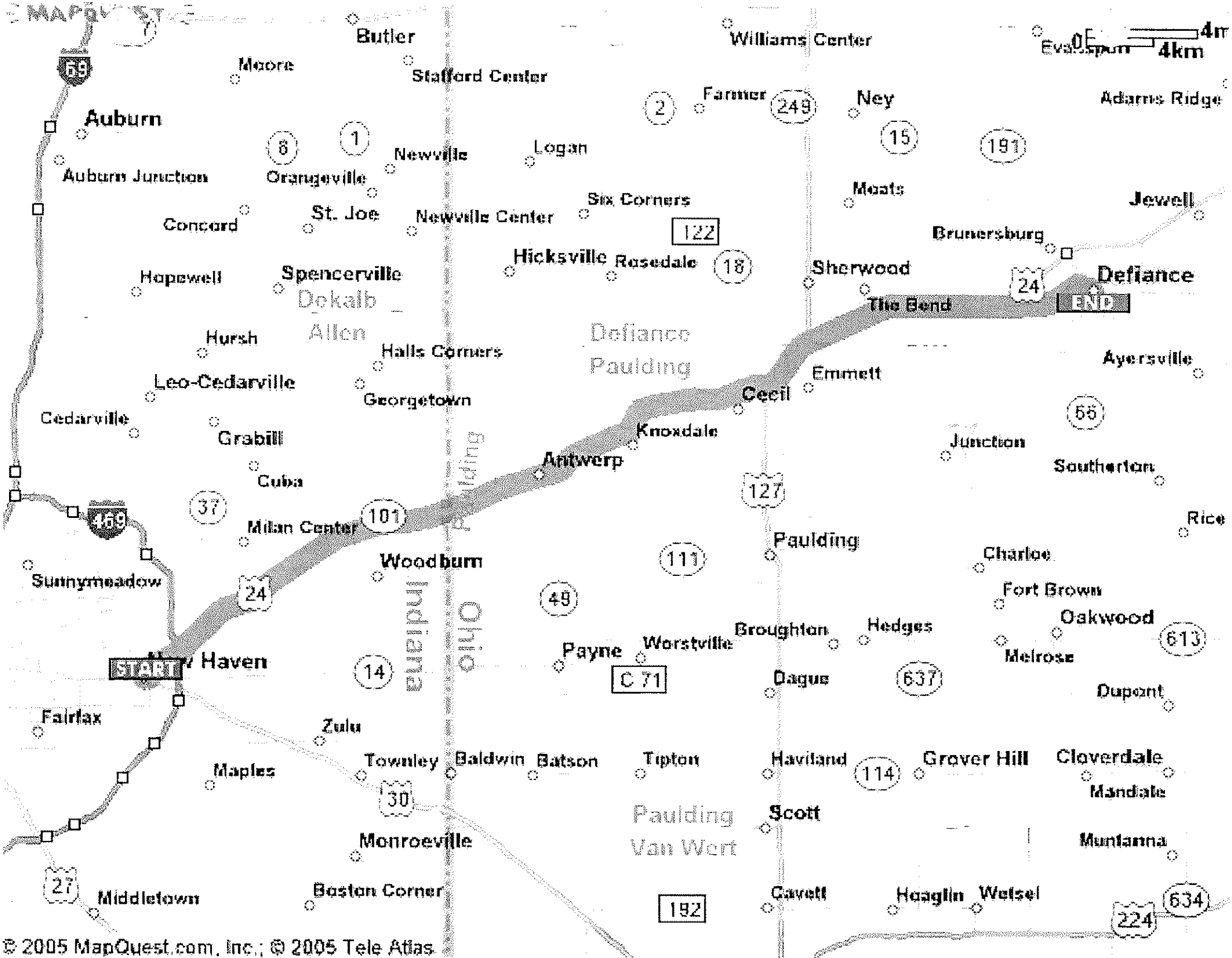
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Newville Center
Six Corners
Brunersburg
Hicksville
Rosedale
Sherwood
Defiance
Hopewell
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Ayersville
Leo-Cedarville
Georgetown
Emmett
Cecil
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Knoxdale
Junction
Antwerp
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PROGRAMMATIC AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND THE INDIANA HISTORIC PRESERVATION OFFICER (SHPO) REGARDING THE US 24 IMPROVEMENT PROJECT FROM INTERSTATE I-469 IN NEW HAVEN, INDIANA TO OHIO ROUTE 15 IN DEFIANCE, OHIO

WHEREAS, the Federal Highway Administration (FHWA) proposes to fund improvements to existing US 24 from Interstate I-469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio; and

WHEREAS, the project will upgrade US Route 24 to a four-lane limited access highway between New Haven, Indiana and Defiance, Ohio; and

WHEREAS, the FHWA has defined the Area of Potential Effect in the April 2003 "Section 106 Consulting Party Coordination Summary of Section 106 Investigations" for archaeological and architectural resources and is attached to this Programmatic Agreement; and

WHEREAS, FHWA, in consultation with the Indiana State Historic Preservation Officer (Indiana SHPO), has determined the Harper House, the Meyer/Gallmeyer Farm, the Smith/Rich/Krug House, and the Gronauer Lock (Site 12-Al-1674) are within the area of potential effects; and

WHEREAS, the FHWA, in consultation with the Indiana SHPO, has determined, pursuant to 36 C.F.R. Section 800.4(c), that the Harper House, the Meyer/Gallmeyer Farm, the Smith/Rich/Krug House, and the Gronauer Lock site (12-Al-1674) are eligible for inclusion in the National Register of Historic Places; and

WHEREAS, FHWA, has determined there are no properties in Ohio, within the project's area of potential effect, listed or eligible for listing in the National Register of Historic Places; and

WHEREAS, the FHWA, in consultation with the Indiana SHPO, has determined the Harper House, the Meyer/Gallmeyer Farm, and the Smith/Rich/Krug House will not be adversely effected by the undertaking; and

WHEREAS, the FHWA, in consultation with the Indiana SHPO, considers the Gronauer Lock site (12-Al-1674), important chiefly because of what can be learned by data recovery and has minimal value for preservation in place; and

WHEREAS, the Gronauer Lock site (12-Al-1674) has not been fully identified using appropriate archaeological techniques; and

WHEREAS, the Indiana Department of Transportation (INDOT) has not prepared final design plans for the project in the vicinity of the Gronauer Lock site (12-Al-1674); and

WHEREAS, the boundaries of the Gronauer Lock site (12-Al-1674) and the final design plans in the vicinity of the Gronauer Lock site (12-Al-1674) are needed to assess the effects, if any, the undertaking may have on the Gronauer Lock site (12-Al-1674); and

WHEREAS, the FHWA, in consultation with the Indiana SHPO, is preparing this Programmatic Agreement to phase the effect determination for the Gronauer Lock site (12-Al-1674) and any subsequent data recovery requirements; and

WHEREAS, the FHWA has notified the Advisory Council on Historic Preservation (Council) of the development of this Programmatic Agreement and the Council has elected not to participate; and

WHEREAS, FHWA and the Indiana SHPO acknowledge the project will advance at different times in Indiana than in Ohio and that the INDOT will be responsible for all project activities in Indiana following the issuance of the Record of Decision;

WHEREAS, the FHWA and the Indiana SHPO have invited the INDOT to participate in the consultation and to become a signatory to this Programmatic Agreement; and

WHEREAS, the FHWA has involved and will continue to involve the public as stipulated under the National Environmental Policy Act (NEPA) of 1969 and the National Historic Preservation Act (NHPA) as amended [16 USC Section 470], and its implementing regulations (36 CFR Part 800) in a manner consistent with the Indiana Department of Transportation's public involvement Procedures; and

NOW, THEREFORE, the FHWA and the Indiana SHPO agree that FHWA shall ensure that the following stipulations are implemented in order to take into account the effects of the undertaking on historic properties.

Stipulations

FHWA shall, ensure that the following stipulations are complied with:

I. Archaeological Resources

A. Prior to completing the final project design in Indiana, the INDOT will complete the appropriate archaeological investigations to determine the boundaries of the Gronauer Lock. INDOT will coordinate the archaeological investigations with the Indiana SHPO. A research plan detailing the methodology for defining the boundaries of the site shall be submitted to the Indiana SHPO for review and comment.

B. The INDOT will make a reasonable effort to avoid the Gronauer Lock site (12-Al-1674) during design and construction. If the site cannot be avoided, FHWA will apply the Criteria of Adverse effect in accordance with 36 CFR 800.5.

C. If the FHWA determines, in consultation with the Indiana SHPO, that the project will have an adverse effect on the Gronauer Lock site (12-Al-1674), then INDOT will develop plans for Phase II and/or Phase III archaeological investigations in consultation with the Indiana SHPO and submit such plans to the FHWA and Indiana SHPO for their review and comment. The INDOT shall submit alternative mitigation plan to the FHWA and Indiana SHPO for their review and comment, if appropriate. That review period will be 30-days. If archaeological resources are identified which are eligible under Criteria other than or in addition to Criterion D, FHWA shall comply with 36 CFR 800.6.

D. A draft report(s) of the archaeological investigations and updated Indiana state site form shall be submitted to the FHWA and Indiana SHPO for review and comment. All final reports of the archaeological investigations will be completed within one (1) year of the completion of field work. The Indiana SHPO will be given 30-days to review and comment on all submissions.

II. PERSONNEL QUALIFICATIONS – INDOT shall ensure that all archaeological work carried out pursuant to this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-9), and that all historic preservation work is carried out by or under the direct supervision of a person or persons meeting, at a minimum the *Secretary of the Interior's Professional Qualification Standards for Architectural Historian Professionals* (48 FR 44738-9).

III. LATE DISCOVERIES – If any unanticipated discoveries of historic properties, sites, artifacts, or human remains are encountered during the implementation of this undertaking, FHWA shall comply with 36 CFR 800.13 and Indiana Code (14-21-1-27 and 14-21-1-29) by informing the Department of Natural Resources of such discoveries within two (2) business days and, if applicable, federally recognized tribal organizations that attach religious and/or cultural significance to the affected property; and by developing and implementing actions that take into account the views of the Indiana SHPO and, if applicable, federally recognized tribal organizations.

IV. AMENDMENTS – Any party to this Programmatic Agreement may propose to FHWA that this Programmatic Agreement be amended, whereupon FHWA shall consult with the other parties to this Programmatic Agreement to consider such an amendment in accordance with 36 CFR Part 800.6(c)(7).

V. RESOLVING OBJECTIONS

A. Should any party to this Programmatic Agreement object in writing to FHWA regarding any actions carried out or proposed with respect to the Gronauer Lock site (12-Al-1674)or implementation of this Programmatic Agreement, FHWA shall consult with the objecting party to resolve the objection. If after initiating such consultation FHWA determines that the objection cannot be resolved through consultation, FHWA shall forward all documentation relevant to the

objection to the Council including FHWA's proposed response to the objection. Within 30-days after receipt of all pertinent documentation, the Council shall exercise one of the following options.

i. Advise FHWA that the Council concurs in FHWA's proposed response to the objection, whereupon FHWA shall respond to the objection accordingly;

ii. Provide FHWA with recommendations, which FHWA shall take into account in reaching a final decision regarding its respone to the objection; or

iii. Notify the FHWA that the objection will be referred for comment pursuant to 36 CFR Part 800.7 and proceed to refer the objection and comment. The resulting comment shall be taken into account by FHWA in accordance with 36 CFR Section 800.7(c)(4) and Part 111(1) of the NHPA.

B. Should the Council not exercise one of the above options within 30-days after receipt of all pertinent documentation, FHWA may assume the Council's concurrence in its proposed response to the objection.

C. FHWA shall take into account any Council recommendation or comment provided in accordance with this stipulation with reference only to the subject of the objection; FHWA's responsibility to carry out all actions under this programmatic agreement that are not the subjects of the objection shall remain unchanged.

VI. RESOLUTION OF OBJECTIONS BY THE PUBLIC – At any time during implementation of the measures stipulated in this Programmatic Agreement, should an objection pertaining to any such measure, or its manner of implementation, be raised by a member of the public, FHWA shall notify the parties in this Programmatic Agreement and take the objection into account, consulting with the objector and, should the objector so request, with any of the parties to this Programmatic Agreement to resolve the objection.

VII. REVIEW OF IMPLEMENTATION – If the stipulations have not been initiated within two (2) years after execution of this Programmatic Agreement, the parties to this agreement shall review the Programmatic Agreement to determine whether revisions are needed. If revisions are needed, the parties to this Programmatic Agreement shall consult in accordance with 36 CFR Part 800 to make such revisions.

VIII. SUNSETTING/DURATION – If the terms of this Programmatic Agreement have not been implemented by ten (10) years from the date of this signed Programmatic Agreement, this Programmatic Agreement shall be considered null and void. In such event FHWA shall notify the parties to this Programmatic Agreement, and if it chooses to

continue with the US 24 improvement project, shall re-initiate review of the US 24 improvement project in accordance with 36 CFR Part 800.

IX. TERMINATION

A. If FHWA determines that it cannot implement the terms of this Programmatic Agreement, or if the Indiana SHPO determines that the Programmatic Agreement is not being properly implemented, FHWA or the Indiana SHPO may propose to the other parties to this Programmatic Agreement that it be terminated.

B. The party proposing to terminate this Programmatic Agreement shall so notify all parties to this Programmatic Agreement, in writing, explaining the reasons for terminating and affording them at least 30-days to consult and seek alternatives to termination. The parties shall then consult.

C. Should such consultation fail, FHWA or the Indiana SHPO may terminate the Programmatic Agreement by so notifying all parties in writing.

D. Should this Programmatic Agreement be terminated, FHWA shall either:

   i. Consult in accordance with 36 CFR Part 800.14 to develop a new Programmatic Agreement; or

   ii. Request the comments of the Council pursuant to 36 CFR Part 800.7(a)(2).

E. The FHWA and the Council may conclude the Section 106 process with a Programmatic Agreement between them if the Indiana SHPO terminates consultation in accordance with 36 CFR Part 800.7(a)(2).

Execution of this Programmatic Agreement by FHWA and the Indiana SHPO, and implementation of its terms, evidence that FHWA has taken into account the effects of the undertaking on historic properties.

REQUIRED SIGNATORIES:

FEDERAL HIGHWAY ADMINISTRATION

Signed by: Robert F Tally Jr. Date: 10/13/2005
Robert F. Tally, Jr., P.E., Division Administrator

INDIANA STATE HISTORIC PRESERVATION OFFICER

Signed by: _____ Date: 10·13·05

Jon C. Smith, Deputy State Historic Preservation Officer

INVITED

INDIANA DEPARTMENT OF TRANSPORTATION

Signed by: for [signature] Date: 10/12/05

Thomas O. Sharp, Commissioner

Courtney Clark

Source: Section 106 Consulting Party Coordination Summary of Section 106 Investigations April 2003

PA Attachment
US 24 New Haven, IN to Defiance, OH
Gronauer Lock Site (12-Al-167+
Programmatic Agreem +
10/11/2005

2.0 PROJECT EFFECTS AND COORDINATION

Section 106 of the NHPA requires the consideration of potential impacts of federally funded projects on significant historic and archaeological properties. 36 CFR Part 800 of the NHPA provides regulations on establishing the APE, identifying significant historic sites, and evaluating the impact that a proposed action may have on significant historic resources.

2.1 AREA OF POTENTIAL EFFECT, ARCHAEOLOGICAL SURVEYS

In accordance with 36 CFR 800.16, the APE for the Phase I and II archaeological surveys was defined as the proposed right-of-way limits for the Preferred Alternative. The Indiana Department of Natural Resources, Division of Historic Preservation (DHPA) and the Ohio Historic Preservation Office (OHPO) concurred with the APE for the archaeological investigations. For the proposed US 24/I-469 interchange improvements, the APE for archaeological investigations will conform to the right-of-way limits established for the Preferred Interchange Alternative.

2.2 AREA OF POTENTIAL EFFECT, HISTORY/ ARCHITECTURE SURVEYS

Following the selection of Feasible Corridors for further study, 26 alternative alignments were developed within the five corridors. The APE for the Phase I and II history/architecture surveys was defined as the area within each of the five Feasible Corridors extending from New Haven, Indiana to Defiance, Ohio (Figure 3). The width of the corridors varied from 2,000 to 4,000 feet. The APE for the proposed two-lane and four-lane alternatives along existing US 24 generally conformed to the 500-foot wide corridor centering on the existing roadway including a bypass around Antwerp. For the proposed US 24/I-469 interchange, the APE was defined as the area within a ½-mile radius of the existing interchange.

2.3 IDENTIFICATION AND EVALUATION OF ARCHAEOLOGICAL RESOURCES

An archaeological resource, as adapted from 36 CFR Part 79, is defined as any surface, subsurface, or submerged location which contains material remains of prehistoric or historic human life or activities that are of archaeological interest in the depositional environment in which they were interred or accumulated.

Archaeological investigations were completed for the US 24 New Haven to Defiance project to determine if any significant archaeological resources are present within the study area that could be impacted by the project. The investigations consisted of the following tasks:

- Background research.
- Development of an archaeological predictive model for the study area.
- Completion of field investigations within the proposed right-of-way limits of the Preferred Alternative.
- Laboratory analysis of artifacts collected during field surveys.
- Evaluation of the significance of recorded archaeological sites for National Register of Historic Places (NRHP) eligibility.

A total of 542 archaeological sites have been previously recorded in the 500 square mile study area. Of the 542 previously recorded sites, 437 are located in Allen County, Indiana; 15 are located in Paulding County, Ohio; and 90 in Defiance County, Ohio. A recent survey in Indiana recorded over 300 sites

Mitchell E. Daniels, Jr., Governor
Kyle J. Hupfer, Director

DNR Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov

October 6, 2005

Jennifer Graf
Project Manager
Parsons, Brinckerhoff, Quade & Douglas, Inc.
312 Elm Street, Suite 2500
Cincinnati, Ohio 45202

Federal Agency: Federal Highway Administration ("FHWA")

Re: Preliminary finding of "no adverse effect" and request for concurrence to consider the property eligible under NEHP Criterion D (information potential) for improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio; specifically Gronauer Lock

Dear Ms. Graf:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated September 22 and September 27, 2005, and received on September 26 and September 28, 2005, for the above indicated project in Maumee, Milan, and Jefferson Townships, Alan County, Indiana.

We concur with the Parsons, Brinckerhoff, Quade & Douglas, Inc's September 22, 2005, preliminary finding that there are no historic buildings, structures, districts, objects, or archaeological resources within the area of potential effects that will be adversely affected by the above indicated project.

This identification is subject to the following condition:

- Site 12-Al-1674 must be completely avoided by all construction or ground-disturbing activities. If site 12-Al-1674 is to be impacted, through design or actual construction, then work must stop, the FHWA will propose a finding of "adverse effect," and the site will be subjected to further Phase II and III archaeological investigations. Phase II and Phase III research designs must be submitted to the Division of Historic Preservation and Archaeology for review prior to project implementation.

At this time, and based current information, it appears that the eligibility of site 12-Al-1674 chiefly resides in its potential to contain historic information. However, we wish to make clear that the actual boundaries of the site remain unclear, and current information suggests the potential for features, such as the tow path or additional cribbing, may be present.

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If you have any questions, please call our office at (317) 232-1646. Questions about archaeological issues should be directed to Christopher Koeppel or Dr. Rick Jones. Questions about historic buildings or structures pertaining to this project should be directed to Karie A. Brudis.

Very truly yours,

for Jon C. Smith
Deputy State Historic Preservation Officer

JCS:CDK:JRJ:ALJ:KAB:cdk

cc: Robert F. Tally, Jr., P.E., Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
Ben Lawrence, Indiana Department of Transportation
Curtis Tomak, Indiana Department of Transportation

DNR Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology•402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646•Fax 317-232-0693 · dhpa@dnr.IN.gov

February 28, 2005

Robert F. Tally, Jr., P.E.
Division Administrator
U.S. Department of Transportation
Federal Highway Administration, Indiana Division
575 North Pennsylvania Street, Room 254
Indianapolis, Indiana 46204

Federal Agency: Federal Highway Administration

Re: Additional project information for improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio; specifically a revised boundary for the Meyer/Gallmeyer property (ODOT Project PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Mr. Tally:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated February 8, 2005, and received on February 10, 2005, for the above indicated project in Allen County, Indiana.

Based upon the information provided, we agree with the revised boundary for the Meyer/Gallmeyer historic property.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call Karie A. Brudis of our office at (317) 232-1646.

Be advised that John R. Goss no longer holds the title of Indiana SHPO. As of February 21, 2005, Kyle J. Hupfer, who was appointed by the Governor Daniels, became the new Indiana SHPO.

Very truly yours,

John C. Smith
Deputy State Historic Preservation Officer

JCS:KAB:kab

emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
Lyle Sadler, Indiana Department of Transportation

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PARSON BRINKERHOFF
OHIO, IN

U.S. Department
of Transportation
Federal Highway
Administration

Indiana Division

575 North Pennsylvania Street, Room 254
Indianapolis, Indiana 46204

February 8, 2005

HDA-IN

Mr. John R. Goss
State Historic Preservation Officer
Division of Historic Preservation and Archaeology
Indiana Department of Natural Resources
402 West Washington Street, W274
Indianapolis, Indiana 46204-1646

Dear Mr. Goss:

The Ohio Department of Transportation (ODOT), the Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) are evaluating improvements to the US 24 corridor between New Haven, Indiana and Defiance, Ohio. During the Section 106 process, the Meyer-Gallmeyer property, located at 2811 Berthaud Road in Milan Township, Allen County, Indiana, was identified as being eligible for the National Register of Historic Places. Furthermore, the Meyer-Gallmeyer property is within the undertaking's area of potential effect.

Based on FHWA's recent experience with a similar property on SR 25 (the Hoosier Heartland Highway), FHWA believes the boundary shown in the Draft Environmental Impact Statement for the Meyer/Gallmeyer property is not consistent with guidance from the National Register of Historic Places. Therefore, in cooperation with the INDOT and the ODOT, FHWA is submitting a revised boundary for the Meyer/Gallmeyer property along with a verbal boundary justification. Please review the enclosed materials and supply your comments. Provided you concur with the revised boundary, the Final Environmental Impact Statement will show the revised boundary for the Meyer/Gallmeyer historic property.

If you have questions regarding the boundary justification, please contact Ms. Mary Kennedy at INDOT at (317) 232-5215. If you have questions regarding this request, please contact Matt Fuller at (317) 226-5234.

Sincerely yours,

/s/ Shelby M. Fuller

Robert F. Tally, Jr. P.E.
Division Administrator

Enclosure

BUCKLE UP AMERICA

cc:
Mr. Lyle Sadler (INDOT)
Mr. Roger Manning (INDOT)
Mr. Mark Vonderembse (FHWA-OH)
Mr. Noel Alcala, ODOT-OES, 1980 West Broad Street, 3rd Floor, Columbus, OH 43223
Mr. Kirk Slusher, P.E., Project Manager, Ohio Department of Transportation, 1885 North McCullough St., Lima, Ohio 45802
Ms. Jennifer Graf, Parsons Brinckerhoff, Ohio, Inc., 312 Elm Street, Suite 2500 Cincinnati, OH 45202-2720
Ms. Karie Brudis, IDNR-DHPA (w/ encl)

REC'D BY OHPO DEC 0 6 2004

OHIO DEPARTMENT OF TRANSPORTATION
CENTRAL OFFICE, P.O. BOX 899, COLUMBUS, OHIO 43216-0899

RECEIVED
DEC 1 6 2004
OFFICE OF
ENVIRONMENTAL SERVICES

OFFICE OF ENVIRONMENTAL SERVICES

December 3, 2004

Mr. Mark Epstein
Head-Resource Protection and Review-OHPO
567 East Hudson Street
Columbus, Ohio 43211

Attn: Thomas Grooms, Archaeological Transportation Reviews Manager

Re: Addendum Phase I Cultural Resources Survey for the PAU/DEF-24-0.00/0.00 (PID 18904) project

Dear Mr. Epstein:

Included with this letter is a copy of the report titled, *Addendum Report Phase I Cultural Resource Survey of the PAU/DEF-24-0.00/0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio* which was produced by The Mannik & Smith Group Inc., (MSG), and is dated July 2004 (Revised October 2004). In addition, also included is a copy of the inter-office communication (I.O.C.) concerning history/architecture resources for this project which was sent to Mr. Norman R. Redick, ODOT District 1 Deputy Director dated October 6, 2004, as well as a table of the History/Architecture Coordination Summary dated December 2, 2004.

Project Description

The proposed project is to improve a 40 mile (64 kilometer) segment of US 24 between New Haven, Indiana and Defiance, Ohio. Within the State of Ohio two alternatives were originally selected for archeological investigations, Alternative C which is 27.25 miles long and follows a northern route in Defiance County, and Alternative D which is 27.05 miles long and follows a more southerly route in Defiance County. Both of these two alternatives consist of a 300 foot (91 meter) wide proposed right-of -way corridor extending from the Ohio/Indiana State line east to S.R. 15 in the City of Defiance.

Cultural Resources Investigation Summary

In the summer of 1999 a history/architecture field survey was conducted by Midwest Environmental Consultants, Inc. (MEC) on the behalf of Parsons Brinckerhoff Ohio. Originally, 136 history/architecture properties were identified and included buildings, structures, farm complexes, canal remnants and cultural landscapes. Of these 136 properties, 112 were determined to not be eligible for inclusion in the National

AN EQUAL OPPORTUNITY EMPLOYER

Register of Historic Places (NRHP), one (PAU-35-1) was already listed on the NRHP, nine were recommended for further research to determine their eligibility, and the remaining fourteen were recommended as eligible without further research (MEC 2000). On October 19, 2000, the Ohio Historic Preservation Office (OHPO) concurred with these recommendations. Subsequently as a result of addendum Phase I history/architecture surveys a total of 192 pre- 1950 properties were identified in Paulding and Defiance counties, Ohio, of which seven were identified as clearly eligible to the NRHP without further investigation and 19 required Phase II investigations to determine their eligibility. Finally, one property within the project area (PAU-35-1, a.k.a. the Antwerp Railroad Depot) was found to be already listed on the NRHP. From May 2000 to January 2001, MEC, Inc. conducted Phase II history/architecture investigations for these 19 properties. On March 2001, MEC Inc. produced a Phase II History/Architecture report concerning the results of Phase II investigations of the 19 history/architecture properties requiring further work to determine their eligibility to the NRHP. As a result of these investigations, seven of the 19 properties were found to be eligible to the NRHP)PAU-100-2, PAU-101-2, PAU-124-1, PAU-357-1, PAU-359-1, PAU-364-2, PAU-375-3 and PAU-379-3 (MEC 2001). The OHPO concurred with these results and recommendations from the Phase II history/architecture investigations on July 13, 2001.

Approximately 1,660 acres (672 ha) were initially subjected to archaeological investigations for this project in the state of Ohio. As a result, a Phase I archaeological reconnaissance survey was first undertaken by MSG in 1999 and 2001 and nine archaeological sites were identified within the Ohio portion of this project that required evaluative testing (Schneider et al 2001).

As a result, Phase II evaluative testing was conducted over the fall and winter of 2001-2002, and none of these nine archaeological sites were found to be eligible to the NRHP (Schneider & Cameron 2002), the results of which was coordinated with your office in a letter dated June 24, 2002, which was signed by the OHPO on June 27, 2002.

In May 2002, a new alternative, Alternative D-1 was designated as the Preferred Alternative. Alternative D-1 follows the same alignment as Alternative D with the exception of a few minor shifts within segments 15 and 18 which is located between Krouse Road and the CSXT Railroad tracks in Defiance Township, Defiance County, Ohio. Since portions of this new Preferred Alternative had already been subjected to a Phase I cultural resources survey, only those portions that had not been previously surveyed were considered for an addendum Phase I investigation for the PAU/DEF-24-0.00 (PID 18904) project. This consisted of a 300 foot by 500 foot (91 m by 152 m) wide section of proposed right-of-way covering approximately 3.4 acres (1.4 hectares).

As a result of this first addendum Phase I archeological investigation, MSG, Inc. identified a total of five previously unidentified archaeological sites (33 De 378, 33 De 379, 33 De 380, 33 De 381, and 33 De 382). As a result of these investigations MSG, Inc. concluded that none of the five newly identified archaeological sites meet the criteria for listing on the NRHP, and the redefinition of the site boundary for 33 De 324 does not change the previous recommendation for no additional work for 33 De 324 (Schneider & Cameron 2002).

Most Recent Phase I Addendum Summary

In 2003 additional design modifications were made to Alternative D-1 following Stage 1 engineering design, as well as agency and public comments, as well as various mitigation measures. Elements of these modifications to Alternative D-1 include plans for the installation of proposed service roads, improvements to the I-469 (Indiana) and, a connector road between West High Street and State Route 15/18 interchanges in the City of Defiance and, improvements to local roads, and a wetland mitigation area. The current addendum Phase I study focuses on small right-of-way areas added to Alternative D-1 for the modifications that had not been previously been surveyed within the boundaries of the State of Ohio.

Literature Review

The literature review conducted for the original Phase I survey for this project encompassed a large area including all of the addendum areas. As a result, on ly one property previously recorded on the NRHP (the Dey Road Bridge [SFN# 2033739], a 1906 Pratt thru truss bridge type) is located in the vicinity of this addendum but is not within the area of potential effect. Furthermore, there are no previously documented archaeological resources within or adjacent to the area of potential effect associated with this addendum.

Most Recent Phase I Addendum Survey Results

Cultural resources investigations for this addendum Phase I survey were conducted by staff of MSG, Inc. in June 2004 and an initial draft report was submitted to our office in July 2004.

The history/architecture portion of this addendum survey focused on the eastern end of Alternative D-1 in general, and is within or adjacent to the City of Defiance. The area for potential effect is a 500 foot (152 meter) wide corridor centered on Wet High Street (County Road 42), Ralston Avenue (State Route 15/18), and the proposed new connector road between existing US 24 and the Tiffin River.

As a result of the history/architecture survey eleven history/architecture properties were identified and two properties were listed on the Ohio Historic Inventory (DEF-0415-11 and DEF-0416-11). While some of these eleven properties retain good integrity, none of them are architecturally distinctive or is associated with persons, events, or trends important in our past, therefore, none of these properties meet the eligibility criteria necessary for listing in the National Register of Historic Places (NRHP).

During the archaeological survey, eleven previously unidentified archaeological sites were recorded. These sites include four prehistoric isolated finds (33 De 391, 33 De 393, 33 Pa 179, and 33 Pa 180), five prehistoric lithic scatters (33 Pa 181 through 33 Pa 183, 33 Pa 185 and 33 Pa 186), and two historic artifact scatters (33 De 392 and 33 Pa 184). None of these archaeological sites appear to contain sufficient information potential to merit listing on the NRHP and no further archaeological or history/architecture investigations are recommended.

Most Recent Phase I Report Review & Comments

Upon submission of the initial draft of this addendum Phase I report, ODOT-OES requested a number of changes/revisions to this document for both history/architecture and for archaeology. A revised report was received by our office on September 24, 2004. On October 6, 2004, ODOT-OES sent an I.O.C. to Mr. Norman R. Redick, ODOT District 1 Deputy Director stating that the archaeological review of this report was going to be handled separately and that all of the requested revisions concerning history/architecture for the initial draft of the addendum Phase I report had been adequately addressed in the September 2004 version and that no further work regarding history/architecture was required. Subsequently, the third (and attached) version of this addendum Phase I report was sent by MSG, Inc. on October 20, 2004, and all of the revisions requested by our office concerning archaeology have been addressed to our satisfaction and it is our recommendation here that no further work regarding archaeology is required.

Conclusions & Request for Concurrence

Therefore, as a result of these cultural resources investigations, ODOT-OES has made the following determinations:

1) Since none of the eleven history/architecture resources identified in association with the revised Preferred Alignment (including DEF-0415-11 and DEF-0416-11) meet any of the criteria necessary for listing in the NRHP no additional history/architecture investigations are warranted for Alignment D-1.

2) Since none of the eleven archaeological resources (33 De 391-33 De 393, 33 Pa 179-33 Pa 186) identified in association with the revised Preferred Alignment meet any of the criteria necessary for listing in the NRHP no additional archaeological investigations are warranted for Alignment D-1.

3) MSG, Inc. has adequately investigated all previously un-surveyed portions of the current footprint for the Preferred Alternative (Alternative D-1), and no further cultural resources investigations are warranted unless the project scope is to be changed.

In sum, it is the opinion of ODOT-OES that no further cultural resources investigations for this subject project are warranted unless the scope of this project is changed. Furthermore ODOT has determined that this proposed project will have no effect on any historic properties. In accordance with 36 CFR Part 800.4(d)(1), we have determined that a finding of "no historic properties affected" is appropriate for the subject project.

~~On behalf of the FHWA-Ohio Division, and in compliance with 36 CFR Section 800, we request your comments on the enclosed document. If no objection is received within 30 days, in accordance with the Advisory Council On Historic Preservation's current regulations under 36 CFR Part 800.4~~(d)(1), FHWA's ~~and ODOT's responsibilities under Section 106 are fulfilled.~~ On behalf of the FHWA-Ohio Division, and in compliance with 36 CFR Part 800.3(c)(4), we request your comments on the enclosed by 30 days after your receipt of this letter. If no objection is received within 30 days, in accordance with the Advisory Council On Historic Preservation's current regulations, FHWA's and ODOT's responsibilities concerning archaeological resources under Section 106 are fulfilled.

References

Midwest Environmental Consultants, Inc.
2000 *Phase I History/Architecture Report of the PAU/DEF-24-0.00/0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio.* Midwest Environmental Consultants, Inc. Prepared for Parsons Brinckerhoff Ohio. Report on file at the Ohio Historic Preservation Office, Columbus.

Midwest Environmental Consultants, Inc.
2001 *Phase II History/Architecture Report of the PAU/DEF-24-0.00/0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio.* Midwest Environmental Consultants, Inc. Prepared for Parsons Brinckerhoff Ohio. Report on file at the Ohio Historic Preservation Office, Columbus

Cameron, Erica L. and Maura Johnson
2004 *Addendum Report Phase I Cultural Resources Survey of the PAU/DEF-24-0.00 (PID 18904) Improvements in Noble, Delaware, and Defiance Townships, Defiance County, and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio*. MSG, Inc. Report on file at the Ohio Department of Transportation, Columbus.

Schneider, A.M., J.M. Koralewski, and E. L. Cameron
2001 *Phase I Archaeological Survey of the PAU/DEF-24-0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County, and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio*. MSG, Inc. Report on file at the Ohio Historic Preservation Office, Columbus.

Schneider, A.M. and E. L. Cameron
2002 *Phase II Archaeological Report of the PAU/DEF-24-0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County, and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio*. MSG, Inc. Report on file at the Ohio Historic Preservation Office, Columbus.

If you have any questions or comments regarding history/architecture they may be directed to Joan Randall, Staff Historian, at 614-752-2171, or via e-mail at joan.randall@dot.state.oh.us . If you have any questions or comments, concerning archaeology please direct them to John F. Schweikart, Staff Archaeologist, at (614) 466-7087, via e-mail at john.schweikart@dot.state.oh.us..

Respectfully,

Timothy M. Hill
Administrator
Office of Environmental Services

STATE HISTORIC PRESERVATION OFFICE:

12/16/04
(Date)

TMH:jfs/jr

Attachment,
c:District 1 Environmental Coordinator,
Susan Gasbarro ODOT-OES,
Noel Alcala ODOT-OES,
Project File,
Reading File

Joseph E. Kernan, Governor
John R. Goss, Director

DNR Indiana Department of Natural Resources

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.state.in.us

HISTORIC PRESERVATION AND ARCHAEOLOGY

October 18, 2004

Jennifer Graf
Project Manager
Parsons Brinkerhoff Ohio, Inc.
312 Elm Street, Suite 2500
Cincinnati, Ohio 45202

Federal Agency: Federal Highway Administration

Re: Additional information regarding the preferred alternative for improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio (ODOT Project #PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Ms. Graf:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated July 23, 2004, and received on July 26, 2004, for the above indicated project in Maumee, Milan, & Jefferson townships, Allen County, Indiana. We apologize for our delay in response.

Based upon the information provided and the documentation available to the staff of the Indiana SHPO, it appears unlikely that the proposed US 24/I-469 interchange improvements would diminish the integrity of the Niemeyer Farm in any demonstrable way.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call Karie A. Brudis of our office at (317) 232-1646.

Very truly yours,

Jon C. Smith
Deputy State Historic Preservation Officer

JCS:KAB:kab

cc: Robert F. Tally, Jr., P.E., Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
Lyle Sadler, Indiana Department of Transportation

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John R. Goss, Director

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Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.state.in.us

October 14, 2004

Jennifer Graf
Project Manager
Parsons Brinkerhoff Ohio, Inc.
312 Elm Street, Suite 2500
Cincinnati, Ohio 45202

Federal Agency: Federal Highway Administration

Re: Revised phase Ia archaeological reconnaissance (Schneider & Cameron 7/04) for improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio (ODOT Project #PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Ms. Graf:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated August 2, 2004, and received on August 3, 2004, for the above indicated project in Maumee, Milan, & Jefferson townships, Allen County, Indiana.

Based upon the documentation available to the staff of the Indiana SHPO, and the results of the revised phase Ia archaeological field reconnaissance report, we have not identified any archaeological resources listed in or eligible for inclusion in the National Register of Historic Places within the probable area of potential effects.

Comments regarding buildings and structures will be provided under separate cover.

Be advised that if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In the event that artifacts or features are discovered during the implementation of the Federally assisted project, activity, or program and a plan has not been developed, it is the Federal agency's responsibility to make reasonable efforts to avoid, minimize or mitigate adverse effects in accordance with 36 C.F.R. § 800.13.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call Jim Mohow of our office at (317) 232-1646.

Very truly yours,

James R. Mohow

for Jon C. Smith
Deputy State Historic Preservation Officer

JCS:JAM:kab

cc: Robert F. Tally, Jr., P.E., Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
Lyle Sadler, Indiana Department of Transportation

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Joseph E. Kernan, Governor
John R. Goss, Director

HISTORIC PRESERVATION AND ARCHAEOLOGY

May 21, 2004

Andrew M. Schneider
Mannik and Smith Group, Inc.
1800 Indian Wood Circle
Maumee, Ohio 43537

Federal Agency: Federal Highway Administration ("FHWA")

Re: Additional information for improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio (ODOT Project #PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Mr. Schneider:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated April 23, 2004, and received on April 26, 2004, for the above indicated project in Maumee, Milan & Jefferson townships, Allen County, Indiana.

In terms of potential impact on archaeological resources, a review of our records indicates that the additional project area is, for the most-part, in an environmental setting that is suitable to contain archaeological resources, but has never been evaluated by a qualified archaeologist. Moreover, numerous archaeological sites have already been recorded within one mile of the proposed project location.

Given the aforementioned factors, a reconnaissance level archaeological survey will be required to determine the presence or absence of archaeological resources in those portions of the additional project area that are not located on poorly, or very poorly, drained soils. The survey must be done in accordance with the Secretary of the Interior's "Standards and Guidelines for Archaeology and Historic Preservation" (48 F.R. 44716). A description of the survey methods and results must be submitted to the Division of Historic Preservation and Archaeology for review before we can comment further.

Once the indicated information is received, the Indiana SHPO will resume identification and evaluation procedures for this project. Please keep in mind that additional information may be requested in the future.

A copy of the revised 36 C.F.R. Part 800 that went into effect on January 11, 2001, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call Jim Mohow of our office at (317) 232-1646.

Very truly yours,

James A. Mohow

for Jon C. Smith
Deputy State Historic Preservation Officer

JCS:JAM:kab

cc: Robert F. Tally, Jr., P.E., Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
James E. Juricic, Indiana Department of Transportation

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Frank O'Bannon, Governor
John Goss, Director

HISTORIC PRESERVATION AND ARCHAEOLOGY

December 12, 2003

RECEIVED
DEC 17 2003
PB OHIO, INC.

Jennifer Graf
Senior Project Planner
Parsons Brinkerhoff Ohio, Inc.
312 Elm Street, Suite 2500
Cincinnati, Ohio 45202-2120

Federal Agency: Federal Highway Administration ("FHWA")

Re: Addendum to archaeological field reconnaissance (Schneider & Cameron 11/03) improvements to the US 24/I-469 interchange in conjunction with the improvements to US 24 from New Haven, Indiana to Defiance, Ohio (ODOT Project PAU/DEF-US 24-24.00/0.00, PID 18904)

Dear Ms. Graf:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated November 24, 2003, and received on November 25, 2003, for the above indicated project in Allen County, Indiana.

Having reviewed the archaeological report, we concur with the conclusions and statements of the archaeological contractor. With the exception of the area of the Gronauer Lock, construction within the project area should have no effect on significant archaeological resources.

Please supply our office with a plan for the investigation and documentation of the remaining portion of the Gronauer Lock. We will comment further on that aspect of the project when we have had an opportunity to review the proposed research design and methodology.

A copy of the revised 36 C.F.R. Part 800 that went into effect on January 11, 2001, may be found on the Internet at www.achp.gov for your reference. If you have questions about our comments, please call Jim Mohow of our office at (317) 232-1646.

Very truly yours,

James A. Mohow

for Jon C. Smith
Deputy State Historic Preservation Officer

JCS:JAM:kab

cc: Kate Quinn, Acting Division Administrator, Federal Highway Administration
emc: Todd Zeiger, Director, Northern Regional Office, Historic Landmarks Foundation of Indiana
James E. Juricic, Indiana Department of Transportation

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C.6 Threatened and Endangered Species Correspondence and Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923
Fax: (614) 469-6919

September 28, 2005

Mr. Dennis A. Decker
Federal Highway Administration, Ohio Division Office
200 North High St.
Columbus, OH 43215

Re: PAU/DEF-US24-24.00/0.00, PID 18904

Dear Mr. Decker:

This letter accompanies the U.S. Fish and Wildlife Service's (Service) enclosed Biological Opinion for the proposed U.S. Route 24 upgrade, to be located in Allen County, Indiana and Paulding and Defiance Counties, Ohio (PID 18904). Formal consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA), for the U.S. 24 project was initiated on May 18, 2005. The consultation concerns the effects of your proposed highway project on the Indiana bat (*Myotis sodalis*) a federally-listed endangered species.

We note and appreciate the comments received on the draft biological opinion from your office on Sept. 22, 2005, and those received from the Ohio Department of Transportation (ODOT) on September 27, 2005. These comments and suggested changes have been incorporated into the revised document. One comment submitted by ODOT was in relation to the definition and delineation of the action area for the project, relative to the noise analysis conducted. This comment stated, "We do however believe that the assumptions made by utilizing the ODOT noise analysis to substantially define the project action area with respect to the traffic noise affect on animals are scientifically flawed." The Service would like to clarify the use of noise in our description of the action area: The action area of a project is defined as: The area that encapsulates the reach of all the direct and indirect environmental impacts of the project. That is, the area in which the biotic, chemical, and physical impacts to the environment are anticipated to occur. The definition of action area does not include impacts to any animals or individual species, rather it includes only biotic, chemical, and physical impacts to the environment. Noise is a physical impact to the environment, which should be included among other factors when describing the action area of any project. Therefore, although the effects of noise on the Indiana bat are described in the Effects of the Action section of the Biological Opinion, the effect of noise on the Indiana bat did not factor into the description of the action area.

This final Biological Opinion concludes the need for further consultation on this project, as required under Section 7 of the Endangered Species Act of 1973, as amended. 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 any concerns about this consultation, please feel free to contact me or Megan Seymour of this office at (614) 469-6923 extensions 12 and 16, respectively.

Sincerely,

Mary Knapp

Mary Knapp, Ph.D.
Supervisor

cc: Tim Hill, ODOT, OES; P.O. Box 899, Columbus, OH 43216-0899

BIOLOGICAL OPINION

on the

CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE U.S. 24 NEW HAVEN, INDIANA TO DEFIANCE, OHIO PROJECT

FOR THE FEDERALLY-LISTED ENDANGERED INDIANA BAT (*Myotis sodalis*)

Submitted to the Federal Highway Administration

September 30, 2005

Prepared by:

U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068

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INTRODUCTION

This document transmits the U.S. Fish and Wildlife Service's (Service) Biological Opinion (BO) based on our review of the Federal Highway Administration's (FHWA) proposed U.S. 24 New Haven, Indiana to Defiance, Ohio project, located in Allen County, Indiana, and Paulding and Defiance Counties, Ohio, and its effects on the Indiana bat (*Myotis sodalis*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). On May 20, 2005, the Service received FHWA's request for formal consultation along with the Biological Assessment of Federally-Listed Species for the Ohio Department of Transportation's U.S. 24 New Haven, Indiana to Defiance, Ohio project (ALL [Indiana]/PAU/DEF [Ohio]-24-0.00 (PID 18904)) (BA). Formal consultation was initiated between the Service and FHWA on May 20, 2005, and the Service provided a letter to FHWA, dated June 16, 2005, notifying them of the initiation date.

This Biological Opinion is based on information provided in the BA, the Draft Environmental Impact Statement, ODOT Project PAU/DEF-US24-24.00/0.00, PID 18904, September, 2003 (DEIS), numerous letters, meetings, telephone conversations, and e-mail exchanges among the Service, FHWA, and Ohio Department of Transportation (ODOT), field investigations, and other sources of information. A complete administrative record of this consultation is on file at the Service's Reynoldsburg, Ohio Field Office (ROFO).

CONSULTATION HISTORY

Table 1 presents a summary of the primary points in the consultation history between the Service's Ohio Field Office and FHWA

Table 1. Summary of consultation for the U.S. 24 New Haven, Indiana to Defiance, Ohio project.

Date	Event/Action
Jan. 11, 2001	FHWA submits Preliminary Draft Environmental Impact Statement (PDEIS) to Service for review
Feb. 9, 2001	Service submits comments on PDEIS to Parsons Brinckerhoff, Ohio, Inc.
Dec. 6, 2001	ODOT submits survey results for eastern massasauga and copperbelly watersnake to Service for review
Dec. 13, 2001	Service submits letter to ODOT agreeing that copperbelly watersnake and eastern massasauga are absent from the project area
Sept. 24, 2003	FHWA provides the Draft Environmental Impact Statement (DEIS) to the Service for review
Dec. 4, 2003	U.S. Department of the Interior submits comments on the DEIS to FHWA
Sept. 17, 2004	ODOT requests species list from Service for preparation of a Biological Assessment (BA)
Sept. 23, 2004	Service provides species list in response to ODOT's request
Jan. 25, 2005	FHWA submits Draft Biological Assessment (DBA) to Service for review
Feb. 17, 2005	Service submits comments on DBA to FHWA
May 20, 2005	FHWA submits revised BA to Service, and requests initiation of formal consultation for the Federally endangered Indiana bat (*Myotis sodalis*)
June 16, 2005	Service submits response to request for initiation; Formal consultation was initiated on May 18, 2005.
June 16, 2005	FHWA and Service meet to discuss contents of BAs, additional information needed for

	Pau/Def 24, and proposed site visit to project area.
July 29, 2005	Service submits email to FHWA, asking for more information to define Action Area
Aug. 8, 2005	Service, FHWA, ODOT, and consultants participate in site visit to project area
Aug. 12, 2005	ODOT submits email to Service providing some answers to 7/29/05 email and answers to questions posed at site visit
Aug. 23, 2005	Service calls ODOT to check on status of additional information requested in 7/29/05 email. ODOT is gathering information currently, will provide soon.
Aug. 26, 2005	Service sends e-mail to ODOT/FHWA checking on status of information requested in 7/29/05 email
Aug. 29, 2005	FHWA provides email response with additional information requested
Aug. 30, 2005	FHWA provides another email response with additional information, as requested
Sept. 16, 2005	Service provides draft biological opinion to FHWA and ODOT for review and comment
Sept. 22, 2005	FHWA provides comments on draft Biological Opinion to Service
Sept. 27, 2005	ODOT provides comments on draft Biological Opionion to Service
Sept. 30, 2005	Service submits final Biological Opinion to FHWA and ODOT

In their request for formal consultation received by the Service on May 20, 2005, FHWA determined that activities associated with the U.S. 24 New Haven, Indiana to Defiance, Ohio project are likely to adversely affect the Indiana bat (*Myotis sodalis*) and are not likely to adversely affect the bald eagle (*Haliaeetus leucocephalus*). Furthermore, FHWA determined that the project would have no effect on the clubshell mussel (*Pleurobema clava*) or the copperbelly watersnake (*Nerodia erythrogaster neglecta*). Two candidate species, Rayed bean (*Villosa fabalis*) and eastern massasauga (*Sistrurus catenatus catenatus*) are listed for the project area, and FHWA concluded that no effects to either of these species are anticipated.

FHWA requested our concurrence on these effect determinations. In a letter dated June 16, 2005 the Service: (1) concurred with FHWA's determination that the project is likely to adversely affect the Indiana bat, (2) concurred with FHWA's determinations that the project is not likely to adversely affect the bald eagle, and (3) agreed to implementation of formal consultation, effective May 18, 2005.

The Service concurred with FHWA's effect determination of "not likely to adversely affect" for the bald eagle based on the following: (1) suitable habitat for this species may occur in the action area, but there are no summering or wintering populations of bald eagles, and only rare occurrences of transient bald eagles, (2) although transient bald eagles could potentially be affected by vehicular strikes, it would not reach the extent of take, as the maximum estimate of 0.00001 deaths per year, per lane mile in Ohio, and (3) the potential for water quality degradation from contaminants or sedimentation to impact the bald eagle through decreased or contaminated food sources will be mediated by erosion control methods, and thus, no detectable reduction or contamination of food will occur. Therefore, the possibility of an impact occurring to the bald eagle from an accidental spill is not quantifiable or predictable. Based upon this information, potential adverse affects to the bald eagle from the U.S. 24 New Haven, Indiana to Defiance, Ohio project, as proposed, are insignificant and discountable.

Consultation on the bald eagle for this project, as proposed, has concluded. This species will not be considered further in this Biological Opinion. 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, FHWA should consult with the Service to determine whether this determination is still valid.

BIOLOGICAL OPINION

I. DESCRIPTION OF THE PROPOSED ACTION

The following summary of the proposed action is drawn from project description in the Biological Assessment for Federally-Listed Species for the Ohio Department of Transportation's (ODOT) U.S. 24 New Haven, Indiana to Defiance, Ohio project (ALL [Indiana]/PAU/DEF [Ohio}-24-0.00 (PID 18904)) (BA) and the Draft Environmental Impact Statement, ODOT Project PAU/DEF-US24-24.00/0.00, PID 18904, September, 2003 (DEIS). Additional information has been provided by ODOT and FHWA staff.

The project is the proposed construction/upgrade of U.S. 24 on a new alignment between the cities of New Haven, Indiana and Defiance, Ohio, to be located in Allen County, Indiana, and Paulding and Defiance Counties, Ohio. The proposed project corridor is approximately 36.4 miles (64 km) long and includes three interchanges in Indiana, and three interchanges in Ohio. The Indiana interchanges will be located at Ryan/Bruick Road, Webster Road, and State Route 101. The Ohio interchanges will be located at State Route 49 and U.S. Route 127 in Paulding County, and State Route 424 in Defiance County. A new connector road within the City of Defiance at the eastern project terminus is also included. Finally, the complete project also includes stream and wetland mitigation areas, which are in preliminary stages of design. The project will affect primarily private lands, although approximately 45% of the project is located along existing transportation corridors (railroads and portions of the existing U.S. 24).

The U.S. 24 corridor right-of-way is approximately 300 ft (91 m) wide, 36.4 miles long, and collectively with the interchanges, connector roads, service roads, drainage ways, and the wetlands and stream mitigation areas, comprises approximately 2015 acres (David Snyder, FHWA pers. comm.). In addition to the above areas, staging, waste, and borrow areas will be identified adjacent to the right-of-way. It is anticipated that construction and operation of the highway will actually impact less area than is currently being considered. However, the final project design continues to be refined, including specific location of developments within the corridor. Therefore, the analysis in this BO will consider that the impact is to the entire area.

The project will provide a 4-lane limited access highway. From its western terminus, the project corridor begins at the I-469 bypass in New Haven, Indiana. It proceeds northeast along the existing U.S. 24 corridor until its intersection with Berthaud Road, then diverges from the existing corridor to run roughly parallel and south of the existing U.S. 24. It proceeds northeast, running north of Woodburn, Indiana, and parallel and south of the existing U.S. 24, and continues northeast across the Indiana/Ohio State line, again running parallel and approximately 1 mile south of the existing U.S. 24 corridor south of the Villages of Antwerp and Cecil and into Defiance County. Once in Defiance County, the project corridor meets up with the existing U.S. 24 at its intersection with State Route 424, just west of Defiance, Ohio, and the project continues along the existing U.S. 24 corridor for another 2.5 miles.

Six interchanges will also be constructed on the new U.S. Route 24: Three in Indiana including Ryan/Bruick Rd., Webster Rd., and State Route 101, and three in Ohio including State Route 49, U.S. Route 127, and State Route 424.

The Ohio portion of the project will be constructed in three segments. Section I is from the Indiana state line to U.S. 127; Section 2 is from U.S. Route 127 to State Route 424; Segment 3 is from State Route 424 to State Route 15/18. Construction of the Segment 3 will begin in 2006. Construction of the two western segments will be simultaneous and will being in 2007. All construction will be complete by autumn 2009. The Indiana portion of the project will be constructed in one segment.

The action consists of 3 project elements: construction, operation, and maintenance.

Construction Activities

Project construction activities include land acquisition and exchange, clearing and grubbing, and earthwork. Each of these activities is discussed below.

Land Acquisition and Exchange: Properties within the project right-of-way will be purchased prior to the commencement of construction work. Properties to be acquired include agricultural, commercial, community/public use, and residential properties. Natural areas to be impacted include streams, wetlands, and woodlots. The project right-of-way is primarily composed of agricultural areas (1583 acres), with some small areas of woods (199 acres, including mitigation areas) and residential, community/public use, and commercial properties (128 acres) impacted as well. Portions of the new road will be constructed adjacent to an existing railroad right-of-way, and portions of the new road at the eastern and western termini of the project include only widening of the existing U.S. 24.

Clearing and Grubbing: Clearing will be performed to prepare the project area for construction activities. Clearing consists of cutting and removing above-ground vegetation such as weeds, grasses, brush, and trees; removing downed timber and other vegetative debris; and salvaging marketable timber. Grubbing will follow clearing operations to remove any remaining surface vegetation and buried debris, including tree stumps and roots.

Clearing and grubbing will be required prior to earthwork in order to remove vegetative and other debris from work areas so that design specifications (e.g., for compaction) can be met. Trees, stumps, and large roots will be removed from excavation areas to a depth sufficient to prevent such objectionable material from becoming mixed with the material being incorporated in the embankment. Areas to be excavated will require grubbing to remove small bushes, vegetation, and any rubbish. Within excavation and embankment limits, tree stumps, roots, and other vegetation will be removed. All extraneous matter will be removed and disposed of in designated waste areas by chipping, burying, or other methods of proper disposal, including burning. Various methods and equipment will be used for this work.

Earthwork: Earthwork is all earth moving activities that will occur for road and interchange construction, access roads, utility placement and relocation, construction of drainage structures, and preparation of staging, maintenance, waste, and borrow areas. Earthmoving activities will

include excavating, filling, grading, and borrowing and wasting of materials. Earthmoving equipment to be used includes haul trucks, dozers, excavators, scrapers, and backhoes. Earthwork will require approximately 2 years for each segment. Drainage culverts and buried structures will be placed first, followed by bridge structures and paving.

Staging and maintenance areas will be used to assemble and store the construction vehicles that are too large to travel on the highway in one piece (e.g., haul trucks, earthmovers, large dozers, large excavators, hoes, etc.). These areas are also used to store supplies (erosion control materials, steel rebar and mesh, small diameter culverts, traffic signs and posts, office trailers, etc.). Waste and borrow areas are used to dispose of and obtain materials for earthwork. For this project, borrow areas will be dominant over waste areas, and will be located outside of the right-of way. Based on information provided by ODOT District 1 personell, the project will require 3,344,298 cubic yards of embankment fill, which will need to be excavated from borrow areas in close proximity to the right-of-way. According to the BA, equipment staging, maintenance, waste, and borrow areas will be located in cleared upland habitat, which is generally unsuitable for any listed species (specifically the Indiana bat and bald eagle). Borrow areas are generally located adjacent to the right-of-way, and ODOT will require contractors to utilize areas that are upland and are not forested (Kirk Slusher, ODOT, pers. comm.). The exact size and location of these areas have yet to be identified, however, based on the information presented in the BA, we assume that they will not be located within stream, wetland, or forested areas.

Stream and Wetland Mitigation: FHWA is required under sections 404 and 401 of the Clean Water Act to provide mitigation for stream and/or wetland impacts. While the mitigation plan is still draft in nature, the current proposal includes the following:

As mitigation for direct impacts to 7,944 linear feet of stream in the state of Ohio, ODOT proposes to incorporate natural stream channel design techniques into approximately 2,025 linear feet of the relocated Stevens Ditch. The reconstructed stream channel would incoprorate meanders, a two-stage channel, riffle/pool complexes, gradual sloping benches, and vegetated riparian corridors planted with native tree, shrub, and herbaceous plants. In addition, ODOT proposes to preserve 3,268 linear feet of Stevens Ditch, and 1,060 linear feet of an unnamed tributary of Stevens Ditch. This stream preservation is located on the Plumer property, a 163-acre property within the new road right-of-way located just southwest of the proposed interchange in Defiance, Ohio. Additionally, ODOT proposes to preserve through permanent conservation easment 4,932 linear feet (average width 310 feet) of stream habitat on the Smith Property. The Smith Property Conservation Area will include approximately 35 acres of wooded riparian habitat along the Maumee River in Paulding County, Crane Township.

As mitigation for direct impacts to 22.05 acres of wetlands in the state of Ohio, ODOT proposes to preserve 60.6 acres of Category 3 forested wetland (the highest quality of wetland under the Ohio Environmental Protection Agency's Rapid Assessment Method (ORAM) for wetlands), to restore 26 acres of forested, shrub-scrub, and emergent wetland, and to preserve 72 acres of mature woodland and 9.0 acres of agricultural buffer areas. All wetland mitigation will also occur on the 163-acre Plumer property.

Construction Minimization Measures

The following provides a description of measures incorporated into the project design that may avoid and/or minimize potential impacts to the Indiana bat during construction.

Clearing and Grubbing:

1. FHWA will ensure that all construction activities are confined to the construction right-of-way as described above, in order to minimize the loss of woodland habitat.

2. As described above, ODOT will include constraints on the locations of staging, maintenance, waste, and borrow areas, indicating that they are not to be located in stream, wetland, or forested areas.

3. Tree cutting will occur between September 15 and April 15 to avoid direct take of Indiana bats during the summer maternity season. The following exception applies: If a limited number of trees must be removed between April 15 and September 15, the contractor will be required to obtain the service of a qualified bat scientist to investigate trees for the presence of Indiana bats. The results of said investigation must be coordinated with the Service.

4. Maintenance that involves tree removal (unsafe trees), limbing/pruning, or similar activities will be scheduled from September 15 to April 15 to avoid disturbing roosting bats.

5. A comprehensive sedimentation and erosion control plan will be developed and implemented during tree-cutting operations to avoid downstream impacts to waterways.

6. Strict guidelines dictating the use and handling of hazardous materials and other contaminants will be implemented by ODOT, INDOT, and their contractors to minimize the potential for downstream impacts to water quality.

Earthwork:

1. Best Management Practices (BMPs) will be utilized during construction activities in accordance with ODOT's Construction and Material Specification 207 (Temproary Sediment & Erosion Control), Supplemental Specification 832 (Temproary Sediment & Erosion Control), and the U.S. Army Corps of Engineers special conditions to the 404 permit.

2. The ODOT Office of Construction Administration's Handbook for the Removal of Regulated Wastes will be adhered to during all phases of construction.

3. A project-specific emergency spill response protocol will be developed and implemented dictating the use and handling of hazardous materials and other contaminants to prevent and control spills during construction.

4. The following provisions will be developed and implemented to protect and enhance surface and ground water quality by using erosion control practices appropriate for the terrain and approved best management practices:

(a) Contractors will develop and incorporate provisions for implementation of a post-construction re-vegetation plan to control erosion and maintain water quality.

(b) Construction of stormwater detention/treatment facilities will be designed to minimize the impact of highway contaminants on surface water quality.

(c) Culverts for stream crossings will be properly sized and engineered to provide unobstructed, continuous flow for aquatic biota whenever possible.

(d) A comprehensive sedimentation and erosion control plan will be developed and implemented during construction activities to avoid down-stream impacts to waterways.

(e) Construction will employ standard and state of the art erosion control techniques including the use of silt fences, sediment detention basins and ponds, and temporary revegetation as appropriate.

(f) A post-construction re-vegetation plan to control erosion and maintain water quality will be developed and implemented.

(g) The project footprint has been minimized to reduce impacts to streams and wetlands.

(h) Mitigation for stream impacts will be accomplished through specific negotiations with the U.S. Army Corps of Engineers, the Ohio Environmental Protection Agency, and the Indiana Department of Environmental Management during the Clean Water Act 404/401 permitting process.

(i) Wetland impacts will be mitigated in accordance with the Ohio EPA and Indiana Wetland Water Quality Standards.

(j) Natural stream channel design features will be incorporated in areas where the relocation of existing streams is necessary, and feasible, with a goal of establishing long-term channel stability. These features will include the establishment and maintenance of streamside vegetation potentially used as travel corridors by Indiana bats.

Operation and Maintenance Activities

Project operation and maintenance will involve a variety of activities. The following is a list and description of the operation and maintenance activities.

Lighting: Roadway lighting may be used at some locations along the road, particularly at intersections. Based on coversations with ODOT personnel during the August 8, 2005 site visit to the project area, high pressure sodium lights will likely be used. Partial lighting will be installed at the interchanges, and will average twenty-four 40-foot tall cobrahead lights at each interchange (Kirk Slusher, ODOT pers. comm.).

Vegetation Management: Mowing will be conducted to provide a clear sight distance, clear area for vehicle recovery, visible and clear ditches, and control of noxious weeds. Mowing will generally occur four times per year. In addition to mowing, herbicidal spraying will be used to manage herbaceous groundcovers around roadway fixtures (i.e., guardrails and road signs). Use of herbicides prevents obscuring of roadway fixtures and simplifies mowing. Application is specified for once per year.

Snow and Ice Control: Snow removal and ice control activities involve plowing, de-icer or abrasive application to ensure public safety during snow and ice events. The roadway will be treated with de-icing agents and/or salt during specific winter weather events. This activity will vary depending on local weather conditions.

Road Maintenance: Road repair will be conducted as needed. Repair activities include resurfacing, pothole repair, striping, bridge and culvert repair, and guardrail repair/replacement. Emergency repairs may include slide abatement, bank stabilization, and flood damage repair. Emergency work may occur at any time and could utilize any method appropriate to the situation.

Spill Management: Spill response targets containment and remediation to avoid and minimize the potential for adverse impacts to human health and the natural environment.

Operation and Maintenance - Minimization Measures

The following provides a description of measures incorporated into the project design to avoid and/or minimize potential impacts to the Indiana bat during road operation and maintenance.

Lighting: Roadway lighting may be used at some locations along the road, particularly at intersections. Based on coversations with ODOT personnel during the August 8, 2005 site visit to the project area, high pressure sodium lights will likely be used. Partial lighting will be installed at the interchanges, and will average twenty-four 40-foot tall cobrahead lights at each interchange (Kirk Slusher, ODOT pers. comm.).

In general, sodium lamps attract fewer insects because of the wavelengths of light emitted. In general, fewer insects would then attract less bats, which forage on the insects.

Vegetation Management:

1. Mowing and herbicide applications will follow guidelines set by the ODOT Roadside Vegetation Management – Mowing and Herbicide Application Policy (ODOT 1997). Specifically, herbicide use will be restricted to ends of guardrails and roadway clear zones and will always be applied by a State Licensed Practitioner.

2. A maintenance schedule that involves tree removal (unsafe trees), limbing/pruning, or other activities that may disturb tree-roosting bats will be limited to the period from September 15 to April 15 to avoid direct take of Indiana bats during their maternity period.

Snow and Ice Control:

1. Winter de-icing agents will be applied at minimum effective rates.

Spill Management:

1. A Spill Prevention, Control and Countermeasure Plan will be developed and implemented thus reducing the potential for spills to impact the Indiana bat and its habitat.

Action Area

The action area includes all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area is defined by measurable or detectable changes in land, air and water or to other measurable factors that may elicit a response in the species or critical habitat. The action area is not limited to the "footprint" of the action and should consider the biotic, chemical, and physical impacts to the environment resulting from the action.

The FHWA has delineated the action area for this project in their BA as the project footprint plus all lands within 2.5 miles on either side of the footprint. FHWA included the 2.5 mile area on either side of the footprint based upon (1) several studies indicate that 2.5 miles may be the upper end of typical movement by members of an Indiana bat maternity colony (Gardner et. al. 1991; Butchkoski and Hassinger 2002; Murray and Kurta 2002) and (2) there is a precedence for use of this area in other BAs (e.g., I-69 in Indiana).

The action area provided in the BA was based upon the area to be directly impacted by the project (project footprint) and the typical area of movement for an Indiana bat maternity colony. However, as this delineation is not fully consistent with the regulatory definition of action area, the Service delineated the action area differently than the method decribed in the BA.

The action area for this project is the area that encapsulates the reach of all the direct and indirect environmental impacts of the project. That is, the area in which the biotic, chemical, and physical impacts to the environment are anticipated to occur.

The area directly affected by the action is the project footprint where all construction, operation and maintenance activities will occur. The project footprint is linear and includes a 300-foot wide, 36.4 mile long right-of-way, plus 6 interchanges, connector and service roads, drainage ways, and mitigation areas, totaling 2015 acres. In addition, the project footprint will also incorporate staging, maintenance, waste, and borrow areas located outside and immediately adjacent to the road right-of-way, and will incorporate those areas needed to provide approximately 3,500,000 cubic yards of embankment fill.

The area indirectly affected by the action includes the area affected by noise and vibrations, surface water impacts, and secondary development due to proximity to the new road and/or interchanges.

Noise and vibrations are physical effects to the environment that will be caused by the road construction, operation, and maintenance and will vary in intensity depending upon the source. Logging and earthmoving activities will generate noise during site preparation and road construction. The level of noise generated from the different construction and maintenance

activities will vary depending upon the methods and equipment being used or operated. Operational noise will be generated by vehicle traffic and will vary depending upon the type and volume of vehicles. Noise and vibrations are expected to increase in the area along the new corridor whereas noise and vibrations are expected to decrease in the area along abandoned portions of the existing U.S. Route 24 alignment as traffic patterns through and around the existing road are changed.

The current ambient noise along the proposed construction corridor varies greatly depending upon the proximity of the corridor to existing activities. Given the rural, agricultural nature of much of the project area, the lowest existing noise levels along the corridor should occur in the areas that are farthest away from roads (e.g., the existing U.S. 24 corridor), structures, towns, and active railroads.

Considering the positioning of the corridor within a predominantly rural area, the lowest existing noise levels should be occurring along the central portion of the corridor, where land use is predominantly agricultural. Noise monitoring conducted in 1999 by ODOT personnel within the study area found that the average existing noise level in this area is 52.8 dBA (D. Snyder, FHWA, pers. comm.). The highest existing noise levels occur adjacent to the existing railroad corridor, which produces noises at levels in excess of 100 dBA at crossings where train horns are required, and produce typical operation noise levels in excess of 85 dBA (D. Snyder, FHWA, pers. comm.).

The highest project-related noise levels are expected to occur during the clearing and construction activities. Most construction equipment operates in the 85-90 dBA range (D. Snyder, FHWA, pers. comm.). Construction equipment produces point source noise, rather than a line source noise, and has a faster dispersion rate. A point source noise has a reduction of 6.0 dBA per doubling of distance. The contribution from construction noise will reach 45.0 dBA approximately 3,140 feet from a noise source (FHWA 1973). Based on the Service's calculations, a point source construction noise of 90 dBA would decrease to approximately 48 dBA (just below the average existing noise level within the study area) over a distance of 3,200 feet.

Operational noise once the road is constructed is expected to range from 72.1 dBA at 189'/261' from the project centerline to 52.4 dBA at 2141' from the project centerline (D. Snyder, FHWA, pers. comm.). Noise levels on the facility are a function of distance, traffic volume, vehicle mix, and speed. Operational noise is expected to increase overall noise levels from the project centerline to 2,141 feet away, or for a distance of 1,991 feet from the edge of the road right-of-way (FHWA 2003).

Impacts to surface waters are anticipated from the project. Wetlands and streams will be directly and indirectly affected within the project footprint during all phases of the project. Also, some surface waters outside the actual project footprint could be indirectly affected from the project due to the anticipated change in the volume of pollutants entering the environment (e.g., sediment, de-icing agents) and the alteration of surface water drainage patterns. The physical, chemical, and biological nature of wetlands and streams will be altered by various activities such as ditching, culverting, and filling.

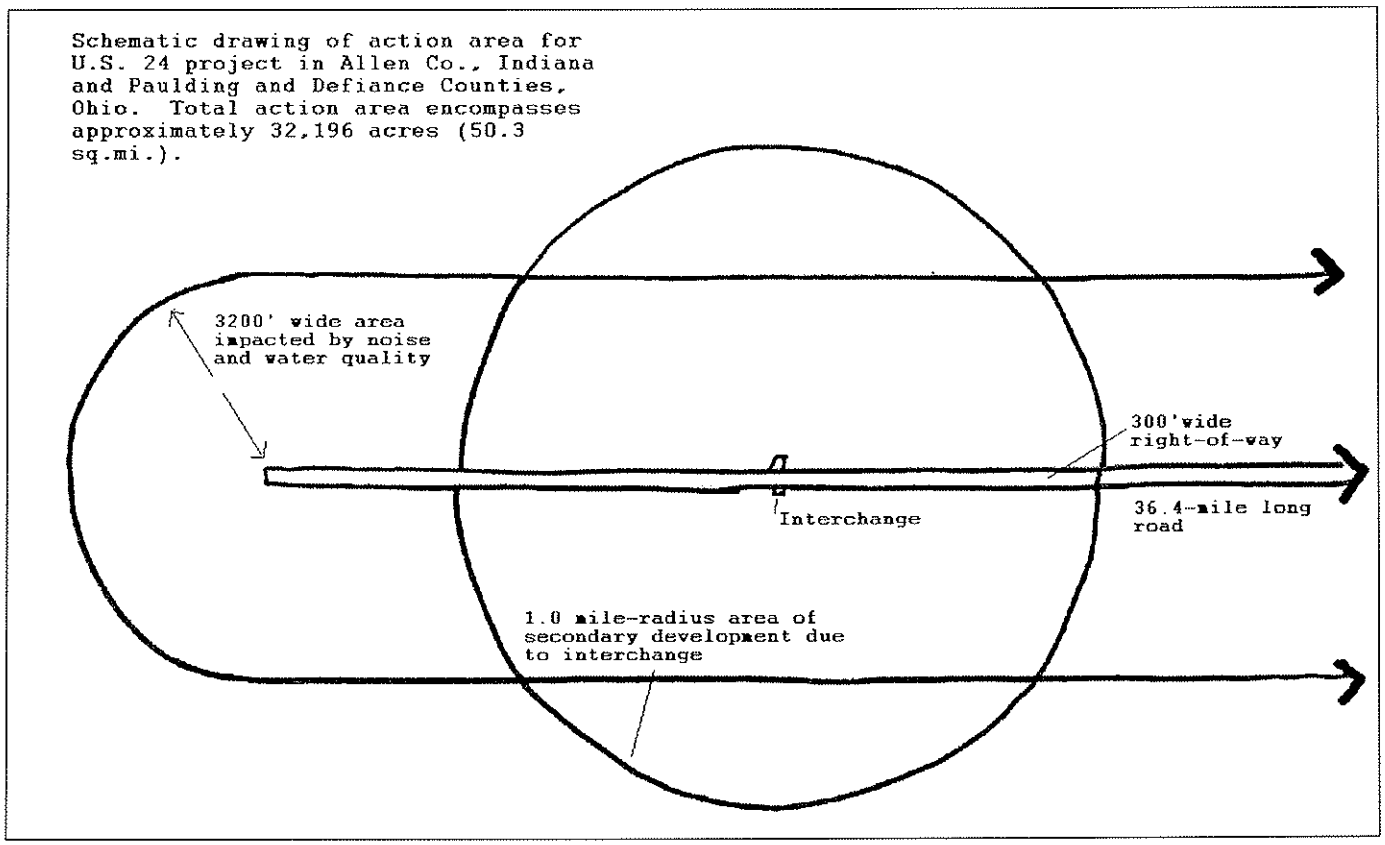
FHWA and ODOT estimate that up to 5.03 miles (26,425 feet) of streams and 23.84 acres of wetlands will be directly or indirectly impacted by the project (including mitigation areas). Impacts include filling, culverting, bridging, relocating, placement of channel protection along banks, and installation of temporary crossings. Specifically in Ohio, 7,944 linear feet of streams will be bridged, culverted, relocated, or temporarily dewatered, and 22.05 acres of wetlands will be filled (HCOE 2005). In Indiana, 1.8 acres of wetlands will be filled, and 18,481 linear feet of stream will be bridged, culverted, or temporarily dewatered. All streams and wetlands that will be impacted occur within the Maumee River watershed, and most are direct tributaries to this large, warmwater habitat river. Most of the impacted streams are small and many have been channelized or modified for agricultural uses and receive runoff from farming operations (FHWA 2003). Furthermore, the vast majority of these streams scored as low to moderate when ranked with the Qualitative Habitat Evaluation Index. Most of the streams also support only intermittent flow, carrying water only during and soon after precipitation events. Therefore, it is unlikely that much project-related sediment will be carried outside of the project right-of-way, or beyond the 3,200 feet of area outside of the right-of-way that will be affected by noise. Futhermore, ODOT and FHWA propose a number of methods to avoid and minimize impacts to water quality associated with construction and operation of the U.S. 24 project. These include the following: implementation of a sediment and erosion control plan; construction of stormwater detention/treatment facilites to minimize the impact of highway contaminants on surface water quality; properly sized and engineered culverts for stream crossings to minimize impacts attributed to flood height and flood duration; culverted stream crossings which are properly sized and engineered to provide unobstructed, continuous flow for fish and macroinvertebrates; perpendicular stream crossings; utilization of BMP's in accordance with ODOT's *Construction and Materials Specifications* (2002) and INDOT's *Part V Design Manual* (1999); and utilization of an environmental monitor during construction (FHWA 2003). Implementation of these measures will serve to further ensure that project-related sediment will not be carried outside of the project right-of-way, or beyond the 3,200 feet of area outside of the right-of-way that will be affected by noise. Finally, due to the small size of the streams that will be impacted, any sediment that is carried outside of the immediate construction area is expected to be quickly diluted by water flowing in from other downstream locations, and the Service anticipates that any water quality impacts due to construction and operation of the U.S. 24 project will not be detectable outside of the 3,200 linear foot area beyond the right-of-way, that will be affected by noise.

The project area is part of the eastern lake and till plains and glacial lake plain, which are underlain by limestone and dolomite bedrock of the Devonian or Silurian age. Thus, groundwater transport and storage in these rocks ranges from fair to good. Portions of both the Indiana and Ohio segments of the project area obtain potable water from groundwater sources (FHWA 2003). Construction for the U.S. 24 project will not involve blasting or deep ground impacts, and impacts are generally limited to the ground surface. Drainage design limitations may be imposed to ensure protection of groundwater in the well head protection area that currently exists in the Village of Antwerp, and restrictions through zoning codes may limit the type of development that can occur ancillary to the construction of the roadway and proposed intersection with State Route 49 (FHWA 2003). Overall, changes to groundwater from the project are anticipated to be minimal, and will not impact areas beyond the 3,200 area outside of the right-of-way that will be affected by noise.

According to the BA, assuming worst-case conditions, secondary development for transportation-related services (e.g., gas stations, restaurants, etc.) is expected to occur on all land within 1.6 km (1.0 mile) of all six interchanges, despite the fact that the project area is predominantly agricultural. While the Service agrees that it is generally reasonable to assume that secondary development will likely occur at interchanges, we provide the following clarification: The U.S. 24/State Route 424 intersection is the location at which the new U.S. 24 will join with the existing U.S. 24. There is an existing intersection here that will be converted to an interchange; therefore, any associated secondary development at the U.S. 24/S.R. 424 interchange would likely occur regardless of whether or not the proposed project is implemented, due to the presence of the existing U.S. 24. Furthermore, much of the forested habitat within 2.5 miles of the S.R. 424 interchange includes the Plumer Property, much of which will be permanently preserved for stream and wetland mitigation Therefore, in defining the action area for the proposed U.S. 24 project, the Service believes that it is reasonable to assume that secondary development will occur within 1.0 mile of the five westernmost interchanges, including all three Indiana interchanges and the S.R. 49 and U.S. 127 interchanges in Ohio.

Based on the discussion above, we determine the action area for the U.S. 24 New Haven, Indiana to Defiance, Ohio project to be the 300-foot wide project footprint right-of-way, which traverses 36.4 miles, plus an additional 3,200-foot (0.61-mile) wide area surrounding the entire footprint which will be temporarily affected by construction noise and surface water quality impacts. In addition, the action area includes all areas within a 1.0 mile radius of the five westernmost interchanges. Much of the 1.0 mile radius area is already incorporated within the action area via the 3,200 foot wide area beyond the right-of-way that will be affected by noise and water quality; however an approximate 2,000 acres outside of these locations will also be affected. Overall, the total action area encompasses approximately 32,196 acres, or 50.3 square miles (Figure 1). The action area is generally a linear corridor measuring 6,900 feet wide and 37.7 miles long, and also incorporating 1.0 mile radius circles of impact at each of the five westernmost interchanges. Once construction is completed and the new highway is operational, traffic noise will permanently affect an estimated 1,991-foot area on either side of the right-of-way.

Figure 1. Schematic Diagram of Action Area.



II. STATUS OF THE SPECIES

The Indiana bat is a species that continues to decline since being listed as an endangered species in 1967. Recovery of this species faces several challenges and there are multiple biological reasons why the outlook for this species may be unfavorable. The following issues will be discussed throughout this Biological Opinion as they pertain to the project impacts on the species.

- Indiana bats exhibit colonial behaviors in virtually every stage of their life history
- Male and female Indiana bats exhibit strong site fidelity to their summer grounds
- Resilience of Indiana bats is limited by the species' low reproductive capability
- The declining trend in Indiana bat numbers is both long-standing and widespread

The well-documented philopatric behavior of Indiana bats suggests that loss of roosting habitat alone can have adverse consequences (Kurta and Murray 2002; Gumbert et al. 2002). Healthy female bats start breeding their first fall and can produce one pup per year for up to 14-15 years (Humphrey et al. 1977). However, this current reproductive capacity has been insufficient to offset mortality rates over the last 40+ years. Indiana bat populations continue to plummet, with

population decreases of 23 percent from 1960/70 – 1980, 30 percent from 1980 – 1990, and 19 percent from 1990 – 2000. The highest declines have been observed in the southern part of the species' range.

Description and Distribution

The Indiana bat is a medium-sized bat, closely resembling the little brown bat (*Myotis lucifugus*) but differing in coloration. There are no recongnized subspecies. The Indiana bat has been found in 27 states throughout much of the eastern United States (USFWS 1999). More specifically, NatureServe (2004) describes its range as going from eastern Oklahoma, north to Iowa, Wisconsin, and Michigan, east to New England and south to western North Carolina, Virginia, and northern Alabama. It is virtually extirpated in the northeastern United States. The Indiana bat is migratory, and the above described range includes both summer and winter habitat. Major populations of this species hibernate in Indiana, Kentucky, and Missouri, with smaller populations reported in Alabama, Arkansas, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Tennessee, Virginia, and West Virginia. The majority of maternity colonies are located in the glaciated midwest.

Life History and Population Dynamics

The lifespan for Indiana bats is generally between 5 and 10 years (Thomson 1982), but individuals may live much longer, with the oldest known bat captured 20 years after it was first banded (LaVal & LaVal 1980). Based on a 13-year study, Humphrey and Cope (1977) found that the adult period of life is characterized by two distinct survival phases. The first is a high and apparently constant rate from 1 to 6 years after marking with 76% and 70% annual rates of survival for females and males, respectively. The second phase is a lower, constant rate after 6 years, with annual survival rates of 66% for females up to 10 years and 36% for males. In one study in Indiana, survival of pups was found to be very high at 92% from birth to weaning (Humphrey et al. 1977). Post-weaning to age 1 survival is unknown, but believed to be low.

The key stages in the annual cycle of Indiana bats are: hibernation, spring staging, pregnancy, lactation, volancy/weaning, migration, and swarming. While varying with weather and latitude, generally bats begin winter torpor in mid-September through late October and begin emerging in April. Females depart the area shortly after emerging from the hibernacula and are pregnant when they reach their summer area. Birth of young occurs between mid-June and early July and then nursing continues until weaning, which is shortly after young become volant in mid to late July. Migration back to the hibernacula may begin in August and continue through September. Males depart later from the hibernacula and begin migrating back earlier than females.

Hibernation

Generally, Indiana bats hibernate from October through April depending upon local weather conditions. Bats cluster on cave ceilings during hibernation and are capable of clustering in densities ranging from 300-484 bats per square foot. Hibernation facilitates survival during winter when prey are unavailable. However, the bat must store sufficient fat to support metabolic processes until spring. Substantial risks are posed by events during the winter that interrupt hibernation and increase metabolic rates.

Temperature and relative humidity are important factors in the selection of hibernation sites. During the early autumn, Indiana bats roost in warm sections of caves and move down a

temperature gradient as temperatures decrease. In mid-winter, Indiana bats tend to roost in portions of the cave where temperatures are cool, 37-43° F (2.8-6.1° C). Long-term data suggest an ideal temperature range for hibernacula is between 37.4-42.8° F (3-6° C) (USFWS 1999). A recent study of highly populated hibernacula documented a temperature range of 37.4-45°F (3-7.2°C) (Tuttle and Kennedy 2002). Relative humidity in Indiana bat hibernacula is usually above 74% but below saturation (Hall 1962; Humphrey 1978; LaVal et al. 1976), although relative humidity as low as 54% has been observed (Myers 1964).

After hibernation ends in late March or early April, most Indiana bats migrate to summer roosts. Female Indiana bats emerge from hibernation in late March or early April, followed by the males. The period after hibernation but, prior to migration, is typically referred to as staging. Most populations leave their hibernacula by late April. Migration is stressful for the Indiana bat, particularly in the spring when their fat reserves and food supplies are low. As a result, adult mortality may be the highest in late March and April.

Female Maternity Colony and Summer Roosting Habitat

Upon emergence from the hibernacula in the spring, females seek suitable habitat for maternity colonies (USFWS 1999). Coloniality is a requisite behavior for reproductive success. Females usually start grouping into larger maternity colonies by mid-May and give birth to a single young between late June and early July (Humphrey et al. 1977). These colonies are typically located under the sloughing bark of live, dead and partially dead trees in upland and lowland forest (Humphrey et al. 1977; Gardner et al. 1991). Colony trees are usually large-diameter, standing dead trees with direct exposure to sunlight. The warmer temperature from sunlight exposure helps development of fetal and juvenile young (USFWS 1999). A maternity roost may contain 100 or more adult females and their pups.

Roost trees often provide suitable habitat as a maternity roost for only a short period of time. Roost trees are ephemeral in nature; suitable trees fall to the ground or lose important structural characteristics such as bark exfoliation (Gardner et al. 1991; Britzke et al. 2003). Dead trees retain their bark for only a certain period of time (about 2-8 years). Once all bark has fallen off a tree, it is considered unsuitable to the Indiana bat for roosting. Gardner et al. (1991) found that 31% of Indiana bat occupied roost sites were unavailable the summer following their discovery; 33% of the remaining occupied roost sites were unavailable by the second summer.

However, female Indiana bats have shown strong site fidelity to their summer maternity grounds and will use suitable roost trees in consecutive years if they remain standing and have sloughing bark (Gardner et al. 1991; Callahan et al. 1997; Kurta and Murray 2002). Traditional summer sites are essential to the reproductive success of local populations. It is not known how long or how far female Indiana bats will search to find new roosting habitat if their traditional roost habitat is lost or degraded. If they are required to search for new roosting habitat, it is assumed that this effort places additional stress on pregnant females at a time when fat reserves are low or depleted and they are already stressed from the energy demands of migration.

It is unknown how many roosts are critical to the survival of a colony, but the temporary nature of the use of the roost trees dictates that several must be available in an area if the colony is to return to the same area and raise their young successfully. Indiana bats require many roost trees to fulfill their needs during the summer (Callahan et al. 1997). In Michigan, Indiana bats used 2-

4 different roost trees during the course of one season (Kurta and Williams 1992). In Missouri, each colony used between 10-20 roost trees, and these were not widely dispersed (all within a circle ranging in size from 0.81 to 1.48 km) (Miller et al. 2002). The important factors associated with roost trees is their ability to protect individuals from the elements and to provide thermal regulation of their environment. Maternity colonies have at least one primary roost, which is generally located in an opening or at the edge of a forest stand (USFWS 1999). Maternity colonies also use multiple alternate roosts which are located in the open or in the interior of forest stands (USWFS 1999). Exposure to sunlight is important during development of fetal and juvenile young. In Missouri, use of dead trees in the forest interior increased in response to unusually warm weather (i.e., shading provided a cooler thermal environment), and use of live trees and snags in interior forest increased during periods of precipitation (Miller et al. 2002). Maternity colonies in North Carolina and Tennessee used roosts located above the surrounding canopy (Britzke et al. 2003).

Indiana bats have been found roosting in several different species of trees, and it appears that they choose roost trees based on their structural composition. Therefore, it is difficult to determine if one particular species of tree is more important than others. However, 12 tree species have been listed in the Habitat Suitability Index Model as primary species (class 1 trees) (Rommé et al. 1995). These trees include silver maple (*Acer saccharinum*), shagbark hickory (*Carya ovata*), shellbark hickory (*C. laciniosa*), bitternut hickory (*C. cordiformis*), green ash (*Fraxinus pennsylvanica*), white ash (*F. americana*), eastern cottonwood (*Populus deltoides*), red oak (*Quercus rubra*), post oak (*Q. stellata*), white oak (*Q. alba*) slippery elm (*Ulmus rubra*), and American elm (*Ulmus americana*). In addition to these species, sugar maple (*A. saccharum*), shingle oak (*Q. imbricaria*), and sassafras (*Sassafras albidum*) are listed as class 2 trees (Rommé et al. 1995). The class 2 trees are those species believed to be less important, but that still have the necessary characteristics to be used as roosts. These tree species are favored by the Indiana bat, since as these trees age, their bark will slough.

During a fall survey in Kentucky in 1994 and 1995, female Indiana bats utilized sourwood (*Oxydendrum arboreum*) and pignut hickory as roost trees and were found to roost singly (Kiser and Elliott 1996). The females' trees were between 6 and 10 inches in diameter and contained bark cover between 54 and 70 percent. Females tended to roost within 0.75 miles of the hibernacula, whereas males roosted anywhere from 0.95 to 2.35 miles from the hibernacula. Both males and females were found to use 2 to 3 roost trees for 2 to 3 days at a time (Kiser and Elliott 1996). Britzke et al. (2003) documented the use of conifers by maternity colonies in the mountains of Tennessee and North Carolina.

At a landscape level, maternity colonies of Indiana bats have been found in predominantly forested landscapes, such as Wayne National Forest in Ohio (Kiser and Bryan 1997), and in predominantly agricultural landscapes, leading researches to believe that the presence of Indiana bats is not correlated with high forest cover (Kurta 2004). In Missouri, landscapes which supported 19-30% forest cover and 58-81% agricultural cover supported maternity colonies of Indiana bats (Callahan 1993). Indiana bats in Michigan used habitats composed of 55% agriculture, 19% wetland/wetland forest, 17% upland forest, 6% urban development, and 3% open water (Kurta et al. 2002). In Illinois, land near one maternity colony was composed of 33% forest and 67% agriculture (Gardner et al. 1991).

Male Roosting Habitat

Some adult males use mature forests around and near their hibernacula for roosting and foraging from spring through fall. However, some male bats have been found to leave the hibernacula area completely (USFWS 1999). Male Indiana bats have been found to use the same habitat in subsequent years (USFWS 1999).

Roost trees are primarily dead snags on upper slopes or ridgetops, however live shagbark hickory and pignut hickory (*Carya glabra*) trees have been recorded as roost trees. Male Indiana bats have been found to roost singly during autumn in scarlet oak (*Quercus coccinea*), Virginia pine (*Pinus virginiana*), red maple (*Acer rubrum*), shagbark hickory, and red oak. These trees ranged in diameter from 4.6 to 26 inches and had bark coverage ranging from 1 percent to 100 percent. However, the majority of the roost trees had bark coverage of at least 60 percent (Kiser and Elliott 1996).

During a 1999 radio telemetry survey on the Athens District of the Wayne National Forest, males were found roosting in American elm, red maple, shagbark hickory, and sugar maple trees. The average dbh of these trees was 11.8 inches and the average length of time each tree was used was 2.3 days (Schultes 2002). In 2000, two male Indiana bats were found roosting in American elm, red maple, black oak (*Quercus velutina*), white oak, pignut hickory and shagbark hickory. The average dbh of these trees was 11.9 inches and the average length of time each tree was used was 1.9 days (Schultes 2002).

Very similar to the habitat use of maternity colonies, at a landscape level, male Indiana bats have been found in predominantly forested landscapes, such as Waterloo State Wildlife Area in Ohio (T. Krynak, pers. comm. 2004), and in predominantly agricultural landscapes (Menzel et. al 2005, Kurta 2004), leading researches to believe that the presence of Indiana bats is not correlated with high forest cover (Kurta 2004).

Foraging

Indiana bats feed exclusively on flying aquatic and terrestrial insects. Although there are no consistent trends, diet appears to vary across their range, as well as seasonally and with age, sex and reproductive-status (Murray and Kurta 2002; Belwood 1979). Murray and Kurta (2002) found that diet is somewhat flexible across the range and that prey consumed is potentially affected by regional and local differences in bat assemblages and/or availability of foraging habitats and prey. For example, Murray and Kurta (2002) found that adult aquatic insects (Trichoptera and Diptera) made up 25-81% of Indiana bat diets in northern Indiana and Michigan. However, in the southern part of the species range terrestrial insects (Lepidoptera) were the most abundant prey items (as high as 85%) (Brack and LeVal 1985; LaVal and LaVal 1980; Belwood 1979). Kiser and Elliot (1996) found that Lepidopterans (moths), Coleopterans (beetles), Dipterans (true flies) and Homopterans (leafhoppers) accounted for the majority of prey items (87.9% and 93.5% combined for 1994 and 1995, respectively) consumed by male Indiana bats in their study in Kentucky. Diptera, Trichoptera, Lepidoptera, and Coleopterans also comprised the main prey of Indiana bats in Michigan (Murray and Kurta 2002), however, Hymenopterans (alate ants) were also taken when abundant.

Foraging habitat for male and female Indiana bats in the core of its range is assumed to include forest habitats with open understories and canopy closures of 50 to 70 percent (Romme et al.

1995). However, other foraging habitat includes upland, bottomland, and riparian woodlands, as well as forest and cropland edges, fallow fields, and areas of impounded water (Kiser and Elliott 1996). Other studies are showing that summer roosting and foraging areas, in parts of its range, can contain diverse cover types, including agricultural lands, residential areas, and open woodlands (Carter et al. 2002; Farmer et al. 2002; Miller et al. 2002).

Females tend to use larger foraging areas than males during the summer. One study recorded a post-lactating female as having a foraging range of approximately 530 acres (215 ha); males had an area of approximately 140 acres (56.7 ha) (Kiser and Elliott 1996). Rommé et al. (2002) found that the home range of males in the Missouri Ozark region averaged 556 ac (225 ha), while the home range of females averaged 279 ac (113 ha). A recently published study by Menzel et al. (2005) showed that the home range of male and female Indiana bats did not differ significantly. This study indicated that the mean home range size for all bats was 358 ac (144.7 ha), for females was 348 ac (161.1 ha), and for males was 286 ac (115.9 ha). New information from a Michigan study documented pregnant and lactating females traveling up to 2.6 miles from the day roost to foraging areas (Murray and Kurta 2004). Observations by Murray and Kurta (2004) indicated that female Indiana bats would not fly over open areas between foraging areas on the northern edge of its range in Michigan, but appeared to follow wooded corridors described as a narrow fence line of mature trees. These foraging areas included lakes, ponds, an area that was 50% wooded and 50% open fields, woodlands, and forested wetlands.

During summer months, some males remain near the hibernacula and forage along floodplain pastures, within dense forests and on ridge tops. Male Indiana bats generally travel between 1.2 and 2.6 miles from their summer roosts to summer foraging areas (USFWS 1999). A separate study indicated male Indiana bats have a minimum foraging area size of about 400 acres within which was a high-use area of about 115 acres (Kiser and Elliott 1996).

During the fall, male bats were found to forage in upland, ridgetop forest as well as valley and riparian forest areas (USFWS 1999). Male Indiana bats tend to use larger foraging areas during autumn than in summer. However, female bats use even larger autumn foraging areas than males. During October, males were observed to be traveling between 0.89 and 1.5 miles to forage (Kiser and Elliott 1996).

Fall Swarming and Mating

From late-August to mid-October, prior to entering the hibernacula, large numbers of Indiana bats fly in and out of cave or mine openings from dusk till dawn in a behavior called swarming. Swarming usually lasts for several weeks and mating occurs toward the end of this period. Male Indiana bats tend to be active for a longer period of time than females during swarming and will enter the hibernacula later than the females (USFWS 1999). Adult females store sperm through the winter thus delaying fertilization until early May.

Range-wide Status

The Indiana bat was officially listed as an endangered species on March 11, 1967 (32 FR 4001) under the Endangered Species Preservation Act of October 15, 1966 (80 Stat. 926; 16 U.S.C. 668aa[c]). The Endangered Species Act of 1973 extended full protection to the species. Thirteen winter hibernacula (11 caves and two mines) in 6 states were designated as critical habitat for the Indiana bat in 1976 (41 FR 187). The Service has published a recovery plan

(USFWS 1983) which outlines recovery actions. Briefly, the objectives of the plan are to: (1) protect hibernacula; (2) maintain, protect, and restore summer maternity habitat; and (3) monitor population trends through winter censuses. The recovery plan is currently being updated to reflect new information concerning summer habitat use.

Based on censuses taken at hibernacula, the total known Indiana bat population as of 2005 is estimated to number about 458,332 bats (A. King, USFWS, pers. comm.). More than 60% of the range-wide population occupies 11 Priority I hibernacula (hibernation sites with a recorded population >30,000 bats since 1960), although 2 of these currently have low numbers of bats. Kentucky and Missouri each contain 3 Priority I hibernacula, Indiana has 4 Priority I hibernacula, and Illinois has one. Priority II hibernacula (recorded population >500 but <30,000 bats since 1960) are known from the aforementioned states, in addition to Arkansas, Illinois, New York, Ohio, Tennessee, Virginia, and West Virginia. Priority III hibernacula, with recorded populations of <500 bats or records of single hibernating individuals, have been reported in 17 states (Alabama, Connecticut, Florida, Georgia, Iowa, Maryland, Massachusetts, Michigan, Mississippi, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Vermont, and Wisconsin).

Indiana bat numbers have declined in every 10-year census period: ~883,300 Indiana bats in 1960/1970; 678,700 in 1980; 473,500 in 1990; and 382,300 in 2000/2001 (Clawson 2002). At the time of European settlement, it is believed that Indiana bats were a very abundant mammal, with more than 10 million bats occupying 1 hibernaculum alone (Tuttle et al. 2004). Since the 1960s, the Indiana bat has declined by 57% (Clawson 2002). Despite recovery efforts, the populations in the southern part of the range (Alabama, Arkansas, Kentucky, Missouri, Tennessee, and Virginia) continue to decline, and cumulatively are down 80%. However, since the 1960s the northern part of the range (Illinois, Indiana, New York, Ohio, Pennsylvania, West Virginia) has experienced a population increase of 30%. Winter population numbers of Indiana bats in Ohio are based on 2 hibernacula, located in abandoned limestone mines in Preble and Lawrence counties. In Ohio, 2004/2005 hibernacula census detected 9,769 individuals, down from the 2002/2003 census of 9,996.

Threats to the Species

The causes for the population decline of the Indiana bat have not yet been definitively determined. However, the documented and suspected reasons for decline include disturbance and vandalism; improper cave gates and structures; natural hazards; microclimate changes; adverse land use practices; and chemical contamination.

Human disturbance of hibernating bats led to a decline in Indiana bat populations from the 1960s to the 1980s (USFWS 1999). Disturbance from recreational cavers and researchers entering hibernacula can cause bats to expend crucial fat reserves before they are able to forage in the spring. If disturbance occurs too often, fat reserves can be depleted before the species can begin foraging in the spring.

Changes in the microclimate of a cave or mine can affect temperature and moisture level, thereby affecting suitability of the hibernaculum or affecting bat physiology (Richter et al. 1993; Tuttle and Kennedy 2002). Blockage of entry points can alter airflow in a cave or mine. This poses serious consequences when a hibernaculum is on the warm edge of the species hibernating

tolerance, or has less stable temperatures. In northern areas, changes in airflow could lead to areas of the mine or cave being too cold for the bat. In either case, changes in airflow and the microclimate could result in individuals having to use less optimal locations in the hibernaculum. This could leave them vulnerable to predation, freezing, or exhaustion of fat reserves. Improper gates have either rendered hibernacula unavailable to the Indiana bat, or have altered air flow causing hibernacula temperatures to be too high for bats to retain fat reserves through the winter (USFWS 1999). Cave entrances essential to proper cooling of key hibernating sites must be identified and protected from inadvertent closures, including those that may occur naturally (Tuttle and Kennedy 2002).

Natural hazards including flooding, freezing during severe winters, and ceiling collapse have caused the loss of Indiana bats (USFWS 1999). Indiana bats have been drowned by flooding of caves or mines, either by river flooding or changes in subsurface and surface hydrology. Severe weather can affect bats roosting in summer habitat. There has been a documented occurrence of strong winds and hail stripping bark from a tree, forcing the bats to move to another roost (USFWS 1999). This could occur during summer roosting, or during migration.

Land use practices, fire suppression, and agricultural development have reduced available roosting and foraging habitat as well as reduced the abundance of insects for bat prey across its range. Ongoing research and monitoring is helping to enhance the understanding of habitat use and characteristics. When done properly, experts consider forestry practices to be compatible with Indiana bat conservation; however silvicultural methods need to maintain structural features important for roosting and foraging (BCI 2001).

Bioaccumulation of environmental contaminants is suspected as a potential factor in the decline of the Indiana bat (USFWS 1999). Organochlorine insecticides became widely used after World War II; they are neurotoxic, synthetic chemicals of which many are resistant to metabolism in mammals (O'Shea and Clark 2002). Organochlorine insecticides may have resulted in chronic mortality of Indiana bats (O'Shea and Clark 2002). For example, guano collected from an Indiana bat roost in Indiana, in the 1970s, had concentrations of dieldrin in their guano comparable to the levels found in colonies of gray bats that suffered mortality from dieldrin poisoning (O'Shea and Clark 2002). Schmidt et al. (2002) measured levels of Polycyclic Aromatic Hydrocarbons (PAH) and organochlorine pesticides in surrogate bat species to ascertain potential affects to the Indiana bat. At low concentrations, these chemicals cause cancer and cellular mutations in mammals, and may affect reproductive success by reducing viability of gametes or offspring. In this Missouri study at Fort Leonard Wood, all red bats and eastern pipistrelles had detectable concentrations of DDE, heptachlor epoxide and PAHs, and many had measurable amounts of dieldrin.

III. ENVIRONMENTAL BASELINE

The environmental baseline is the past and present impacts of all Federal, State, or private actions and other human activities in an action area, the anticipated impacts of all proposed Federal projects in a action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process (50 CFR 402.02).

The action area lies in the glaciated Eastern Lake and Till Plains section of the Central Lowlands physiographic province. This area is characterized by a covering of lake sediments over glacial tills that were originally formed in deep water. Topographic relief in Paulding County, Ohio is nearly level to gently undulating except along major drainageways, while the western portion of Defiance County has stronger relief and is composed mostly of gently sloping and sloping ground and end moraines deposited during the ice age (FHWA 2003). The portion of the project area in Indiana ranges in elevation from 207 to 216 meters, with the high areas corresponding primarily to beach ridges located around the ancient lake plain. Topographic relief in the study area varies by less than 1.5 meters (FHWA 2003).

The action area is predominately agricultural and rural in nature, with the exception of the cities of New Haven, Indiana and Defiance, Ohio at the project termini, and the towns of Antwerp, Cecil, Knoxdale, and Emmett, Ohio, and Five Points and Woodburn Indiana. Land ownership is primarily private with some commercial lands. The predominant land use is agriculture, with some residential and commercial properties (railroads). Scattered isolated woodlots also exist within the action area, and are typically located in areas too wet to farm or in areas adjacent to streams or drainageways. The Maumee River meanders parallel to the northern edge of the action area, occasionally entering into the action area primarily at the western and eastern ends of the project.

Historically this portion of Ohio and Indiana was part of the Great Black Swamp, and was primarily covered with wooded wetlands (FHWA 2003). During the 19th and 20th centuries, the land was cleared and drained to make way for agricultural uses. The resulting landscape now consists mainly of agricultural land used for the production of corn, soybeans, and wheat. The agricultural areas are sparsely populated with woodlots, which in many cases contain wooded wetlands (FHWA 2003).

Multiple forest ecological associations occur within the action area. These include the following: mixed swamp forest; oak-maple swamp forest, maple-cottonwood-sycamore floodplain forest; oak-maple forest; and oak-hickory forest. Small areas of scrub/shrub and big bluestem prairie ecological associations were also noted within the action area (FHWA 2003). Field investigations conducted on August 8, 2005 by Service, ODOT, and FHWA personnel revealed the dominance of oak, hickory, and maple species within the impacted woodlots in the central and eastern portion of the project right-of-way.

The action area lies entirely within the Maumee River watershed. Streams and agricultural ditches criss-cross the greater landscape of the project area, providing ample water sources. Most streams within the action area are direct tributaries to the Maumee River, a large, exceptional warmwater habitat river. Most of the impacted streams are small and many have been channelized or modified for agricultural uses and receive runoff from farming operations (FHWA 2003). Furthermore, the vast majority of these streams scored as low to moderate when ranked with the Qualitative Habitat Evaluation Index. Most of the streams also support only intermittent flow, carrying water only during and soon after precipitation events. The Maumee and Tiffin Rivers are the largest streams within the general area, and occur sporadically within the action area, with the Maumee primarily at the eastern and western ends of the project and the Tiffin at the eastern end. The only proposed impacts to the Maumee and Tiffin Rivers are due to the replacement of existing bridges.

Thirty-five streams/ditches will be crossed, for a total impact length of 26,425 feet (N. Alcala, ODOT pers. comm.). Of this stream impact, 3,453 linear feet will be culverted, 345 feet will be bridged, 10,585 feet will be relocated, and 12,042 feet will have additional impacts. Additional impacts may include rock channel protection along stream banks near bridge/culvert locations, and installation of temporary crossings (HCOE 2005).

Many of the wetlands within the project area are located within isolated wood lots which were historically too wet to farm, or are located adjacent to streams/drainage ways. Thirty-seven wetlands, comprising approximately 23.84 acres, will be filled to complete the proposed project (Noel Alcala, ODOT, pers. comm.). Several wetland forest ecological associations occur within the action area. These include the following: mixed swamp forest; oak-maple swamp forest, and maple-cottonwood-sycamore floodplain forest. Fourteen wetlands which are entirely or primarily palustrine forested broad-leaved deciduous will likely be impacted (FHWA 2003). Eleven wetlands which are entirely or primarily palustrine scrub-shrub broad-leaved deciduous will likely be impacted (FHWA 2003). Seven wetlands which are entirely or primarily palustrine emergent persistent will likely be impacted (FHWA 2003). Two ORAM Category 3 (the highest quality wetland category) wetlands in Ohio will be impacted, for a total of 0.28 acres of fill (HCOE 2005). The majority of the remaining wetlands in Ohio that will be filled are Category 2, and 2.83 acres of Category 1 wetland will also be filled (HCOE 2005).

Status of the Species within the Action Area

No quantitative surveys for bats were completed, and therefore the status of the Indiana bat within the action area is unknown, despite recommendations by the Service that quantitative Indiana bat surveys be conducted within the action area. Bat surveys have in the past been conducted within all three counties in the action area (FHWA 2005), however Indiana bats have only been detected within Paulding County, and were found approximately 30 miles from the city of Defiance, Ohio (ODNR 1977).

The Paulding County capture is from June 1976, and included one male and 2 pregnant female Indiana bats (ODNR 1977), indicating that Paulding County has supported at least one maternity colony of Indiana bats, as well as at least one male Indiana bat. U.S. Geological Survey (USGS) topographic maps from the Paulding County capture location indicate that in 1983, the area was dominated by agriculture, with scattered woodlots primarily located along stream corridors. The most current USGS aerial photos available (1994) confirm that this area remains primarily agricultural with only scattered woodlots adajacent to stream corridors. The landscape composition of the Paulding County Indiana bat capture location is similar to the landscape composition within the action area, thus, some inferences can be made between the action area and the Paulding County capture site. Furthermore, the capture location was on Dog Creek, a tributary to the Little Auglaize River, which flows into the Auglaize River, and eventually into the Maumee River, demonstrating that Indiana bats have been documented within the Maumee River watershed.

A site visit conducted by Service, ODOT, and FHWA personell on August 8, 2005 documented the presence of suitable roosting and foraging habitat within forested portions of the eastern and central portions of the action area. Multiple suitable roost trees were documented in all of the woodlots visited, and many of these trees are proposed to be impacted. In addition, forested

wetlands and riparian corridors, which could provide suitable foraging habitat for the bat, exist within the action area and are proposed for impact.

The Endangered Species Act of 1973, as amended, requires that, in the absence of conclusive evidence regarding the status of Federally listed species, the Service must err on the side of the species when assessing impacts of projects on listed species. The Service must formulate reasonable assumptions as to the potential for the Indiana bat and its habitat to occur throughout this area. These assumptions must be made in order to analyze the potential effects of the action. The Service has formulated assumptions which we believe to be reasonable, and these, along with their supporting rationale and documentation, are provided in the paragraphs below.

Based on the documented presence of suitable Indiana bat roosting and foraging habitat (ie, upland and bottomland forests supporting trees with peeling bark, cracks, and/or crevices, and streams with forested riparian corridors) within the action area, historic records of the Indiana bat within Paulding County and the Maumee River watershed (which the action area passes through), the similarity of landscape composition between the Paulding County capture location and the action area, and the documented presence of maternity colonies of Indiana bats as well as male and non-reproductively active female Indiana bats within similar agriculture-dominated landscapes in Illinois, Missouri, New York, and Michigan (Carter et al. 2002, Miller et al. 2002, Gardner et al., 1991, Kurta et al. 2002, Britzke 2003), the Service assumes that both male and female Indiana bats are present within the action area during the summer months (April-September).

A review of the Ohio Karst Area Map for the State of Ohio (ODNR undated), and the geologic composition and historic use of the action area indicate that caves and mines are not present in the action area. Furthermore, the study area is not within an Indiana karst region and no karst geologic features were observed during the field reviews (FHWA 2003). Therefore, the Service assumes that no Indiana bat hibernacula are located within the action area, and that Indiana bats would only be expected within the action area between approximately April 15 and September 15, which corresponds to the summer maternity season.

We must also attempt to quantify the number of Indiana bats within the action area. Within the action area, forested habitat is generally sparse, and widely fragmented, due to the agricultural nature of the action area. Forests within the action area are generally comprised of oak, maple, hickory, cottonwood, and sycamore trees, and are generally isolated blocks with scattered wetlands or riparian areas associated with streams/drainage ways. Based on the August 8, 2005 site visit, forests within the action area support numerous shagbark hickories, and additional live and dead trees with peeling bark, cracks, and crevices that could provide suitable roosting habitat. Forest habitat is found most often close to the Maumee River, associated drainage ways, and at the eastern end of the action area, while the western and central end of the action area support very few woodlands. As described above, within the project footprint 199 acres of woods exist (including mitigation areas), and of that 199 acres, 71.3 acres are proposed to be removed. Outside of the project footprint, but still within the action area, the following amounts of forest habitat exist: Allen County: 622.28 acres; Paulding County: 903.33 acres; and Defiance County: 1063.22 acres (D. Snyder, pers. comm.). In total, the action area supports 2,787.83 acres of wooded habitat.

Based on published studies documented above, maternity colonies of Indiana bats have a home range with a maximum size of 530 acres, and according to the BA, an assumed minimum size of 279 acres (FHWA 2005, Rommé et. al 2002). Furthermore, maternity colonies would be expected to occur only in areas that support some minimum level of suitable roosting and foraging habitat, including upland, bottomland, and riparian woodlots, as well as forest and cropland edges, fallow fields, and areas of impounded water (Kiser and Elliott 1996). Furthermore, Indiana bats have been documented flying up to 2.5 miles from their roost sites to forage. Therefore, within a given 2.5-mile radius circle, we surmise that a minimum of 279 acres of suitable forested habitat and associated water sources must exist to support a maternity colony.

Likewise, male Indiana bats have a home range with a maximum size of 555 acres (Rommé et. al 2002) and an assummed minimum size of 140 acres (Kiser and Elliot 1996). Furthermore, male and non-reproductively active female Indiana bats would be expected to occur only in areas that support some minimum level of suitable roosting and foraging habitat, including upland, bottomland, and riparian woodlots, as well as forest and cropland edges, fallow fields, and areas of impounded water (Kiser and Elliott 1996). Furthermore, Indiana bats have been documented flying up to 2.5 miles from their roost sites to forage. Therefore, within a given 2.5-mile radius circle, we surmise that a minimum of 140 acres of suitable forested habitat and associated water sources must exist to support male and non-reproductively active female Indiana bats.

Because the Service had to redefine the action area to be consistent with the regulations, the evaluation of suitable Indiana bat habitat within the action area defined in the BA (FHWA 2005) is not appropriate for this analysis. The action area defined in the BA (FHWA 2005) is roughly three times the size of the redefined action area. In order to estimate the amount of suitable Indiana bat habitat within the redefined action area, the Service used the best available information on amount of suitable habitat which was provided in the BA. In the BA (FHWA 2005) Appendix B, page 55 included a table with the amount of forested habitat present within the originally defined action area in each of 17 segments of the proposed road project. The Segments are each 2.5 miles long, and proceed in numerical order from west to east. In order to determine an estimate of the amount of suitable Indiana bat habitat in the redefined action area, the Service divided the amount of habitat decribed in the BA by three, because the action area defined in the BA is roughly three times the size of the action area defined by the Service. The acreage of forest habitat obtained using this method was visually compared to USGS topographic maps of the project area to ensure that the estimates did not greatly over- or under-estimate the amount of forest habitat visually available within the redefined action area. These visual observations indicated that dividing the total forest within the original action area by three appeared to give a good estimate of the amount of forest habitat within the redefined action area. The amount of forest habitat derived in this way was then compared to the minimum amount needed by maternity colonies, and males and non-reproductively active female bats to determine if each segment had enough habitat to support a maternity colony, or male or non-reproductively active female bats. The results of this comparison are presented in the table below:

Table 2. Assessment of suitable Indiana bat habitat within the redefined action area.

Segment	Forest habitat in BA action area (ac)	Estimate of forest habitat in redefined action area (ac)	Enough forested habitat to support a maternity colony?	Enough forested habitat to support male non-reproduc. bats?
1	538	179.3333333	no	yes
2	668.9	222.9666667	no	Yes
3	418.5	139.5	no	No
4	285.9	95.3	no	No
5	434.4	144.8	no	Yes
6	364.1	121.3666667	no	No
7	499.5	166.5	no	Yes
8	301.6	100.5333333	no	No
9	635.7	211.9	no	Yes
10	985.3	328.4333333	yes	Yes
11	1077.6	359.2	yes	Yes
12	1395	465	yes	Yes
13	1025.3	341.7666667	yes	Yes
14	1373.9	457.9666667	yes	Yes
15	2295.5	765.1666667	yes	Yes
16	815.3	271.7666667	no	Yes
17	1348.4	449.4666667	yes	Yes

As is apparent by the above assessment, the westernmost portion of the U.S. 24 action area, including segments 1-9 for a total of 22.5 miles, does not provide sufficient suitable forested habitat to support a maternity colony of Indiana bats. Most of the remaining segments, with the exception of segment 16, do provide enough suitable forested habitat to support a maternity colony of Indiana bats. When considering male and non-reproductive Indiana bats, all of the segments with the exception of segments 3, 4, 6, and 8 provide the minimum amount of forested habitat needed to support male and non-reproductive Indiana bats.

Based on the above information, the Service assumes that it is extremely unlikely that male or female Indiana bats occur within segments 3, 4, 6, or 8, and that it is extremely unlikely that maternity colonies of Indiana bats occur within segments 1-9. Based on the above information, the Service finds that Indiana bat use of segments 3, 4, 6, and 8 is insignificant, and that maternity colony use of segments 1-9 is also insignificant.

Although segments 5 and 7 provide just above the minimum amount of suitable forested habitat necessary to support male and non-reproductive Indiana bats, it is unlikely that male or non-reproductive Indiana bats are using these segments due to the widely scattered nature of the woodlots, their small size, the overall absence of large forested parcels within these segments and the surrounding segments, and lack of connectivity between these segments and significant riparian corridors. Based on the above information, the Service finds that it is very unlikely that male or non-reproductive Indiana bats occur within segments 5 and 7, and that use of these segments by Indiana bats is insignificant.

Based on the above information, the Service assumes that segments 1, 2, and 9-14 provide enough suitable habitat to support male and non-reproductive Indiana bats. Although these segments support enough suitable habitat to support male and non-reproductive bats, available habitat still remains in scattered isolated patches with limited connectivity. Because of this, the Service assumes that each of these segments support only a minimum number of male and/or non-reproductive Indiana bats, totaling one male or non-reproductive bat per segment, for a combined total of 8 male or non-reproductively active female Indiana bats.

Segments 15-17 at the eastern end of the project provide more than enough suitable habitat to support male or non-reproductive Indiana bats, and connectivity with other forested parcels and forested riparian corridors of relatively large streams/rivers is more readily available than in the other segments. Because of this, the Service assumes that these segments support more male and non-reproductive female Indiana bats than the other segments, and that two male or non-reproductive female Indiana bats occur within each of these segments for a combined total of 6 male or non-reproductively active female Indiana bats.

In total, the Service assumes that there are 14 male or non-reproductively active female Indiana bats within the action area.

As noted above, only segments 10-15 and 17 provide enough suitable habitat to support maternity colonies of Indiana bats. Segments 15 and 17 provide good connectivity to other forested parcels and forested riparian corridors of relatively large streams/rivers, increasing the value of the habitat for maternity colonies. Because these segments each provide a significant amount of high quality habitat, the Service assumes that each of these segments supports a maternity colony of Indiana bats.

As noted above, segments 10-14 each provide enough suitable habitat to support a maternity colony of Indiana bats, however available habitat still remains in scattered isolated patches with limited connectivity to other forested areas or forested riparian corridors of large streams/rivers, indicating that this habitat is likely lower quality than that found in segments 15 and 17. Because of this, the Service assumes that there is only one maternity colony of Indiana bats within all of the area encompassed by segments 10-14.

In total, the Service assumes that there are three maternity colonies of Indiana bats within the action area.

As explained in the Status of Species section, precisely determining the size of a maternity colony is difficult without long-term studies. Some Indiana bat studies indicate that the average maternity colony size is 80 reproductive females. Kurta and others (1996) found that, at a maternity colony in Vermontville, southcentral Michigan, 89% of 150 observed emergence counts involved between 2-21 individual bats. Because the existing suitable Indiana bat habitat within the action area is generally composed of isolated blocks of woods within a primarily agricultural landscape, the Service assumes that maternity colonies within the action area would be likely to support smaller populations than maternity colonies in a landscape with plentiful roosting and foraging opportunities. Therefore, for the purposes of our analysis, we have selected 21 female bats as a reasonable estimate of the size of the maternity colony within the

action area. Additionally, as each adult female is capable of having 1 pup annually, we also conclude that up to 21 young are likely present within each maternity colony. If there are an assumed three maternity colonies within the action area, and a total of 42 females and pups per maternity colony, the Service assumes that there are 126 adult females and immature Indiana bats within the redefined action area.

As previously discussed in the Life History section of this BO, Indiana bat maternity colonies require multiple roost trees to fulfull their thermoregulatory requirements. Maternity roost trees include at least one primary roost tree and several secondary roost trees. Without detailed ecological study, the extent to which the action area is used by Indiana bats is unknown. However, given the suitability of the wooded portions of the action area and the length of the corridor, it is likely that primary and secondary roost trees occur within the action area and possibly within the project corridor. It is also likely that, due to the linear nature of the action area, that many primary and secondary roost trees occur outside of the action area and/or project corridor.

Furthermore, both male and female Indiana bats may occur only within each specified segment, or may cross over into more than one of the defined segments; Bat use of a given area is primarily dependent on habitat features, and so they may use significantly more or less of each segment than we have defined here, depending on available habitat. But, for the purposes of this analysis, the Service finds that it is reasonable to assume that bats are occurring within those designated segments that provide enough suitable habitat, in close proximity to suitable water sources, and associated forested travel corridors. Despite that bats may travel across any of the identified segment lines, this should not significantly change the analysis of effects found later in this document.

Factors Affecting Species Environment within the Action Area

Numerous human-related and natural factors have affected the habitat and Indiana bat occupancy within the action area. A brief discussion of these factors is provided below.

Land Ownership and Management

The majority of the project area is in private ownership, and agriculture dominates the landscape. This portion of Ohio was historically wooded, prior to European settlement. Most of the woods that historically occurred within the project area were cleared, drained and converted to agriculture more than a century ago. The loss of these historical woodlots likely reduced the overall habitat available to Indiana bats significantly. Those woodlots that remain today are typically located adjacent to stream channels, and/or are too wet to farm. Most, if not all of these remaining woodlots are second growth woods, as the project area has been timbered many times over in the past. In Ohio, timber harvest on private land is not regulated. Some landowners in the action area may be performing logging operations at any time of the year. Timber harvest occurring between April 15 and September 15 could potentially cause the death or injury of Indiana bats when a tree they are roosting in is felled.

Existing Transportation Corridors

The existing U.S. 24 lies within the action area, as do active and abandoned railroad corridors. In addition, numerous state, county, and local roads also exist within the action area. These roads fragment the landscape, separating woodlots from one another, and disrupting travel corridors that the bats might otherwise use. Furthermore, mortality of Indiana bats due to vehicle strikes cannot be ruled out, although occurrence of this is likely extremely rare.

Residential Communities

Although the action area is predominately agricultural and rural in nature, several communities exist including the cities of New Haven, Indiana and Defiance, Ohio at the project termini, and the towns of Antwerp, Cecil, Knoxdale, and Emmett, Ohio, and Five Points and Woodburn Indiana. Loss of historically wooded habitat to residential development has resulted in a loss of overall available habitat for the Indiana bat, and when considered cumulatively with the loss of habitat to agricultural uses and transportation corridors, is significant.

In summary, high quality summer roosting and foraging habitat has been documented throughout the action area, although this habitat is fragmented by the many agricultural fields, multiple roads, and urban/suburban developments. Due to an absence of survey data, and based on the presence of suitable high quality habitat, the Service assumes that both male and reproductively active female Indiana bats and their offspring likely occur throughout the action area during the summer, with the majority of Indiana bats occurring in segments 10-17, at the eastern end of the action area. The action area does not support winter habitat for the Indiana bat, therefore the Service assumes that Indiana bats are only present in the action area from April 15 to September 15.

IV. EFFECTS OF THE ACTION

In evaluating the *effects of the action*, section 7 of the Endangered Species Act and the implementing regulations (50 CFR §402) require the Service to consider both the direct and indirect effects of the action on the species, together with the effects of other activities that are interrelated or interdependent with the action that will be added to the environmental baseline. *Direct effects* are those effects that have immediate impacts on the species or its habitat while *indirect effects* are those that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur. *Interrelated actions* are those that are part of a larger action and depend on the larger action for project justification. *Interdependent actions* are those actions that have no independent utility apart from the action under consideration.

The *effects* evaluation is necessary to make the required determination under 7(a)(2), of insuring the Federal action does not jeopardize the continued existence of the species, or result in the destruction or adverse modification of designated critical habitat. *Jeopardize the continued existence* of a species means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. The following analysis will evaluate the effects of the proposed project in relation to the reproduction, numbers and distribution of the Indiana bat within the action area, and then further

evaluate these effects in the context of the overall range-wide species status and cumulative effects to the species.

Beneficial Effects

Stream and wetland mitigation may help to offset project impacts to these resources. In turn, these measures could help to offset impacts to the Indiana bat through habitat replacement and enhancement. As mitigation for direct impacts to 7,944 linear feet of stream in the state of Ohio, ODOT proposes to incorporate natural stream channel design techniques into approximately 2,025 linear feet of the relocated Stevens Ditch. The reconstructed stream channel would incoprorate meanders, a two-stage channel, riffle/pool complexes, gradual sloping benches, and vegetated riparian corridors planted with native tree, shrub, and herbaceous plants. In addition, ODOT proposes to preserve 3,268 linear feet of Stevens Ditch, and 1,060 linear feet of an unnamed tributary of Stevens Ditch. This stream preservation is located on the Plumer property, a 163-acre property within the new road right-of-way located just southwest of the proposed U.S. 24/S.R. 424 interchange in Defiance, Ohio. Additionally, ODOT proposes to preserve through permanent conservation easement 4,932 linear feet (average width 310 feet) of stream habitat on the Smith Property. The Smith Property Conservation Area will include approximately 35 acres of wooded riparian habitat along the Maumee River in Paulding County, Crane Township.

As mitigation for direct impacts to 22.05 acres of wetlands in the state of Ohio, ODOT proposes to preserve 60.6 acres of Category 3 forested wetland (the highest quality of wetland under the Ohio Environmental Protection Agency's Rapid Assessment Method (ORAM) for wetlands), to restore 26 acres of forested, shrub-scrub, and emergent wetland, and to preserve 72 acres of mature woodland and 9.0 acres of agricultural buffer areas. All wetland mitigation will also occur on the 163-acre Plumer property.

The Plumer Property woodlot is one of the largest contiguous woodlots within the action area, and is dominated by shagbark hickory trees, and so preservation of a majority of this woodlot will permanently preserve a significant amount of high quality Indiana bat roosting and foraging habitat. Furthermore, preservation of nearly a mile of stream and forested riparian habitat along the Maumee River on the Smith Property will also permanently protect Indiana bat foraging habitat as well as potential roosting habitat.

Stream mitigation could offset and even improve water quality and Indiana bat habitat in the action area. An improvement in water quality could replace or increase the productivity of aquatic insect prey and suitable drinking sources. Replanting of stream corridors with native riparian species will eventually provide high quality roosting and foraging habitat for the Indiana bat as the young plantings mature. In turn, stream mitigation could potentially have a beneficial effect on the Indiana bat at a later time.

Additional stream and wetland mitigation will likely also be proposed for stream and wetland impacts in Indiana, however this information is not readily available at this time. The Service assumes that any stream and/or wetland enhancement, restoration, or creation will improve habitat quality for the Indiana bat in the long-term by creating and/or enhancing roosting and/or foraging habitat, and creating associated increases in the aquatic insect prey base.

In summary, the Service anticipates that stream and wetland mitigation will, at a minimum result in the preservation of 9,260 linear feet of existing stream corridor, 60.6 acres of high quality forested wetland, 72 acres of mature upland woods, and 35 acres of wooded riparian corridor along the Maumee River. Based on the August 8, 2005 site visit, the entire Plumer property provides suitable Indiana bat roosting and foraging habitat, and hence a significant amount of suitable Indiana bat habitat will be permanently preserved. In addition, the location and composition of the Smith Property, a forested riparian corridor along the Maumee River, indicates that it likely provides suitable Indiana bat foraging habitat and potentially roosting habitat as well, that will be permanently protected. Furthermore, the Service anticipates that stream and wetland mitigation will, at a minimum result in the restoration of 2,025 linear feet of natural stream habitat, and 26 acres of forested, shrub-scrub, and emergent wetland habitat within the Plumer Property. This will further enhance the suitability and quality of Indiana bat roosting and foraging habitat on the Plumer Property.

Direct Effects

Loss of Roosting Habitat and Foraging Habitat when Bats are Present

As described above, Indiana bats are assumed to be present within the action area only during the summer active season, between April 15 and September 15. As one avoidance and minimization measure, FHWA has proposed to clear trees only between September 15 and April 15, when the bats would not be in the area. Therefore, the Service anticipates that no direct effects to the bat from tree removal are likely to occur.

Direct Effects of Decreased Water Quality

Water quality is expected to decrease in the action area for a variety of reasons. Road construction will result in the filling of up to 23.84 acres of wetlands, and direct and indirect impacts to 26,425 linear feet of stream habitat by culverting, bridging, relocating, or additional impacts (such as rock channel protection, temporary dewatering, temporary stream crossings). Sediment, herbicides, and other contaminants, could affect water quality through erosion, vegetation management, and accidental spills during any phase of the project from construction to operation.

Insects associated with these aquatic habitats make up part of the diet of Indiana bats. Therefore, a change in water quality can affect the prey base of the species. Decreases in water quality through contamination and the destruction of wetlands and stream habitats will reduce the availability of aquatic insects and reduce the availability or quality of suitable drinking sources. The project description includes a number of measures to be performed to both minimize and offset the impacts to water quality during all phases of the project. These measures can substantially reduce the extent of impacts to water quality from the project.

The Service believes that the water quality impacts will cause a reduction in prey base and drinking sources for the Indiana bat. Direct adverse effects to Indiana bats from this decrease in aquatic insect prey and drinking sources is likely to be undetectable due to the linear nature of the project combined with the availability of suitable riparian habitat (e.g., Maumee and Tiffin Rivers, numerous drainage ditches and small streams) and isolated forested wetland parcels in the surrounding landscape and the assumption that bats will use or seek alternate areas for

foraging and drinking as some areas become unsuitable. The Service presumes that the surrounding landscape will continue to provide a prey base of both terrestrial and aquatic insects during project construction, operation and maintenance. Therefore, any potential direct adverse effects to the Indiana bat from a reduction in water quality is anticipated to be insignificant and/or discountable.

Direct Effects of Construction Noise and Vibrations and Operational Road Noise when Bats are Active

In addition to the habitat destruction in the project footprint, the proposed project may result in a decrease in the quality of remaining habitat outside the actual project footprint. Increased disturbance in the action area is anticipated during construction from the use of heavy equipment. As a result, Indiana bats in the action area will be exposed to noise levels, or intensity of noise and vibrations that they may not have experienced in the past, depending on the proximity of their roost sites to other human activities.

The highest project noise levels are expected to occur during the clearing and construction activities. The area that will experience the greatest increase in noise during construction will be the central portion of the project area where the current noise levels are the lowest. The Service estimates that the area affected by noise disturbance during construction could encompass an area up to 3,200 linear feet from the actual work limits/right-of-way. Operational noise once the road is constructed is expected to range from 72.1 dBA at 189'/261' from the project centerline to 52.4 dBA at 2141' from the project centerline (D. Snyder, FHWA, pers. comm.). Noise levels on the facility are a function of distance, traffic volume, vehicle mix, and speed. Operational noise is expected to increase overall noise levels from the project centerline to 2,141 feet away, or for a distance of 1,991 feet from the edge of the road right-of-way (FHWA 2003).

Much of the project area is composed of agriculture with scattered woodlots, which are typically subject to minimal noise and/or vibrations. In general, the increased noise and vibrations from construction could cause disturbance to Indiana bats unaccustomed to these effects while roosting and thereby lower the suitability of habitat adjacent to the project area. It is difficult to predict the degree to which Indiana bats would be disturbed by the noise and vibrations associated with construction activities. Some studies suggest that bats avoid noisy areas. Female bats in Illinois, for example, used roosts at least 1,640 feet from paved roadways (Garner and Gardner 1992).

Other studies suggest that bats may be able to tolerate disturbance from noise. Indiana bats were documented to use roosts near the I-70/ Indianapolis Airport area, including a primary maternity roost tree nouth of I-70 at the edge of the airport. This roost was not abandoned despite constant noise from the Interstate and airport runways; however, their proximity to the Interstate could also have been due to lack of a more suitable roosting area (USFWS 2002). On Crane Naval Surface Warfare Center in Indiana, a female Indiana bat used a roost tree only 436 ft from a two-lane road. In the Hoosier National Forest in Indiana, a male Indiana bat was located roosting on the edge of the Interstate 64 right-of-way.

Some studies indicate that Indiana bats may be somewhat tolerant of noise from busy roads. Yet, other studies indicate that bats may select roosts somewhat removed from these noisy areas. Any effects resulting from noise and vibrations related to construction activities would be

expected to result in bats selecting roost trees further from the disturbance in habitat. It is reasonable to assume that this will occur when taking the conservative analytical approach.

Indirect Effects

Loss of Roosting Habitat when Bats are Not Present

Indirect Effects on the Maternity Colony from the Loss of Roosting Habitat
One of the most significant indirect effects on the Indiana bat from the proposed activities will be the loss of Indiana bat maternity roosting habitat outside of the maternity season. Up to 73.1 acres of tree cutting for road construction will occur between September 15 and April 15 (FHWA 2005). Based on a site visit to the project area by ODOT, FHWA, and Service representatives, all of this area is suitable Indiana bat habitat. This means that approximately 73.1 acres of suitable Indiana bat maternity roosting habitat will be permanently eliminated by the project.

As explained in the Status of Species section, when female bats return to their summer maternity area in the spring after tree clearing activities have occurred, it is anticipated that they will attempt to use the same roosting areas that were used in previous years. The effect of loss of roosting habitat depends on the extent of loss and use of the area by the bats. We expect greater impact if the entire roosting area is destroyed and more yet if the surrounding area is not suitable for roosting. In this particular situation, we do not expect the entire roosting area to be affected and we expect that the portions of the surrounding landscape that provide similar suitable habitat to that which will be impacted will still be available. However, if a primary or several secondary roosts are destroyed, we fully anticipate that adverse impacts to those exposed females are likely. First, these pregnant females will suffer stress while searching for new roosting areas. It is not known how long or how far female Indiana bats will search to find new roosting habitat if their traditional roost tree is lost. Nonetheless, if they are required to search for new roosting habitat in the spring, this effort will place additional stress on pregnant females at a critical time when fat reserves are low or depleted, and they are already stressed from the energy demands of migration and pregnancy, and food availability is unpredictable.

It appears that when a primary roost tree becomes unsuitable, members of a colony may initially distribute themselves among several previously used alternate roost trees (USFWS 2002; Kurta et al. 2002). It is not known how long it takes for the colony to attain the same level of roosting cohesiveness that it experienced prior to the loss of an important primary roost tree. It is likely that due to the ephemeral nature of roost trees, the Indiana bat has evolved to be able to relocate replacement roosts, if available, when their previously-used roost trees become unsuitable. Considering the linear design of the project, it is plausible that at least some if not many of the colonies' alternate roosts will remain outside the project footprint. The availability of a considerable amount of suitable roosting habitat in the surrounding landscape and the likelihood that some of the colonies' alternate roosts will remain standing outside the project footprint following clearing activities suggest that the colonies may successfully locate new roosts within days of returning from their hibernaculum.

Despite the assumption that Indiana bats will likely regain colony cohesion within a few days, the poor thermoregulatory abilities of pregnant females (Humphrey 1975) pose problems. Pregnant bats not only need to secure sufficient food to maintain their body weight and temperature, they also need to support a growing fetus or pup. In spring, maintaining an energy balance is complicated by the need for pregnant bats to migrate to their traditional roosting areas after completing 6 to 7 months of hibernation, and hence, having depleted or low fat stores, and during a time when temperatures are low and food is scarce (Kurta and Rice 2002). Loss of primary and secondary roosts would cause a disruption of colonial behavior which may cause some females to abort or absorb their embryos.

Until the bats from the colonies locate another desirable primary roost tree and reunite, it is likely that individual members of the colonies will be subject to increased stress resulting from: (1) having to search for a replacement primary roost tree, which increases energy expenditure and risk of predation; (2) having to roost in alternate trees that are less effective in meeting thermoregulatory needs; and (3) having to roost singly, rather than together, which decreases the likelihood in meeting thermoregulatory needs, thereby reducing the potential for reproductive success. These effects are compounded because they will occur in the spring when fat reserves are low or depleted and they are already stressed from the energy demands of migration. This would place them at an increased risk of mortality and/or failed reproduction.

As previously described, harm, a form of take, is defined as an act which actually kills or injures wildlife; harm may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Therefore, based on the above information, the Service believes that take in the form of harm through habitat loss is reasonably certain to occur.

In addition to the loss that results from the action, we analyzed the potential for impacts from secondary development. History has shown that retail development (i.e., gas stations, restaurants, etc.) typically occurs around road interchanges. As described earlier, the project includes 6 interchanges: Three in Indiana including Ryan/Bruick Rd., Webster Rd., and State Route 101, and three in Ohio including State Route 49, U.S. Route 127, and State Route 424. As described in the Action Area section above, the Service anticipates that secondary development is anticipated to occur around each of five new interchanges, excluding the interchange at U.S. 24 and S.R. 424, because this is where the new U.S. 24 will connect to the existing U.S. 24, and any potential development at this intersection would likely occur regardless of whether or not the proposed project is implemented. Furthermore, much of the forested habitat within 2.5 miles of the S.R. 424 interchange includes the Plumer Property, much of which will be permanently preserved for stream and wetland mitigation. Assuming worst-case scenario conditions, secondary development would occur on all land within a 1.0 mile radius of all five western interchanges, and all suitable Indiana bat habitat within a 1.0 mile radius would be permanently lost. Based on maps provided in the BA (FHWA 2005), very little suitable Indiana bat habitat occurs within a 1 mile radius of the State Route 101 and State Route 49 interchanges, therefore, significant impacts to the bat are not anticipated from development at these two locations. However, significant amounts of suitable habitat do exist within a 1.0 mile radius of the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges. Loss of all forested habitat within 1 mile of these three interchanges could result in a significant reduction in total available Indiana bat habitat within this portion of the action area.

The loss of additional acres of suitable forested Indiana bat due to secondary development has the potential to adversely affect the bat in many ways. It is likely that secondary development would be composed of private development and in many cases would not be regulated, funded, or implemented by Federal government agencies, and therefore Section 7 consultation under the Endangered Species Act would not occur, and potential adverse effects to any Indiana bats inhabiting the area would proceed without significant avoidance and/or minimization measures. Trees would likely be cleared during the maternity roosting season, resulting in direct take of any Indiana bats using these areas for roosting and/or foraging.

During the summer maternity periods, female Indiana bats typically day roost in colonies of up to 100 adult female bats and one offspring per adult bat, while males typically roost singly. Tree cutting is an activity that typically occur during the daytime when Indiana bats would be roosting in trees. Limited information suggests that some Indiana bats would remain in their roost trees until after the trees are felled and that some bats will survive the impact of the fall and then attempt to crawl or fly out of the tree and seek cover elsewhere (Belwood 2002). Bats on the underside of the trees will likely be injured or killed when the trees fall to the ground. Unlike the situation in Goshen, Ohio (Belwood 2002) where the fallen tree was not immediately limbed and cut up for processing, bats at this project site will have little time to reorient and escape prior to the onset of additional impacts.

Additional tree felling and the operation of heavy equipment (log skidders) in the vicinity of felled trees will likely further reduce the survival of those bats. Therefore, those bats that survive the fall of their roost tree are likely to be killed or injured while attempting to escape and seek cover elsewhere. Those that move to a nearby tree for cover (*i.e.*, a tree located within the area to be cleared) will again be exposed within a short period of time to another repetition of risk of death or injury as that tree is also felled, limbed, and skidded. Due to the colonial and solitary roosting habits of the Indiana bat during tree clearing operations, death or injury to Indiana bats in trees that are cut is expected to occur to large groups of bats, as well as individuals in separate events, and to be sporadic across the project footprint.

During tree clearing operations, Indiana bats roosting outside the project footprint are not likely to be killed or injured as trees are felled. However, these bats may be exposed to noise and vibrations cause by tree clearing activites and equipment. Based on available information, the reponsiveness to these disturbances may range from no perceivable response to avoidance of the area.

Direct effects to the Indiana bat from tree cutting between April 15 and September 15 due to secondary development are expected to range from death or injury of Indiana bats roosting in the project footprint to harassment or even no adverse effects to some Indiana bats roosting outside the project footprint but within the action area.

Aside from the direct effects of secondary development on bats from clearing of trees during the summer maternity roosting season, similar other direct and indirect effects, as described above and below due to construction and operation of the road, are also likely to occur, and the effects of these actions are similar to the effects anticipated for road construction.

Indirect Effects on Non-reproductive Bats from the Loss of Roosting Habitat

In addition to the three maternity colonies, the project area is assumed to support non-reproductively active Indiana bats. This mainly includes adult males but may also include females which were either not reproductively active or not reproductively successful in a given year. In general, the indirect effects to non-reproductively active Indiana bats in the action area due to the loss of roosting habitat would be similar to the effects on Indiana bats associated with a maternity colony except that these bats are not typically associated with a colony during the summer months. Upon emergence from hibernation and during spring migration, these bats are not challenged with the energetic demands of pregnancy and rearing young.

During the summer, the life history strategy of male and non-reproductive female Indiana bats does not necessitate colonial roosting. Males and non-reproductive females typically roost alone or occasionally in small groups. When these individuals are displaced from roosts they must utilize alternative roosts or seek out new roosts. Because these individuals are not functioning as members of maternity colonies, they do not face the challenge of reforming as a colony. Suitable roosts for individual Indiana bats include trees of any size whereas maternity colonies must seek out larger trees to accommodate a colony. Therefore it is anticipated that the indirect effects to non-reproductive bats will likely be much less significant than the effects to a maternity colony. Indirect effects to non-reproductive Indiana bats are likely to be insignificant and discountable.

Loss of Foraging Habitat when Bats are Not Present

Another indirect effect of the proposed project on the Indiana bat in the action area will be the loss and fragmentation of foraging habitat. Of the up to 73.1 acres of forested habitat that may be cleared for the project, all is suitable Indiana bat foraging habitat. Furthermore, loss of additional acreages of suitable Indiana bat foraging habitat due to secondary development at the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges may also result in indirect effects to Indiana bats.

Indirect Effects to the Maternity Colony from the Loss of Foraging Habitat

Indiana bats exhibit strong site fidelity to their traditional summer colony areas and foraging habitat, that is, they return to the same summer range annually to bear their young (Kurta et al. 2002; Garner and Gardner 1992; Gardner et al. 1991; Humphrey et al. 1977; Gardner et al. 1996; Cope et. al 1974). Telemetry studies on a maternity colony in Indiana have indicated that Indiana bats continue to return to areas that previously served as foraging habitat, even after those areas have been developed and no longer provide suitable habitat (USFWS 2003).

This information indicates that when the females of the maternity colonies presumed to occur in the action area return to their summer range, individuals will attempt to use the same foraging areas that were used in previous years. After clearing is completed on the project area, as much as 73.1 acres of foraging habitat will no longer be available. Additionally, several woodlots will be bisected by the road, resulting in foraging habitat being fragmented by a 4-lane divided highway. Finally, loss of additional acres of suitable Indiana bat foraging habitat due to secondary development at the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges will further exacerbate loss of forest habitat from road construction.

In general, Indiana bats are reluctant to cross open areas (Brack 1983; Menzel et. al. 2001, Murray and Kurta 2004). Once the project footprint area has been cleared, some Indiana bats whose foraging and commuting areas have been altered may avoid flying across this area. These individuals would be subject to an increased expenditure of energy to establish a new roosting area as well as travel corridors between roosting and foraging. Bats in this scenario would be subject to take in the form of harm or harassment as they are displaced from their home range.

The project will result in direct and indirect impacts to 26,425 linear feet (5.03 miles) of streams. In Illinois, Gardner et. al. (1991) found that forested stream corridors and impounded bodies of water were preferred foraging habitats for pregnant and lactating Indiana bats, indicating that streams likely provide an important source of prey for Indiana bat maternity colonies (Kurta and Whitaker 1998). In Pennsylvania, core foraging areas (where a bat spent 50 percent of its time foraging) were located along intermittent streams or within hollows containing an intermittent stream (Butchkoski and Hassinger 2002). This study indicates the importance of large blocks of contiguous forested habitat as well as small streams and their associated habitat to foraging female Indiana bats.

Because insects associated with aquatic habitats make up part of the diet of Indiana bats, water quality can affect the prey base of the species. Approximately 26,425 linear feet (5.03 miles) of streams may be directly and indirectly impacted by the project, reducing or eliminating potential sources of aquatic insects. In response, bats will seek alternate food sources in upland and other riparian areas. However, upland food sources may also likely be reduced after forested habitat is removed by clearing and grubbing activities. Bats of other species will also be displaced, thus compounding interspecies competition.

The destruction and/or modification of 26,425 linear feet (5.03 miles) of streams, along with their associated riparian forested habitat, will eliminate and/or degrade bat flyways, foraging areas, and drinking sources. In addition, the Indiana bat's prey base will be reduced due to the loss of insects associated with the 73.1 acres of upland and riparian forests in the project footprint, as well as the loss of wooded habitat within 1 mile of the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges.

The effects to individual bats from the loss of foraging habitat are likely to vary based upon each bats usage of this area. According to Murray and Kurta (2004), Indiana bats appear to forage individually rather than in groups. Additionally, individual Indiana bats establish several foraging areas. Some bats may only forage in the project area occasionally and therefore would be familiar with other nearby foraging areas. These bats may be able to quickly adjust their foraging habitats by spending more time foraging in other portions of their range. For bats that foraged extensively or exclusively within the project area, the effect may be more severe. Due to the linear nature of the project, it is more likely that bats forage in the project area occasionally rather than extensively.

In addition to the Indiana bat, six other species of bats (little brown bat, northern long-eared bat, eastern pipistrelle, big brown bat, red bat, and silver-haired bat) are known to occur within Paulding and/or Defiance Counties, Ohio, based on previous bat surveys outside of the action area (3DI 1998, ODNR 1977). The Service assumes that, since land use and forest habitat is similar throughout much of both Paulding and Defiance Counties, these same bat species would

likely occur within forested habitat in the action area. Therefore, the potential for the project to increase inter- and intra-specific competition during foraging must also be considered. Although very little literature is available to assess the impact of this effect, interspecific competition has been identified as an area of concern by researchers monitoring maternity colonies subject to habitat alterations in Indiana (USFWS 2003). Feeding habits for Indiana bats are similar to those of the little brown bat, the northern long-eared bat, and to a lesser extent the eastern pipistrelle (Whitaker 2004; Lee and McCracken 2004). Therefore competition between those species may be pronounced as all species will be displaced and forced to move quickly into other foraging habitat. Displaced bats are likely to have a reduced foraging efficiency while competing against other bats that have already established territories and are familiar with the area, adjusting to altered travel routes to foraging areas in addition to seeking out new foraging areas to replace areas which were lost. However, the effects to individual bats from the loss of foraging habitat and increased competition may be somewhat offset by the availability of suitable foraging habitat in the surrounding landscape and the likehood that most bats, regardless of species, do not forage exclusively or extensivly in the area to be cleared. As much of the action area outside of the project footprint is composed of primarily agricultural land with scattered isolated woodlots that likely provides suitable foraging habitat, the quantity and quality of the habitat that will remain outside the project footprint suggests that individuals from the colonies may have moderate difficulty successfully locating and establishing modified or new foraging areas, and that take in the form of harm may result.

It is also important to consider the potential effects to reproductively active females in concert with other life history and environmental factors. Indiana bats that are already subject to the energy demands of hibernation, migration, and pregnancy may be displaced from their preferred foraging ranges. They will then have to expend energy to search for new areas to forage while at the same time being subject to an increase in competition for prey. In addition, environmental factors, such as an unseasonably cool spring, could limit the availability of prey while at the same time increase the energetic cost of thermoregulation. When combined, these factors could reduce the fitness of pregnant Indiana bats to the extent that some may not successfully bear a pup and/or some pups may be born with lower birth weights such that their pups may have delayed development.

FHWA has committed to carrying out the following measures which will minimize adverse indirect effects to the foraging habitat of the maternity colonies: (1) FHWA will insure that all construction activities are confined to the construction work limits defined in the project description which includes all staging, waste, and borrow areas, (2) Tree cutting within the project footprint will be minimized wherever possible, (3) Staging, waste, and borrow areas will not occur within forests or wetlands, and (4) A comprehensive sedimentation and erosion control plan will be developed and implemented during tree-cutting operations to avoid down-stream impacts to waterways which will minimize impacts to the aquatic prey base.

Overall, the effect of the loss of 73.1 acres of foraging habitat due to road construction and the loss of additional foraging habitat due to secondary development on individual bats from the colonies will range from insignificant and discountable effects to take in the form of harm. Due to the linear nature of the project and the isolated, scattered nature of the woodlots, the foraging areas for many of the bats would likely be entirely or mostly outside the project footprint. The effects to these individuals are anticipated to be minimal. Effects to a few individuals, those who

forage entirely or mostly in the project right-of-way or within one mile of the Ryan/Bruick Road, Webster Road, or U.S. 127 interchanges, or those who will have their foraging areas separated from their roosting areas, may be more significant. These individuals may have to expend an increased amount of energy to establish new foraging areas, thereby potentially reducing their fitness, and more likely, reducing their chance for successful reproduction. Additionally, the effects on individual bats will differ depending upon variable factors such as the weather and the condition of individuals upon emergence from hibernation.

Indirect Effects on Non-reproductive Bats from the Loss of Foraging Habitat
As predicted with the maternity colonies, most males and non-reproductive females are likely utilizing foraging areas that lie entirely or mostly outside the project footprint due to the linear nature of the project. Effects to these individuals are anticipated to be minimal. It is also possible that a few individuals utilize foraging areas entirely or mostly in the project footprint. The effects to these individuals could be more severe as they are forced to establish new foraging areas. However, these effects would not be complicated with the energy demands of pregnancy and rearing of pups.

Individuals seeking modified or new foraging areas will be subject to an increase in inter- and intra-specific competition. As with the reproductive females, the effects to individual non-reproductively active bats from the loss of foraging habitat and increased competition may be somewhat offset by the availability of suitable foraging habitat in the surrounding landscape. As much of the action area outside of the project footprint is composed of primarily agricultural land with scattered isolated woodlots that likely provide suitable foraging habitat, the quantity and quality of the habitat that will remain outside the project footprint suggests that individual males and non-reproductive females may have moderate difficulty successfully locating and establishing modified or new foraging areas, and that take in the form of harm may result.

Indirect Effects of Fragmentation
In addition to the effects from the permanent loss of trees, forest fragmentation is also anticipated and could impact the Indiana bat. Recent research by Murray and Kurta (2004) indicates that Indiana bats may prefer traveling along forested corridors rather than over large open spaces. Conversely, some data from maternity colonies in Indiana and Pennsylvania show that Indiana bats cross major roads routinely (Kiser et. al. 2002; Butchkoski and Hassinger 2002). Therefore, the Service deems it reasonable to assume that some bats may avoid crossing the project area and others may continue to routinely cross the area once it has been cleared.

The Service estimates that up to 80 acres of forested habitat on the Plumer property could become less suitable for roosting and foraging as the new highway divides this large forest block into two separate forested units. Likewise, the narrow riparian zone of Zuber Creek will be bisected by the new highway. Additionally, secondary develoment near the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges may fragement additional woodlots within the action area. However, as previously described, most of the forest parcels within the action area, and within this part of Ohio and Indiana are already isolated fragments within a predominantly agricultural setting. Therefore, any Indiana bats that use the action area for roosting and/or foraging would likely already be accustomed to crossing agricultural areas and associated roads, and therefore, any adverse effects to the bat from habitat fragmentation are likely to be discountable.

Indirect Effects of Decreased Water Quality

Potential indirect effects to the Indiana bat from a reduction in water quality from construction, operation, and maintenance of the highway are anticipated to be similar to direct effects. Water quality is expected to decrease in the action area for a variety of reasons. The project description includes a number of measures to be performed to both minimize and offset the impacts to water quality during all phases of the project. These measures should substantially reduce the extent of impacts to water quality from the project.

The Service believes that the water quality impacts will cause a reduction in prey base and drinking sources for the Indiana bat. Indirect adverse effects to Indiana bats from this decrease in aquatic insect prey and drinking sources is likely to be undetectable due to the linear nature of the project combined with the availability of suitable habitat in the surrounding landscape and the assumption that bats will use or seek alternate areas for foraging and drinking as some areas become unsuitable. The Service presumes that the surrounding landscape will continue to provide a prey base of both terrestrial and aquatic insects during project construction, operation and maintenance. Therefore, any potential indirect adverse effects to the Indiana bat from a reduction in water quality is anticipated to be insignificant.

Indirect Effects of Disturbance

In addition to the actual habitat removal in the project footprint and within areas of secondary development, and the direct effects associated with that removal, the proposed project may also indirectly decrease the quality of habitat surrounding this area. Indiana bats remaining in the action area during the operation of the highway will be subject to noise disturbance from traffic noise when the highway is operational. As a result, Indiana bats in the action area will be exposed to noise levels, or intensity of noise and vibrations that they may not have experienced in the past, depending on the proximity of their roost sites to other human activities nearby.

The current ambient noise along the proposed construction corridor varies greatly depending upon the proximity of the corridor to existing activities. Given the rural, agricultural nature of the project area, the lowest existing noise levels along the corridor should be occurring in the areas that are farthest away from roads, railroads, structures, and towns/cities. Considering the positioning of the corridor and existing land uses, the lowest existing noise levels should be occurring in the central portion of the project area, most of which is within a primarily agricultural setting. Noise monitoring conducted in 1999 by ODOT personnel found that the average existing noise level in the project area is 52.8 dBA (D. Snyder, FHWA, pers. comm.).

FHWA estimates that the noise level anticipated during project operation will range from 72.1 dBA at a distance of 189'/261' from the project centerline to 52.4dBA at a distance of 2141' from the centerline. This would noticably increase the noise at locations close to the project centerline by 19.3 dBA, however at locations greater than 0.41 miles from the project centerline, noise would expect to remain at currently existing levels. These figures are based upon the typical reduction level of 6.0 dBA per doubling of distance for noise (D. Snyder, FHWA, pers. comm.).

Assuming that locations within 0.41 miles of the project centerline will experience permanently increased noise levels, and knowing that the road corridor is 36.4 miles in length, an area of 14.9 square miles (650,089 acres) will be affected by vehicle noise during operation of the highway. Of this total area impacted, only a small portion of it provides suitable Indiana bat habitat.

Increased noise and vibrations could cause disturbance to Indiana bats unaccustomed to these effects while roosting and thereby lower the suitability of habitat adjacent to the project area. It is difficult to predict the degree to which Indiana bats would be disturbed by the noise and vibrations associated with operation activities. Any effect resulting from noise and vibrations related to operation activities would be expected to result in bats selecting roost trees further from the disturbance in habitat.

Indirect Effects of Vehicle Traffic

Once the highway is in operation, Indiana bats will be subject to the hazard of being struck by vehicles. Bats may cross roads while commuting between roosting and foraging areas and/or while foraging on insects attracted to road lighting. Although Indiana bats generally avoid crossing over open areas (Brack 1983; Menzel et. al. 2001), they have been documented flying over busy interstate highways (e.g., I-70 near the Indianapolis Airport; USFWS 2002). In Pennsylvania, Indiana bats have also been documented crossing U.S. Route 22 near the Canoe Creek Church (Butchkoski 2003). In both of these circumstances, the road lies between known roosting and foraging areas for members of the colonies (Butchkoski 2003; D. Sparks, IN State Univ., pers. comm. 2005). Thus, it is apparent that Indiana bats do cross over busy highways when they divide foraging from roosting areas. It should also be noted that through a radio telemetry study by Indiana State University, Sparks (pers. comm.) observed that individuals of the Indianapolis Airport colony avoided flying over I-70 where a bridge provided a 35-ft high corridor beneath the road. The results of this particular study indicate that bats may avoid flying over highways when an alternative corridor is present.

Since there is some evidence that Indiana bats will routinely fly across roads during the summer, the Service anticipates that the proposed road may not present a physical barrier to the movements of Indiana bats. However, limited information on the Indianapolis Airport colony suggests that Indiana bats may only do so when the road separates roosting and foraging areas and no other route between these areas is available or no other such areas are available that do not necessitate crossing the road (D. Sparks, IN State Univ., pers. comm.). The Service anticipates that individual home ranges of Indiana bats that occur in the action area will be impacted differently depending upon the extent to which the project will impact each bat's roosting, foraging, and commuting areas. The home ranges for some Indiana bats may be partially or even entirely divided by the project. These bats may modify their home ranges to avoid crossing the roadway or they may choose to cross the road to access roosting or foraging areas. Bats that do cross the road will be subject to the risk of being struck by vehicles traveling on the roadway. In fact, multiple bat mortalities from vehicle collisions, including at least one Indiana bat, have been documented at the Canoe Creek site in Pennsylvania where Indiana bats routinely cross U.S. Route 22 (Butchkoski 2002). However, as previously described, most of the forest parcels within the action area, and within this part of Ohio and Indiana are already isolated fragments within a predominantly agricultural setting. Multiple roads of varying sizes (including the existing U.S. 24) already exist within the action area, therefore, any Indiana bats that use the action area for roosting and/or foraging would likely already be accustomed to crossing roads,

and therefore, any adverse effects to the bat from habitat fragmentation by roads are likely to be discountable.

Although it has been documented that Indiana bats fly across roadways, there is no data specific to the Indiana bat for the use or avoidance of lighted areas that may or may not occur over these roadways. Research by Rydell and Baagoe (1996) indicates that bats in the genus *Eptesicus* (e.g. big brown bat) and Lasiurine bats (red and hoary bats) are the species typically noted foraging around artificial lights. In contrast, they also noted that bats in the genus *Myotis* seem to avoid open places most of the time preferring to feed in woodlands or low over water. It appears that the foraging strategies utilized by *Myotis* bats, including the Indiana bat, may be more suited to foraging in forested areas than out in open areas (Humphrey et. al. 1977; LaVal et. al. 1976; Brack 1983; Garner and Gardner 1992; Gardner et. al. 1996; Murray 1999).

FHWA has committed to only locating road lights for the new highway at the proposed interchanges. The lighting to be placed at the interchanges includes high pressure sodium lamps on 40-foot cobra head poles (Kirk Slusher, ODOT, pers. comm.). Approximately 24 lamps will be placed at each interchange. This type of lighting emits a color that is less visible to insects than standard lighting (GE 2005). Although data suggests that Indiana bats prefer to forage in forested areas (Humphrey et. al. 1977; LaVal et. al. 1977; Brack 1983; Garner and Gardner 1992; Gardner et. al. 1996; Murray 1999), there is still a slight probability that they could forage at artificial lights if these opportunities provided a concentration of their insect prey base. The use of high pressure sodium lights would minimize their attractiveness to insects, thus, reducing the likelihood of large insect congregations and hence less chance for bats to be attracted to the lighted area. Based upon these factors, the Service predicts that in general, Indiana bats will typically not forage at artificial lights installed for this project.

The Service anticipates that Indiana bats will run the risk of colliding with vehicles when the new highway is in operation when bats are commuting between roosting and foraging areas and that any bat that is struck by a vehicle will be directly killed or fatally injured. However, it is difficult to meaningfully quantify the risk of bat/vehicle collisions. Furthermore, any such strikes would likely go either unnoticed or unreported. Finally, any bats within the action area should already be accustomed to crossing roads, due to the numerous roads of varying sizes that currently exist within the action area. The Service anticipates that mortality outside of what is currently occurring from vehicle collisions would be unlikely.

Effects on Reproduction Success of the Maternity Colony

In general terms, the overall population decline of the Indiana bat is a result of mortality exceeding recruitment (*i.e.*, deaths are outpacing recruitment). The specific reasons for this dynamic remain unknown. Due to the energy demands of migration and hibernation, higher mortality rates can be expected during these events than during routine foraging and roosting activities in summer habitat. The annual cycle (for females) of hibernation → spring migration → birthing → lactation → fall migration → mating → hibernation, can be broken at any point, resulting in the loss of that female from the population, and her remaining reproductive potential from the population. At some point(s) in this annual cycle, the species is experiencing higher mortality rates, or lower reproductive success than it did historically, causing the species' population to continue to decline. Since bats are only capable of producing one pup per year, this limits their ability to rebound after these population losses. The vulnerable point(s) in this

cycle may differ by geographic area, and even within the same area. It is important to recognize that it is not necessarily the *events* in the annual cycle that are causing the species decline, rather, it may be a *change in the environments* (*i.e.*, hibernacula, summer habitat, migration habitat) in which those events are occurring. Unless a change in these environments occurs to allow reproduction to exceed mortality, the species will continue to decline. The continuing population decline provides the context for the evaluation of the effects of the proposed action.

An important feature of Indiana bat behavioral biology that is integral to the discussion of effects of the proposed projects is the fact that female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas. Removal of established foraging and roosting areas is expected to have an adverse effect on bats that rely upon these areas and features (Gumbert et al. 2002). Some researchers have stated that bats may not be able to compensate if a large number of trees used in previous years are missing, and that "destruction of many roost trees in a small area could be devastating when these bats faithfully return the following spring" (Kurta et al. 2002; Kurta and Murray 2002). Kurta et al. (2002) further suggests that the use of seasonal tree-clearing restrictions alone is not an appropriate measure for minimizing impacts to Indiana bats.

While very few site-specific data are available regarding the effects of summer habitat degradation or loss on maternity colonies of Indiana bats, information regarding basic life-history strategies can be of assistance, as well as, information from surrogate species that have a similar biology. For example, species that show high site fidelity usually occupy predictable and stable (in space and time) niches (McNicholl 1975; Blancher and Robertson 1985). Species adapted to niches that are unpredictable in space and time generally do not show high site fidelity. For a species showing high site fidelity, alteration of their foraging, roosting, or breeding habitat reduces the predictability of the habitat; therefore, disruption to various aspects of that species' ecology, particularly survival and reproduction are expected. Even if there is an ability to relocate, when individuals of species that normally exhibit high site fidelity move to different breeding locations, they may suffer decreased reproductive success following the movement (Dow and Fredga 1983). Species with high site fidelity occupying habitat that is undergoing changes may subsequently experience reduced productivity and substantial population declines (Takagi 2003).

A few bats either remaining in the action area or displaced from previously used foraging and roosting sites can be expected to have higher rates of reproductive failure, and have young that mature later. If the summer range is modified such that females are required to search and compete for new roosting habitat or foraging areas, this added energy expenditure may place additional stress on pregnant females at a time when fat reserves are low or depleted and they are already stressed from the energy demands of migration and gestation (Kurta, et al. 2002; Kurta and Murray 2002).

Juvenile female Indiana bats can attain sexual maturity in their first fall season (USFWS 1999). A delay in pre- and postnatal development can affect juvenile survival and reproductive potential. Slowed growth rates during pregnancy and lactation may mean later weaning dates and smaller young, both of which affect juvenile survival (Racey and Entwistle 2000). Later weaning dates leave less time for young to perfect their flying and foraging skills, which in turn, affects their ability to maintain their body condition and store fat and obtain adequate strength to successfully migrate in the fall. Further, as a minimum fat-to-lean mass ratio may be needed to

successfully reproduce, delays in weaning time may also, in a similar manner, affect the reproductive potential of the young. Lastly, delays in migration departure could subject bats (both young and adults) to unfavorable winter conditions along the way. Humphrey et al. (1977), for example, reported that young Indiana bats became volant 2 weeks later than the previous year because of cold temperatures and delayed migration to hibernacula a commensurate amount with the last migrants departing 3 weeks later than expected. These bats were then exposed to freezing weather at the nursery site and entered into torpor. When they finally arrived at hibernacula there was very little time for prehibernation fat storage and mating. Consequently, Humphrey and colleagues suspected that the delayed growth and subsequent delay in migration reduced the survival rates of affected young during migration and hibernation, and may have reduced natality the next year as fewer females were likely able to successfully mate. The decrease in foraging, roosting, and watering habitat available during and post-project may be significant given that the surrounding landscape supports only limited suitable forested roosting and foraging habitat to begin with.

The degree of habitat loss associated with the proposed road construction (73.1 acres), and the loss of additional bat habitat due to secondary development at three interchanges, when compaired to the environmental baseline, represents a noticable change in the summer environment for the maternity colonies in the action area. The biological question is whether these changes will affect the maternity colonies and if so, to what extent. The relevant biological and behavioral factors important to these evaluations are the species' population dynamics, life cycle, strong philopatric behavior, and foraging and roosting requirements.

The strong fidelity shown by this species to its summer habitat makes it likely that the maternity colonies will attempt to remain in their traditional summer habitat (i.e., the remaining portions of habitat) (Gardner et al. 1991; Humphrey et al. 1977; Kurta and Murray 2002). It is possible that the colonies would leave the area entirely and seek roosting and foraging habitat sufficient to support them elsewhere. However, it is more reasonable to assume that the colonies would utilize the surrounding forested parcels because they provide foraging and roosting habitat similar to that which will be lost due to the project. The displaced colonies will likely be subject to inter- and intra-specific competition from both resident and displaced bats for roosting and foraging habitat (Whitaker 2004; Foster and Kurta 1999). Due to the limited amount of suitable roosting and foraging habitat in the surrounding area, adverse effects to Indiana bats due to inter- and intra-specific competition is expected to occur, and would take the form of harm through disruption of feeding patterns and increased time spent finding new foraging grounds during a period where bats are already stressed from hibernation, migration, pregnancy and/or rearing of pups, and could likely result in decreased reproductive success.

The Service believes that loss of some foraging and roosting areas could temporarily disrupt the cohesive nature of the maternity colonies (Kurta and Murray 2002) for some time in the spring following clearing activities in the project area. Given the ability of the Indiana bat to adapt to the ephemeral nature of roost trees, and the assumption that not all of the colonies' roost trees and foraging areas will be lost, it is probable that the colonies will be able to reestablish a new primary roost and additional alternate roosts, and the individuals to reestablish and/or modify their foraging patterns within a few days to a week upon arriving in the project area. However, the limited availability of suitable roosting and foraging habitat in the surrounding landscape could result in difficulty finding suitable roosting and foraging habitat, and in travel of

significant distances outside of the former home range in order to find suitable habitat. Such disruption could decrease the reproductive advantages of colonial maternity roosting for some period of time.

The Service anticipates that some females of the colonies will successfully bear a pup. However, due to the higher short-term energy demands on individuals of the colonies at a time when their energy reserves are low, some bats may experience a delay in giving birth or fail to successfully produce a pup. Due to the likelihood that the bats will experience some difficulty in finding alternate foraging and roosting habitat, and that they will be competing with other bats for this limited amount of habitat, the Service anticipates that a some would experience too great an impact on their energy budget, which could, as a result, lead to termination of their reproductive effort for the year.

Effects on Numbers

Quantification of these project related losses at the population level (i.e., maternity colony) is difficult. We do not believe, for reasons detailed above, that the construction of the proposed road will result in the death of adult females; however, mortality due to vehicle strikes, once the road is operational, is possible, though unlikely, due to the presence of multiple existing roads within the action area. We also anticipate that some females may abort or terminate their pregnancy due to loss of their traditional foraging areas. We expect that some of the females in the project area will abort or terminate their pregnancy in the summer after tree clearing occurs due to loss of their traditional foraging areas and the inability to efficiently locate alternate roosting and/or foraging habitat within the fragmented agricultural nature of the project area. Finally, we believe that secondary development adjacent to three interchanges could result in tree clearing operations during the maternity season, which could lead to death and/or injury of some female Indiana bats.

Summary of Effects

The Service anticipates that Indiana bats will incur both direct and indirect effects from the proposed U.S. 24 project. The intensity of effects will differ by activity, season, and condition and home range of individual bats. Direct and indirect effects to Indiana bats are anticipated during clearing, construction, and operational activities from the removal of habitat for road construction and secondary development near three interchanges, and due to noise disturbance.

Direct take (killing or injuring) of Indiana bats during road construction should be avoided during the maternity period due to project specifications that avoid cutting of potential roost trees from April 15 to September 15.

Indirect effects on Indiana bats are anticipated from the project due to the loss and fragmentation of habitat, disturbance from traffic noise, and an increased risk of bat vehicle collisions. Some bats will be subject to take in the form of harm due to displacement from traditional roosts and foraging areas that are cleared. The effect upon individuals of the maternity colonies would likely be more severe than non-reproductive females and males since pregnant females will be forced to alter their home ranges in the spring when they return to the area at a time when they are already stressed from the physical demands of pregnancy in addition to the decreased fitness following hibernation and migration. Vehicle noise during operation of the new road is

anticipated to further reduce the suitability of roosting habitat in the area immediately surrounding the new roadway. Mortality of bats may also result indirectly from the project when the new road is in operation as bats that fly across the roadway to access roosting and/or foraging areas could be struck by vehicles, however this is unlikely due to the presence of multiple existing roads within the action area, to which the bats should be accustomed to crossing. The chance of vehicle collisions will further be reduced by using lighting that does not attract insects, the bats prey base, as much as traditional lighting. Take due to indirect effects from secondary development are anticipated to range from death and/or injury of some individuals over time to effects which may be insignificant or discountable for other individuals whose home ranges is mostly or entirely outside the action area.

Indirect effects due to secondary development within the action area are expected to be significant. The loss of a significant amount of forested habitat due to development at the Ryan/Bruick Road, Webster Road, and U.S. 127 interchanges is anticipated. This development is generally unregulated and could result in tree clearing during the maternity season, resulting in direct mortality of reproductively active females, their pups, as well as adult males and non-reproductive females. Furthermore, this activity is expected to result in the same indirect effects as loss of forested habitat from the construction of U.S. 24. The loss of habitat from secondary development will significantly compound the effects of the loss of habitat from the U.S. 24 project itself, and will likely be more significant, due to the extent of forest impacts in an area where forest is already scarce.

The direct and indirect effects to Indiana bats will vary greatly ranging from death or injury of some bats to effects which are insignificant and discountable and will differ depending upon the home range and condition of individual bats as well as the tolerance of individual bats of noise disturbance.

V. CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this Biological Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Such future Federal actions include private developments that will require permit(s) from the U.S. Army Corps of Engineers due to proposed stream and/or wetland impacts.

Ten previously identified economic development projects, unrelated to the U.S. 24 project, are currently proposed within the action area, which could result in cumulative effects to the Indiana bat and its habitat. These projects are in various stages of design and planning, and may or may not be Federal actions, depending on whether streams and/or wetlands will be impacted or avoided. Because potential impacts to streams and/or wetlands are not currently known for these projects, the Service assumes that they will not be Federal actions, and so we include them in the cumulative effects analysis. The proposed economic development projects include the following: Doyle Road Industrial Site; New Haven Industrial Site; Woodburn Industrial Park; Antwerp School Expansion; Antwerp Industrial Park; Enterprise Industrial Park; Smith Zachrich Development Site; Olson Enterprise Park; Fox Run Executive Park; and Defiance Hospital (FHWA 2003). These projects cumulatively could impact 29.2 acres of wooded habitat (FHWA

2003) that the Service assumes to be suitable for Indiana bat roosting and/or foraging, and which we assume will be permanently lost once construction begins.

The Service assumes that the effects of these seven economic development actions within Ohio would be similar to the effects of the anticipated secondary development. We assume that 29.2 acres of tree clearing would be unregulated, and that it may occur during the summer maternity season, resulting in death of reproductively active female bats, their offspring, as well as adult male bats and non-reproductive female bats. We assume that indirect effects from loss of roosting and/or foraging habitat, competition, and fragmentation will occur. If a loss of streams and/or wetlands, which could provide suitable foraging habitat, from any of these projects was proposed, this would trigger federal jurisdiction through Sections 401 and 404 of the Clean Water Act; therefore, we assume that no stream or wetland impacts will occur on these projects, and that loss of aquatic foraging habitat would not occur.

VI. CONCLUSION

After reviewing the current status of the Indiana bat, the environmental baseline for the action area, the effects of the proposed U.S. 24 highway construction and operation, and the cumulative effects, it is the Service's Biological Opinion that the U.S. 24 highway project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat, and is not likely to destroy or adversely modify designated critical habitat. Critical habitat for this species has been designated at hibernacula in Illinois, Indiana, Kentucky, Missouri, Tennessee, and West Virginia; however, this action does not affect these areas, thus, no destruction or adverse modification of that critical habitat is anticipated.

Based on the past rates of decline, the expected continued rate of decline, and lack of knowledge of the causes of the decline, it is reasonable to conclude that the species' survival is in serious question. As explained earlier, Indiana bats continue to decline. Although their absolute numbers are seemingly high, the Indiana bat life history strategy renders this species especially susceptible to population declines. As a result of these past and anticipated continued declines, the Indiana bat is increasingly highly endangered. Improving the reproductive success of Indiana bats is paramount for their continued survival. Maternity colonies are an important population aspect that is crucial to the survival of the Indiana bat. In order to slow down and reverse the rate of decline, and get to survival and recovery of the Indiana bat, either the rate of reproduction needs to increase, the rate of mortality needs to decrease, or a combination of both these factors needs to occur.

The direct and indirect loss of habitat due to this project will impact the Indiana bat maternity colonies within the action area causing short-term effects on individuals of the colonies. The Service anticipates that, during the summer after tree clearing, some females of the colonies will successfully bear a pup but some females may experience a delay in giving birth or fail to successfully produce a pup, thereby temporarily reducing the reproductive output of the colonies. The females expected to be most at risk to the loss of a pup or delayed birth are those whose fitness is already comprimised due to other environmental factors.

The Service concludes that overall the project will not contribute a measurable decrease in reproduction or numbers of the Indiana bat at the local level. The one-time loss of recruitment

from some of each of the three maternity colonies within the action area does not represent an appreciable reduction in the recruitment of the maternity colonies as a whole, nor does it represent an appreciable reduction in the overall number of future bats available to contribute towards the survival and recovery of the species rangewide. The Service also detemines that the loss of 71.3 acres of wooded habitat, the direct and indirect impact on 26,425 linear feet of streams, the filling of 23.84 acres of wetland, and the loss of additional woodland habitat due to secondary development at the Ryan/Bruick, Webster Road, and U.S. 127 is not likely to result in an appreciable reduction of the distribution of the species at the local or rangewide level, given the availability of the some remaining suitable habitat in the surrounding landscape. Thus, we conclude that the U.S. 24 highway project, as proposed, is not likely to jeopardize the continued existence of the Indiana bat.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by FHWA so that they become binding conditions of any funding issued to ODOT, as appropriate, for the exemption in section 7(o)(2) to apply. FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require ODOT to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are applied to the funding, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, FHWA must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR §402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE ANTICIPATED

Based on the proposed project as described within and the conservation measures provided, we anticipate that incidental take of Indiana bats will occur in the form of harm through habitat loss, and death and injury during tree clearing operations within secondary development areas at three interchanges.

Based on our analysis of the environmental baseline and effects of the proposed action, the Service anticipates that three maternity colonies of Indiana bats, and 14 male or non-reproductively active female Indiana bats occupy the action area and may be impacted as a result of the proposed project. Collectively, the effects of the action, as described in the accompanying Biological Opinion, are expected to result in behavioral or physiological effects that impair essential behavioral patterns. Death, decreased fitness, and reduced reproductive success of a few individuals are reasonably certain to occur. Although it is extremely difficult to determine precisely, we believe that no more than 10 Indiana bats will be incidentally taken over the term of this project.

The Service anticipates that incidental take of Indiana bats will be difficult to detect for the following reasons: the species is highly motile; the species occurs in habitat (e.g., trees) that makes detection difficult; and finding dead or moribund bats is unlikely due to a small body size and the likely scavenging of specimens by predators. However, we believe the level of take of this species can be monitored by tracking the level of habitat destruction and modification. Specifically, if the current anticipated level of habitat loss is exceeded, we fully expect the level of incidental take to increase as well. Thus, the following indicators will serve to alert us to when more than 10 individuals may be taken: (1) any additional tree clearing occurs outside the right-of-way corridor as described in the accompanying BO, (2) any additional impacts to wetlands within the road right-of-way occur, beyond those described in the accompanying BO, or (3) any additional stream impacts occur within the road right-of-way beyond those described in the accompanying BO.

EFFECT OF THE TAKE

In the accompanying Biological Opinion, the Service determined that, based on the proposed project and the conservation measures described on pages 7-10, this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of Indiana bats:

1. The implementation status of all the proposed conservation measures, mitigation efforts, and terms and conditions need to be monitored and clearly communicated to the Service on an annual basis.

2. Develop and implement an Indiana bat education program for all personnel involved in the construction, operation, and maintenance of the U.S. 24 highway project in Ohio.

3. Restore Indiana bat habitat in temporary construction areas to the maximum extent practicable.

4. To the maximum extent practicable, incorporate measures to benefit the Indiana bat into mitigation plans for stream and wetland impacts.

5. Ensure that construction equipment is in proper working order to minimize operation noise and reduce the risk of equipment spills and leaks.

6. Ensure that if suitable Indiana bat roost trees may be impacted by waste, borrow, staging, and/or maintenance areas, these trees are explicitly identified and consultation re-initiated accordingly.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, FHWA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

1. Monitoring Requirements:

   A. FHWA will prepare an annual report detailing all conservation measures, mitigation efforts, and terms and conditions that have been initiated, are ongoing, or completed during the previous calendar year and the current status of those yet to be completed. The report will be submitted to the Service's ROFO by 31 January each year (the first report will be due January 31, 2007) and reporting will continue until the construction phase of the project is completed.

   B. Any dead bats located within the construction limits and right-of-way, regardless of species, should be immediately reported to ROFO [(614) 469-6923], and subsequently transported (frozen or on ice) to ROFO. No attempt should be made to handle any live bat, regardless of its condition; report bats that appear to be sick or injured to ROFO. ROFO will make a species determination on any dead or moribund bats.

2. All U.S. 24 highway project engineers, construction personnel (includes logging personnel), equipment operators, and road maintenance staff will attend a mandatory environmental awareness training to learn about the Indiana bat and its habitat requirements. This training will provide personnel with an increased awareness about the species and should increase the likelihood of compliance with the non-discretionary measures and terms of this Incidental Take Statement. The program should be developed in cooperation with the Service. All participants are to be provided with a protocol for reporting the presence of any live, injured, or dead bats observed or found within or near the construction limits or right-of-way during construction, operation, and maintenance of the new U.S. 24. This training should occur prior to the initiation of onsite project activities.

3. Develop a reforestation plan using native tree species for disturbed areas adjacent to stream crossings and within the stream and wetland mitigation areas. Specifically, as noted under the section entitled, "Construction minimization measures," these tree species should be incorporated into post-construction revegetation plans to control erosion and maintain water

quality, as well as along relocated stream segments. Tree species used for reforestation should be a combination of the species from the following list. These species frequently exhibit suitable Indiana bat roost tree characteristics:

Black Ash (*Fraxinus nigra*)
Green Ash (*Fraxinus pennsylvanica*)
White Ash (*Fraxinus americana*)
Eastern Cottonwood (*Populus deltoides*)
American Elm (*Ulmus americana*)
Slippery Elm (*Ulmus rubra*)
Bitternut Hickory (*Carya cordiformis*)
Shagbark Hickory (*Carya ovata*)
Shellbark Hickory (*Carya laciniosa*)
Black Locust (*Robinia pseudoacacia*)
Red Maple (*Acer rubrum*)
Silver Maple (*Acer saccharinum*)
Sugar Maple (*Acer saccharum*)
Black Oak (*Quercus velutina*)
Post Oak (*Quercus stellata*)
Red Oak (*Quercus rubra*)
Shingle Oak (*Quercus imbricaria*)
White Oak (*Quercus alba*)
Sassafras (*Sassafras albidum*)

4. During the development of mitigation plans required under Sections 401 and 404 of the Clean Water Act, seek mitigation opportunities which both fulfill the requirements of this Act and benefit the Indiana bat through habitat protection, restoration and/or enhancement. The Service strongly encourages stream and wetland mitigation areas to be planted with native tree species that provide suitable habitat for the Indiana bat, as described in Term and Condition number 3 above.

5. Conduct regular inspections of construction equipment to ensure that equipment is in good working order to minimize disturbance to bats from operational noise and to reduce the risk of surface water contamination from equipment leaks and spills which could affect the bats prey base and drinking sources.

6. If a limited number of trees must be removed between April 15 and September 15, the contractor will be required to obtain the service of a qualified bat scientist to investigate trees for the presence of Indiana bats. Pending results of the investigation, the following actions will occur:

(a) A qualified bat scientist will evaluate the potential of roosting habitat for each selected tree. If the tree offers no potential for roosting habitat, it may be cut between April 15 and September 15.

(b) If a selected tree does offer the potential for roosting habitat, an emergence survey will be conducted. If no bats are detected, the tree may be cut the day following completion of the emergence survey.

(c) If bats are detected during the emergence survey, the tree will not be cut until the period between September 15 and April 15.

In conclusion, the Service believes that the U.S. 24 highway project will result in the permanent loss of 73.1 acres of suitable Indiana bat maternity, roosting and foraging habitat from road construction, and that additional suitable roosting and foraging habitat will be lost due to secondary development at three interchanges. The Service believes that no more than 10 Indiana bats will be incidentally taken as a result of the proposed action, and that harm through habitat loss will occur. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded—as indicated by additional, unanticipated habitat loss (Extent of Take section above)--such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. FHWA must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

REINITIATION NOTICE

This concludes formal consultation with FHWA on the construction, operation, and maintenance of the U.S. 24 highway project in Allen County, Indiana and Paulding and Defiance counties, Ohio. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if; (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Provide funding to staff a permanent full-time Indiana bat Transportation Liaison within the Service's Reynoldsburg, Ohio Ecological Services Field Office (ROFO).

2. In coordination with ROFO, purchase or otherwise protect Indiana bat hibernacula in Ohio.

3. Expand on scientific research and educational outreach efforts on Indiana bats in coordination with ROFO.

4. Pursue the purchase of easements to restore and protect high quality Indiana bat roosting, foraging, and commuting habitat, including riparian corridors.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127
(614) 469-6923 / FAX (614) 469-6919

June 16, 2005

Mr. Dennis Decker
Federal Highway Administration
Ohio Division Office
200 N. High Street
Columbus, OH 43215

Dear Mr. Decker:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) receipt of your Biological Assessment (BA) and May 18, 2005 letter requesting initiation of formal section 7 consultation under the Endangered Species Act. The consultation concerns the possible effects of the proposed U.S. 24 New Haven, Indiana to Defiance, Ohio project on the federally-listed Indiana bat (*Myotis sodalis*), bald eagle (*Haliaeetus leucocephalus*), copperbelly watersnake (*Nerodia erythrogaster neglecta*), clubshell mussel (*Pleurobema clava*), and federal candidate species rayed bean (*Villosa fabalis*) and eastern massasauga (*Sistrurus catenatus catenatus*).

We concur with your determinations that the proposed project may affect and is **Likely to Adversely Affect** the Indiana bat and is **Not Likely to Adversely Affect** the bald eagle. We note and agree with your determination that the project will have no effect on the copperbelly watersnake, clubshell mussel, rayed bean, and eastern massasauga.

Formal consultation for the U.S. 24 New Haven, Indiana to Defiance, Ohio project was initiated on May 18, 2005, in accordance with the 50 CFR §402.14(c) and Chapter 4 of the Service's March 1998 Endangered Species Act Consultation Handbook.

Section 7 and 50 CFR §402.14(e) allow the Service up to 90 calendar days to conclude formal consultation with your agency and an additional 45 calendar days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion no later than September 30, 2005.

Throughout the consultation period, we anticipate that FHWA will continue to help us garner the best available data, and will assist us in making reasonable assumptions for the various project's construction, operation, and maintenance activities for which detailed plans will not be available during the consultation period. We fully anticipate that these assumptions will be refined as we continue to consult on the project. To facilitate further consultation, and in response to our June 16, 2005 meeting, we have highlighted the issues requiring additional information that we need to complete our effects analysis in the attachment provided.

We will use these assumptions to conduct an analysis of the effects of the project on the Indiana bat. It is important to note that any assumptions about project activities should be both reasonable and conservative so that we avoid conducting an analysis on assumptions that prove to be incorrect as detailed project plans

are developed. Utilizing incorrect assumptions during our consultation could trigger the need for reinitiation of formal consultation in accordance with 50 CFR §402.16.

As a reminder, the Endangered Species Act requires that after initiation of formal consultation, the Federal action agency may not make any irreversible or irretrievable commitment of resources that limits future options. This practice insures agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or modifying their critical habitats.

If you have any questions or concerns about this consultation, please feel free to contact me or Megan Seymour of this office at (614) 469-6923 extensions 12 and 16 respectively.

Sincerely,

Mary Knapp

Mary M. Knapp, Ph.D.
Field Supervisor

Attachment

cc: Tim Hill, ODOT-OES, P.O. Box 899, Columbus, OH 43216-0899

Attachment to June 16, 2005 USFWS Letter to FHWA

The following document identifies additional information that is necessary to develop assumptions and analyze effects to the Indiana bat from the proposed U.S. 24 New Haven, Indiana to Defiance, Ohio project. The Service is appreciative of the revisions incorporated into the Biological Assessment (BA) based on our comments on the Draft BA, and requests additional information in support of our development of the Biological Opinion for this project. During our June 16, 2005 meeting, the Service and FHWA agreed to work collectively to gather the below information during formal consultation.

1. Definition of Action Area: As we have informed you previously, the action area as delineated in the BA is not consistent with the regulations. The action area includes all areas affected directly and indirectly by the proposed action and not merely the immediate area involved in the action (50 CFR 402.02). There can be only one action area for the project. The action area is delineated by mapping all the environmental impacts that will occur as a result of the proposed action and interrelated and interdependent actions. The area that encapsulates the reach of all these environmental impacts is the action area. To determine the action area, all activities that will result in chemical and physical impacts to the environment need to be identified in the project description. Establishing the action area is key to establishing the environmental baseline and effects analysis.

In order to fully define the Action Area, the Service requests that additional information on noise and vibrations be provided. Noise and vibrations will occur during construction, operation, and maintenance of the road. For example, additional information on the level of the noise within the Action Area now, levels of noise that can be expected during clearing, grading, and construction of the new road, and noise levels when the road is in operation would be helpful. Furthermore, a description of the distance that noise and vibrations will be detectable around the project area and the sources of noises and vibrations would also be useful. Because noise and vibrations are environmental impacts that will occur as a result of the proposed action, they must be used to help delinate the Action Area.

In order to fully define the Action Area, the Service requests additional information on downstream impacts to water quality during construction and operation of the proposed U.S. 24 project. For example, information on the downstream reach of water quality impacts from road construction and operation and the types of impacts anticipated would be useful. Because sedimentation and pollution of waters downstream of the project footprint are environmental impacts that may occur as a result of the proposed action, they must be used to help delineate the Action Area.

The Service requests additional information on the estimated extent, number, and approximate locations of waste, borrow, and staging areas. We appreciate your limitation of waste, borrow, and staging areas to those areas that do not provide signicant habitat for listed species, with specifically noted avoidance of forest, stream, or wetland areas. However, in order to fully determine the extent of the Action Area, we must understand the general location of these areas. Will they be located within the established project right-of-way, within the area of secondary development, or outside of these areas? Approximately how large will these areas be, and how many will there be? We understand and appeciate that specific information on waste, staging, and borrow areas may not be available at this time, however we request guidance in making reasonable assumptions about the size, location, and impact of these areas.

2. Description of the manner in which the action may affect any listed species: In order to better understand the quality and quantity of habitat for the Indiana bat that is proposed to be impacted, the Service requests a one-day site visit to the project area. During this site visit, the Service, FHWA and ODOT will examine specific wooded areas proposed for direct and secondary impacts, and make a general assessment of the quality of these areas relative to Indiana bat habitat. This site visit will allow the Service, FHWA and ODOT to become familiar with the impacts associated with the proposed project, and to better evaluate the extent of project effects on the bat and its habitat.

U.S. Department
of Transportation
Federal Highway Administration

Ohio Division Office
200 North High Street
Columbus, Ohio 43215

May 18, 2005

In Reply Refer To:
HPD-OH

Mary Knapp, Ph.D.
Field Supervisor, Ohio Field Office
U S Fish and Wildlife Service
6950 Americana Parkway, Suite H
Reynoldsburg, OH 43068

Dear Dr. Knapp:

Pursuant to 50 CFR Part 402.14 and section 7 of the Endangered Species Act of 1973, as amended, the Federal Highway Administration is hereby initiating formal consultation for impacts on federally listed species due to the proposed upgrading of U.S. Route 24 as a four-lane controlled access expressway in Allen County, Indiana, and Paulding and Defiance counties, Ohio. The comparative analysis of the Feasible Alternatives documented in the Draft Environmental Impact Statement prepared for the project found Alternative D-1 to be the least environmentally damaging alternative. That alternative was subsequently modified as a result of design refinements, agency comments, public comments, and mitigation measures to produce Alternative D-1 Modified, the current Preferred Alternative. The enclosed Biological Assessment (BA) of impacts on federally listed species due to the proposed project is based on Alternative D-1 Modified.

Informal consultation with the U.S. Fish and Wildlife Service identified six federally listed species of concern within the project area. Those species are listed below along with the federal listing status and the BA's effect determination for each:

- Clubshell (*Pleurobema clava*), endangered – **no effect**
- Rayed bean (*Villosa fabalis*), candidate – no effect determination made as species is not yet listed, but no effects anticipated
- Copperbelly watersnake (*Nerodia erythrogaster neglecta*), threatened – **no effect**
- Eastern massasauga (*Sistrurus catenatus catenatus*), candidate – no effect determination made as species is not yet listed, but no effects anticipated
- Bald eagle (*Haliaeetus leucocephalus*), threatened – **may affect, not likely to adversely affect**
- Indiana bat (*Myotis sodalis*), endangered – **may affect, likely to adversely affect**

BUCKLE UP AMERICA

Conservation measures to benefit the Indiana bat and aid the species' recovery near the project area are described on page 84 of the BA.

The enclosed BA constitutes a complete package of information regarding all phases of construction and operation of the new facility and fulfills requirements under 50 CFR 402.14(c) to initiate formal consultation procedures. The following are included in the BA:

- A description of the action being considered;
- A description of the specific area that may be affected by the action;
- A description of the listed species or their habitat that may be affected by the action;
- A description of the manner in which the action may affect the listed species or their habitat, and an analysis of any cumulative effects;
- Appendices containing reports documenting relevant studies of impacts of the action on the affected listed species or their habitat.

We have determined that your comments on the draft version of this biological opinion have been adequately addressed in this revised version. We request that additional questions are resolved during the formal consultation process.

FHWA understands that, as stipulated in ESA Section 7(b)(1)(A) and 50 CFR 402.14(e), formal consultation will be initiated by your receipt of this formal consultation request and will conclude within 90 days from that date. We look forward to receiving the Biological Opinion within 45 days of completing the formal consultation period. FHWA requests an opportunity to review an advance copy of the Biological Opinion prior to the issuance of the final Biological Opinion.

Please contact David Snyder, Environmental Program Specialist, at (614) 280-6852, if you have any further questions about this project.

Sincerely,

Hermann Rodrigo

For: Dennis A. Decker
Division Administrator

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923/FAX (614) 469-6919

February 17, 2005

RECEIVED
FEB 23 2005
OFFICE OF
ENVIRONMENTAL SERVICES

Timothy M. Hill
Office of Environmental Services
Ohio Department of Transportation
P.O. Box 899
Columbus, OH 43216-0899

Re: Draft Biological Assessment for ALL/PAU/DEF-24-0.00, PID 18904
Attn: Mr. Bill Cody

Dear Mr. Hill:

This is in response to your Draft Biological Assessment (BA) of Federally Listed Species for the Ohio Department of Transportation's US 24 New Haven, Indiana to Defiance, Ohio Project, dated November 12, 2004, and received by this office on January 25, 2005. The proposed project involves the construction of 40 mile long, 4-lane limited-access facility on a new alignment. This letter provides comments on the Draft BA from the Service's Indiana and Ohio Ecological Services Field Offices.

Section 1.2.2, Page 6: References 6 June 2001 Letter of Agreement between ODOT and U.S. Fish and Wildlife Service (Service). This should be updated to reference the May 3, 2004 Letter of Agreement, which alters condition 3 to read: "All projects within the range of the federally endangered Indiana bat (*Myotis sodalis*) which may impact roosting and brood-rearing habitat for that species (i.e., living or standing dead trees or snags with peeling bark, split trunks and/or branches or cavities) but for which the project will not alter the essential character, function or suitability of the area for the Indiana bat and where any unavoidable cutting of such trees will occur only before April 15 or after September 15." The Service has concurred with the determination in this letter, however the draft BA should clarify whether it has been determined that this project will or will not alter the essential character, function, or suitability of the area for the Indiana bat, and hence if the Letter of Agreement applies to this project. This section also references the species list provided by the Service and dated Sept. 23, 2004. If the final BA is not complete prior to March 17, 2005, ODOT should request an update to the species list in accordance with 50 CFR §402.12.

Section 2.3.1.3., Page 10: Paragraph that reads, "The potential for secondary effects of erosion...as a result of clearing and grubbing is negligible for all species based upon management practices implemented by ODOT and INDOT." "Negligible" is not the standard used for effect determinations under the Endangered Species Act (ESA). We suggest using comparable standards including the terms "insignificant" or "discountable."

Section 2.3.1.4. and 2.3.1.5, Page 11: Borrow, waste, staging, and maintenance areas to be identified by contractors are part of the complete project, and are therefore part of the action being consulted on. These

areas should be included in the Action Area description, and impacts to these areas should be included as part of the effects analysis.

Section 2.3.1.6.1., Page 11: Could you please quantify the anticipated noise impacts? What is the noise level expected in decibels? How far will this noise be detectable? This information is important in defining the action area (see additional comments on Sect. 3.0).

Section 2.3.1.6.2., Page 12: As referenced, the legal requirements for control of dust emissions and air quality have not been consulted on under the ESA, therefore it cannot be assumed that these levels are protective of listed species. Each species should be addressed separately regarding their tolerances to dust emissions/air quality, while noting that legal requirements will be followed in an attempt to minimize any such impacts. In addition, could you please provide clarification on how it will be ensured that burning operations will be conducted only between September 15 and April 15? This is an important action to avoid and minimize impacts to Federally listed species.

Section 2.3.1.7. and 2.3.1.8., Page 13: See above comments (Section 2.3.1.3.) on standards for effects determinations, specifically regarding the term "negligible."

Section 2.3.1.7., Page 13: As referenced, the NPDES Permitting Program for erosion and sedimentation control has not been consulted on under the ESA, therefore it cannot be assumed that these levels are protective of listed species. Each species should be addressed separately regarding their tolerances to sediment, while noting that legal requirements will be followed in an attempt to minimize any such impacts.

Section 2.3.2.2., Page 14: Regarding Indiana bats foraging for aquatic-based prey "more over larger streams, where dilution is likely to have occurred..." Could you please clarify the term "larger streams" and provide documentation and/or a citation? See above comments regarding the standards for effects determinations, specifically regarding the term "negligible."

Section 2.3.3.1., Page 15: "Bridges may also provide travel routes that help eliminate highway mortality for terrestrial species such as snakes." Could you please clarify this statement and provide citations if available? Are the travel routes underneath the bridges, or the bridges themselves? This is important in understanding the potential for road-related mortality of listed species.

Section 2.3.3.4., Page 16; also 4.6.8.2.7, Page 90: As referenced, the Clean Air Act and those measures used to meet legal requirements for air quality have not been consulted on under the ESA, therefore it cannot be assumed that these measures are protective of listed species. Each species should be addressed separately regarding their tolerances to air quality while noting that legal requirements will be followed in an attempt to minimize any such impacts.

Section 2.4.1., Page 17: Could you please provide more detail on the 13 sites targeted for future economic developments? More specifically, could you please provide us with information on the location and current condition of these sites. Are these sites located within the Action Area? What is the likelihood that they would be developed if the new US 24 was not built? Are these potential impacts in addition to the development that is projected to occur within 1 mile of the interchanges? This is important because it will help to determine whether these should be considered as indirect effects or cumulative effects.

Section 2.5, Page 19: Regarding secondary developments within 1 mile of interchanges: Can you please document the assumptions used to formulate the likelihood of all areas within 1 mile of interchanges being developed? Is it truly reasonable to assume, given population trends, zoning, the rural nature of the Action

Area, etc., that all land within 1 mile of interchanges will be fully developed? In other words, is the "worst-case scenario" as described in the Draft BA reasonably certain to occur? As the indirect effects of secondary development seem to be driving the "likely to adversely affect" determination, we need to ensure that these indirect effects are correctly analyzed.

Section 3.0, Page 20: The Action Area as described in the Draft BA is not consistent with the definition of an action area in the regulations. The action area includes all areas affected directly and indirectly by the proposed action and not merely the immediate area involved in the action (50 CFR 402.02). There can be only one action area for the project. The action area is delineated by mapping all the environmental impacts that will occur as a result of the proposed action and interrelated and interdependent actions. The area that encapsulates the reach of all these environmental impacts is the action area. To determine the action area, all activities that will result in chemical and physical impacts to the environment need to be identified in the project description. Establishing the action area is key to establishing the environmental baseline and effects analysis. Additionally, it would be very helpful if you could provide us with a figure of the action area with the environmental impacts mapped.

Section 3.2., Page 21: "The rayed bean is tolerant of sediment," should be cited, or removed if no citation is available. There is some question as to the accuracy of this statement.

Section 4.1.4., Page 27: Regarding populations of clubshell mussel in West Branch of the Maumee River, this statement should read, "...another extant population was located in the East Fork of the West Branch of the St. Joseph River." There is no known extant population of the clubshell in the Maumee River proper. Furthermore, please define "noodling" and describe how data from this sampling technique is both qualitative and quantitative.

Section 4.1.6., Page 29 and 4.2.6., Page 37: Statement, "Without use of mobile fish hosts, all mussel populations would move downstream and eventually travel into the ocean," should be removed. This is a nonsensical statement; Freshwater mussels have co-evolved with fish hosts, and would not exist in rivers if they had not developed a means of reproduction to suit the habitat. In addition, several fish hosts for clubshell mussel have been identified in laboratory studies: blackside darter, central stoneroller, log perch, and striped shiner (O'Dee and Watters 1999. New or confirmed host identifications for ten freshwater mussels. Pages 261-274 in Proceedings of the First Freshwater Mollusk Conservation Society Symposium, Ohio Biological Survey.) This section should also mention that clubshells tend to bury themselves below the surface in the substrate, which is why they are very susceptible to sedimentation.

Section 4.1.11., Page 33 (and various other locations throughout document): Reference to "native herbaceous and woody plants" used to revegetate disturbed areas outside the roadway clear zone. Could you please provide us with a list of suitable species that will be used?

Section 4.1.12., Page 34: "...excavation of all live unionid mussels and relocation to suitable upstream habitat" should be explained further. How will mussels be safely excavated? Hand excavation, tools, etc.? Please also describe the scenario that would occur should any state or federally listed mussels be excavated.

Section 4.2.3., Page 35: Extant populations of rayed bean in Ohio should be taken from the following document: US Fish and Wildlife Service. 2002. Status Assessment for the Rayed Bean, *Villosa fabalis*, occurring in the Mississippi River and Great Lakes systems (US Fish and Wildlife Service Regions 3, 4, and 5, and Canada) available at: http://www.fws.gov/midwest/Endangered/clams/rayed-bean-sa.pdf . This includes all known locations of the rayed bean and is somewhat different than locations included in Draft BA. In addition, the year of the Parmalee and Bogan reference should be changed to "1998".

Section 4.2.4., Pages 35-36: The information taken from the Indiana Heritage Program is stated twice in this section, in the first and last paragraphs.

Section 4.2.6., Page 37: Other darters in addition to the Tippecanoe darter are thought to be hosts for the rayed bean glochidia (see the Sept. 2002 status assessment for the rayed bean cited above). In addition, the Parmalee and Bogan (1998) reference states that gravid females of the rayed bean have been found from May through October.

Section 4.3.10, Pages 44-45: Please revise this section to state that there **are** known occurrences of the Copperbelly watersnake within the Maumee River watershed (including smaller subwatersheds). This species is found in the upper watershed of the St. Joseph River, which is a major tributary (and therefore subwatershed) of the Maumee River.

Section 4.5.9.1., Page 66: "Immeasurable" is not the standard used for effect determinations under the Endangered Species Act (ESA). We suggest using comparable standards including the terms "cannot be meaningfully measured, detected or evaluated," "insignificant" or "discountable."

Section 4.6.3.1., Page 71: All of Ohio is considered the core summer range for the Indiana bat; There are reproductive records for the Indiana bat in Ohio as well.

Section 4.6.3.1.1., Page 71: Regarding the counties noted for reproductively active female Indiana bats in Ohio: Please add Ashtabula and Ashland Counties, Ohio. The Service does not have sufficient data to support the claim of records for reproductively active female Indiana bats in Champaign, Darke, or Montgomery Counties, Ohio. Based on previous correspondence between the Service and Indiana bat researchers, these records are not supported by specific data, and should be removed. Figure 9 should be updated to reflect any changes.

Section 4.6.3.2.1., Page 76: Should read, "Indiana bats have been found hibernating in caves **and** mines in Ohio..." In addition, in 2003 Indiana bats were captured in/near Mohican State Forest, near the Ashland/Richland County line swarming near caves in the fall. Updated population estimates are available for hibernating Indiana bats at the Preble County limestone mine (9,436 Indiana bats, 2004 census), and the Ironton Ranger District of Wayne National Forest (208 Indiana bats).

Section 4.6.4. and 4.6.5. and 4.6.8.2. and 4.6.10.2.1., various pages: Summer records for the Indiana bat do not include Defiance County, Ohio or Allen County, Indiana, because there have not been surveys in either of these counties to document presence or likely absence of bats. In the absence of survey data, the Service is mandated to err on the side of the species and assume that the bat is present. We recommend that the Draft BA state that they are "currently unknown" or "unconfirmed" within the Action Area.

Section 4.6.5., Page 78-79: The Draft BA states, "There is no way of knowing if bats are present, or the number (if indeed any are present)." This is not correct. Mist net surveys could be done to document the presence or likely absence of the bat within the action area. If Indiana bats were documented within the action area, further studies (such as radio-tracking, emergence surveys, etc.) could be done to provide estimates of the population size. The population estimate provided in Section 4.6.5 and beyond is based on various assumptions about the suitability of wooded habitat and their use by Indiana bats that cannot be substantiated. These assumptions include, 1) all forested habitat is equally suitable/available to the bat, and 2) bats are distributed evenly on the landscape. Indiana bat survey data does not support these assumptions, therefore it should not be assumed that all woodlots within the Action Area or region provide suitable summer roosting habitat for the bat. Furthermore, data does not support the assumption that

Indiana bat populations are distributed evenly throughout the landscape, as is indicated by negative survey results in areas that provide high quality habitat (e.g. Deep River floodplain forest in Lake Co., Indiana), and positive survey results in areas that humans would think are not high quality (e.g. around the Indianapolis International Airport).

Section 4.6.5.1.2., Page 79: Please provide clarification on the distribution of woodlots within the Action Area. In this section the authors are assuming that woodlots in the Action Area are equally distributed, while Table 4 (pg. 24) clearly shows that they are not. This is important to resolve in order to effectively evaluate the potential for adverse impacts on the Indiana bat.

Section 4.6.5.3., Page 80: Please provide information on how it was determined that no suitable cave/mine hibernacula exist within the Action Area. Are there any karst regions in this area that could support suitable hibernation habitat?

Section 4.6.7., Page 85: This section cites severe summer storms as a threat to winter habitat. Could you please explain this further or include it in the section that discusses threats to summer habitat?

Section 4.6.8.2.1. and 4.6.8.2.2. and 4.6.10.2.2.1., Pages 86, 94: Since the estimate of 0.73 Indiana bats per acre of habitat is based on questionable assumptions and interpolations (as described in comments on Section 4.6.5. above), this estimate should not be used. Please see additional comments on "Assessment of Indiana Bat Habitat" below for our recommendations on how to better evaluate the impact of habitat loss on the Indiana bat.

Section 4.6.8.3., Page 91: During the migration periods Indiana bats continue to roost in trees, therefore if Indiana bats were roosting in trees within the Action Area during the migration season (after September 15 and before April 15), and the standard tree cutting timeframe was followed, direct mortality could occur.

Section 4.6.12., Page 99: In the last point concerning mitigation ratios, the first "Category" should read, "Category 1." If any of the required wetland mitigation is within the State of Indiana, the Categories and mitigation ratios would not apply as they have been developed by the Ohio Environmental Protection Agency.

General comments on the document as a whole:

-We would find it helpful if you could provide us with only one effect determination for each species. Perhaps this determination for each species could be included in a cover letter to the Service, or in a summary section of the BA.

-The difference between the indirect effects and the cumulative effects are not clear to us. It is our belief that secondary development within 1 mile of interchanges would be an indirect effect of the proposed action, because this development would not occur but for the creation of the new US 24. As presented in the Draft BA, it is our understanding that development within the 13 previously identified "future economic development" areas would qualify as cumulative effects because they are non-federal and would occur regardless of the project. Other cumulative effects could include residential development, private forestry, etc. Often the local planning commissions can be contacted for information on proposed developments that are reasonably certain to occur.

Regarding the assessment of Indiana bat habitat:

-In the current Draft BA, the assumption that all forested areas to be impacted are suitable habitat for the Indiana bat is being made. The Service believes it would be more accurate to take into account the actual suitability of the habitat for the bat. For example, if there was an assessment of habitat quality within the Action Area and portions of the area of impact were determined to not provide suitable habitat, this has the potential to significantly change the effects determination. Can ODOT provide site specific information on woodlots that will be impacted? Specific information should include: number/extent of suitable maternity roost trees, density of understory; extent of canopy cover; proximity to water sources; presence of suitable travel corridors; and connectivity to other forested sites. To further narrow the extent of information gathering, such habitat analyses could be limited to those sections of the Action Area with the most forest impacts (e.g. Segments 2, 14, 15, and 16, and those areas where indirect effects to forested areas are greater than a few acres).

-The Service believes it would be much easier to assess the population status of the Indiana bat within the Action Area and the effects of the project on the Indiana bat if surveys were done to document the presence or likely absence of the bat. Such surveys could be limited to those areas with the highest quality/quantity Indiana bat habitat. Without surveys we are required to err on the side of the species and assume that they are present in the Action Area. This results in lower threshold for a "likely to adversely affect" determination.

Typographical errors:

Page 64: "transit" to "transient"
Pages 18 and 67: "contaminates" to "contaminants"
Page 87: "radio-tract" to "radio-tracked"
Page 91: "well-suite" to "well-suited"

This technical assistance letter is submitted in accordance with provisions 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 is 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 Megan Seymour at extension 16 in this office.

Sincerely,

Mary Knapp

Mary Knapp, Ph.D.
Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH
Elizabeth McCloskey, US Fish and Wildlife Service, Northern Indiana Sub-office, P.O. Box 2616, Chesterton, IN, 46304

APPENDIX D: FARMLANDS

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 2, 2000	Farmland Conversion Impact Rating Form 1 of 2
Name of Project US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Allen County, Indiana	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes [X] No [ ] (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated —	Average Farm Size 168
Major Crop(s) CORN	Farmable Land in Government Jurisdiction Acres: 319,480 % 74	Amount of Farmland As Defined in FPPA Acres: 309,800 % 72
Name of Land Evaluation System Used FPPA	Name of Local Site Assessment System Allen County, Indiana	Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Alternatives ABCD	Alternatives EFGH	Alternatives IJKLMNOP	Alternatives QRSTUVWX
A. Total Acres To Be Converted Directly	564	555	522	506
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres in Site	564	555	522	506
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	563	554	521	505
B. Total Acres Statewide and Local Important Farmland	—	—	—	—
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	.182	.179	.168	.163
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	65	65	66	65
PART V *(To be completed by NRCS) Land Evaluation Criterion* ***Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)***	77	77	76	78

PART VI *(To be completed by Federal Agency)* **Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)**	Maximum Points				
1. Area in Nonurban Use	15	12	14	12	12
2. Perimeter in Nonurban Use	10	9	10	9	10
3. Percent of Site Being Farmed	20	20	20	20	20
4. Protection Provided by State and Local Government	20	18	18	18	18
5. Distance from Urban Built-up area	NA	NA	NA	NA	NA
6. Distance to Urban Support Services	NA	NA	NA	NA	NA
7. Size of Present Farm Unit Compared to Average	10	10	10	10	10
8. Creation of Non-Farmable Farmland	25	0	0	0	0
9. Availability of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	18	18	18	18
11. Effects of Conversion on Farm Support Services	25	0	0	0	0
12. Compatibility with Existing Agricultural Use	10	9	9	9	9
TOTAL SITE ASSESSMENT POINTS	160	101	104	101	102
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (from Part V above)	100	77	77	76	78
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	101	104	101	102
TOTAL POINTS *(Total of above 2 lines)*	260	178	181	177	180

Site Selected: Alternative D-1	Date of Selection: February, 2002	3. Was A Local Site Assessment Used? Yes [ ] No [X]

Reason For Selection:

See Attachment 1.

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 2, 2000	Farmland Conversion Impact Rating Form ?
Name of Project US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Allen County, Indiana	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated —	Average Farm Size 168
Major Crop(s) CORN	Farmable Land in Government Jurisdiction Acres: 319,480 % 74	Amount of Farmland As Defined in FPPA Acres: 309,800 % 72
Name of Land Evaluation System Used FPPA	Name of Local Site Assessment System Allen County, Indiana	Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Alternatives Y	Alternatives Z	Alternatives	Alternatives
A. Total Acres To Be Converted Directly	476	476		
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0		
C. Total Acres In Site	476	476		
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	423	423		
B. Total Acres Statewide and Local Important Farmland	—	—		
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	.153	.153		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	65	65		
PART V *(To be completed by NRCS) Land Evaluation Criterion* *Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	78	78		

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)	Maximum Points				
1. Area in Nonurban Use	15	12	11		
2. Perimeter in Nonurban Use	10	8	8		
3. Percent of Site Being Farmed	20	5	10		
4. Protection Provided by State and Local Government	20	15	15		
5. Distance from Urban Built-up area	NA	NA	NA		
6. Distance to Urban Support Services	NA	NA	NA		
7. Size of Present Farm Unit Compared to Average	10	10	10		
8. Creation of Non-Farmable Farmland	25	0	0		
9. Availability of Farm Support Services	5	5	5		
10. On-Farm Investments	20	18	18		
11. Effects of Conversion on Farm Support Services	25	0	0		
12. Compatibility with Existing Agricultural Use	10	9	9		
TOTAL SITE ASSESSMENT POINTS	160	82	86		
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (from Part V above)	100	78	78		
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	82	86		
TOTAL POINTS *(Total of above 2 lines)*	260	160	164		

Site Selected: Alternative D-1	Date of Selection: February, 2002	3. Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

See Attachment 1

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 16, 2000	Farmland Conversion Impact Rating Form 1 of 4
Name of Project: PID No. 18904 PAU/DEF-24-0.00/0.00 US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Paulding and Defiance counties, Ohio	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS 8/18/2000	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated 0	Average Farm Size 284 Ac.
Major Crop(s) Soybeans, Corn, Wheat, Hay	Farmable Land in Government Jurisdiction Acres: 432,000 % 82%	Amount of Farmland As Defined in FPPA Acres: 346,098 % 65%
Name of Land Evaluation System Used Soil Productivity Index	Name of Local Site Assessment System Paulding + Defiance, OH	Date Land Evaluation Returned by NRCS 5/01/2001

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Alternatives A, E	Alternatives B, F	Alternatives C, G	Alternatives D, H
A. Total Acres To Be Converted Directly	1126	1106	1133	1107
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres in Site	1126	1106	1133	1107
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	338	332	334	332
B. Total Acres Statewide and Local Important Farmland	-0-	-0-	-0-	-0-
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	1%	1%	1%	1%
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	59%	59%	59%	59%
PART V *(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	75	75	75	75
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)	Maximum Points			
1. Area in Nonurban Use	15	11	13	13	13
2. Perimeter in Nonurban Use	10	8	8	9	8
3. Percent of Site Being Farmed	20	19	18	19	18
4. Protection Provided by State and Local Government	20	15	15	15	15
5. Distance from Urban Built-up area	NA	NA	NA	NA	NA
6. Distance to Urban Support Services	NA	NA	NA	NA	NA
7. Size of Present Farm Unit Compared to Average	10	10	10	10	10
8. Creation of Non-Farmable Farmland	25	0	0	0	0
9. Availability of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	13	14	13	13
11. Effects of Conversion on Farm Support Services	25	0	0	0	0
12. Compatibility with Existing Agricultural Use	10	9	9	9	9
TOTAL SITE ASSESSMENT POINTS	160	90	92	93	91
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (from Part V above)	100	75	75	75	75
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	90	92	93	91
TOTAL POINTS *(Total of above 2 lines)*	260	165	164	168	166

Site Selected:	Date of Selection:	3. Was A Local Site Assessment Used?
Alternative D-1	February, 2002	Yes ☐ No ☒

Reason For Selection:

See Attachment #1.

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART 1 *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 16, 2000	Farmland Conversion Impact Rating Form 2 of 4
Name of Project: PID No. 18904 PAU/DEF-24-0.00/0.00 US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Paulding and Defiance counties, Ohio	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS 8/18/2000	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated -0-	Average Farm Size 284 Ac.
Major Crop(s) Soybeans, Corn, Wheat, Hay	Farmable Land in Government Jurisdiction Acres: 432,000 % 82%	Amount of Farmland As Defined in FPPA Acres: 346,098 % 65%
Name of Land Evaluation System Used Soil Productivity Index	Name of Local Site Assessment System Paulding + Defiance, OH	Date Land Evaluation Returned by NRCS 5/01/2001

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Alternatives I, Q	Alternatives J, R	Alternatives K, S	Alternatives L, T
A. Total Acres To Be Converted Directly	1177	1157	1184	1158
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres in Site	1177	1157	1184	1158
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	365	359	361	321
B. Total Acres Statewide and Local Important Farmland	-0-	-0-	-0-	-0-
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	1%	1%	1%	1%
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	57	56	56	54
PART V *(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	80	80	80	80

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area in Nonurban Use	15	12	11	12	12
2. Perimeter in Nonurban Use	10	7	6	7	7
3. Percent of Site Being Farmed	20	17	15	17	16
4. Protection Provided by State and Local Government	20	15	15	15	15
5. Distance from Urban Built-up area	NA	NA	NA	NA	NA
6. Distance to Urban Support Services	NA	NA	NA	NA	NA
7. Size of Present Farm Unit Compared to Average	10	10	10	10	10
8. Creation of Non-Farmable Farmland	25	0	0	0	0
9. Availability of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	14	14	14	14
11. Effects of Conversion on Farm Support Services	25	0	0	0	0
12. Compatibility with Existing Agricultural Use	10	9	9	9	9
TOTAL SITE ASSESSMENT POINTS	160	89	85	89	88
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (from Part V above)	100	80	80	80	80
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	89	85	89	88
TOTAL POINTS *(Total of above 2 lines)*	260	169	165	169	168

Site Selected:	Date of Selection:	3. Was A Local Site Assessment Used?
Alternative D-1	February, 2002	Yes ☐ No ☒

Reason For Selection:

See Attachment #1.

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 16, 2000	Farmland Conversion Impact Rating Form 3 of 4
Name of Project: PID No. 18904 PAU/DEF-24-0.00/0.00 US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Paulding and Defiance counties, Ohio	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS 8/18/2000	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated -0-	Average Farm Size 284 Ac.
Major Crop(s) Soybeans, Wheat, Corn, Hay	Farmable Land in Government Jurisdiction Acres: 432,000 % 82%	Amount of Farmland As Defined in FPPA Acres: 346,098 % 65%
Name of Land Evaluation System Used Soil Productivity Index	Name of Local Site Assessment System Paulding + Defiance, OH	Date Land Evaluation Returned by NRCS 5/01/2001

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Alternatives M, U	Alternatives N, V	Alternatives O, W	Alternatives P, X
A. Total Acres To Be Converted Directly	1169	1149	1176	1150
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres in Site	1169	1149	1176	1150
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	386	379	376	391
B. Total Acres Statewide and Local Important Farmland	-0-	-0-	-0-	-0-
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	1%	1%	1%	1%
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	52	53	53	52
PART V *(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	83	83	83	83

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area in Nonurban Use	15	12	12	13	12
2. Perimeter in Nonurban Use	10	7	7	8	7
3. Percent of Site Being Farmed	20	17	16	18	16
4. Protection Provided by State and Local Government	20	15	15	15	15
5. Distance from Urban Built-up area	NA	NA	NA	NA	NA
6. Distance to Urban Support Services	NA	NA	NA	NA	NA
7. Size of Present Farm Unit Compared to Average	10	10	10	10	10
8. Creation of Non-Farmable Farmland	25	0	0	0	0
9. Availability of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	14	14	15	15
11. Effects of Conversion on Farm Support Services	25	0	0	0	0
12. Compatibility with Existing Agricultural Use	10	9	9	9	9
TOTAL SITE ASSESSMENT POINTS	160	89	88	93	89
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (from Part V above)	100	83	83	83	83
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	89	88	93	89
TOTAL POINTS *(Total of above 2 lines)*	260	172	171	176	172

Site Selected: Alternative D-1	Date of Selection: February 2002	3. Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

See Attachment #1.

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request August 16, 2000	Farmland Conversion Impact Rating Form 4 of 4
Name of Project: PID No. 18904 PAU/DEF-24-0.00/0.00 US 24 New Haven to Defiance Preliminary Project Development	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 roadway alignment	County and State Paulding and Defiance counties, Ohio	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS 8/18/2000	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated 0	Average Farm Size 284 Ac.
Major Crop(s) Soybeans, Corn, Wheat, Hay	Farmable Land in Government Jurisdiction Acres: 432,000 % 82%	Amount of Farmland As Defined in FPPA Acres: 346,098 % 65%
Name of Land Evaluation System Used Soil Productivity Index	Name of Local Site Assessment System Paulding & Defiance, OH	Date Land Evaluation Returned by NRCS 5/01/2001

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Alternatives Y	Alternatives Z	Alternatives	Alternatives
A. Total Acres To Be Converted Directly	1062	1062		
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0		
C. Total Acres in Site	1062	1062		
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	70	176		
B. Total Acres Statewide and Local Important Farmland	-0-	-0-		
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	1/2 %	1/2 %		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	79	73		
PART V *(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	85	85		
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)	**Maximum Points**			
1. Area in Nonurban Use	15	9	9	
2. Perimeter in Nonurban Use	10	9	9	
3. Percent of Site Being Farmed	20	5	10	
4. Protection Provided by State and Local Government	20	13	13	
5. Distance from Urban Built-up area	NA	NA	NA	
6. Distance to Urban Support Services	NA	NA	NA	
7. Size of Present Farm Unit Compared to Average	10	10	10	
8. Creation of Non-Farmable Farmland	25	0	0	
9. Availability of Farm Support Services	5	5	5	
10. On-Farm Investments	20	15	15	
11. Effects of Conversion on Farm Support Services	25	0	0	
12. Compatibility with Existing Agricultural Use	10	9	9	
TOTAL SITE ASSESSMENT POINTS	160	75	80	
PART VII *(To be completed by Federal Agency)*				
Relative Value of Farmland (from Part V above)	100	85	85	
Total Corridor or Site Assessment (From Part VI above or a local site assessment)	160	75	80	
TOTAL POINTS *(Total of above 2 lines)*	260	160	165	

Site Selected: Alternative D-1	Date of Selection: February, 2002	3. Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

See attachment 1

Attachment 1

The 26 potential alternatives developed for the project were analyzed in a three-step screening process. First, the alternatives were analyzed to determine if they met the established purpose and need of the project. In the second step of analysis, the potential environmental impacts were assessed for each alternative. This analysis focused on environmental resources unique to the study area and also those that require state and federal permits, if affected. The environmental resources determined to be differentiating factors in the Step II analysis were farmlands, woodlots, category 3 forested wetlands, and streams. In addition, residential and commercial displacements were identified as a differentiating factor in the Step II analysis. No priority or rankings were assigned to the five factors. They were considered to be of equal value in the analysis. Alternatives with low impacts to the five factors were retained for further consideration. The third step of analysis involved a more detailed examination of the environmental impacts and the consideration of other information such as public and agency comments and costs. In this step, qualitative factors of the impacted resources were considered in the selection of the Preferred Alternative. Through this three-step analysis, Alternative C was identified as the Preferred Alternative.

The selection of the Preferred Alternative was the focus of public meetings held on May 1, 2, and 3, 2001. Citizens and local officials in the Defiance area requested that Alternative D be reconsidered as the Preferred Alternative. Alternative D follows the same route as Alternative C from the intersection with I-469 in Indiana to Defiance County, Ohio. In Defiance County, Alternative C follows segments 14 and 19, while Alternative D follows segments 15 and 18. Agency input was also considered in the selection of the Preferred Alternative. The Ohio Department of Transportation met with representatives from US Environmental Protection Agency, Ohio Environmental Protection Agency, and Federal Highway Administration on March 8, 2001 to discuss the PDEIS and recommendations for the Preferred Alternative. The USEPA discussed their comments on the PDEIS, which were focused only on wetland impacts. OEPA expressed concern about impacts to category three wetlands and streams. In general, the agencies indicated a preference for those alternatives that minimize impacts to wetlands, streams, farmlands, wildlife habitat, woodlands, and the Maumee River. Several agencies recommended Alternative C as the Preferred Alternative for US 24 because it would result in the least impact to category III forested wetlands.

As a result of public and agency input, Alternatives C and D were retained for further study. Detailed environmental studies (i.e. archaeology surveys, wetlands delineations, and threatened and endangered species surveys) conducted on Alternatives C and D. Additional design development was completed with the intention of minimizing impacts on wetlands, particularly the category 3 forested wetlands located in segment 18. This resulted in the development of a 27th alternative – Alternative D-1. Further coordination with the USACE and the OEPA regarding wetland impacts and potential mitigation for the new minimization alignment resulted in Alternative D-1 being selected as the Preferred Alternative for the project in February 2002.

The footprint modifications that resulted in the creation of Alternative D-1 do not change the farmland impact rating calculated for Alternative D. The alignments for Alternatives D and D-1 are identical except for between just west of Krouse Road and just south of SR 424 in Defiance County, Ohio. In this area, the alignment shift in Alternative D-1 is less than approximately 106.7 m (350 feet) from the Alternative D alignment, and occurs in the same soil-mapping units.

Alternative D-1 meets the purpose and need of the project, follows existing transportation corridors, where possible, and minimizes environmental impacts.

U.S. DEPARTMENT OF AGRICULTURE

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date of Land Evaluation Request July 7, 2004	Farmland Conversion Impact Rating Form 1 of 1
Name of Project US 24 New Haven to Defiance US 24 and I-469 Interchange Modifications	Federal Agency Involved Federal Highway Administration	
Proposed Land Use US 24 and I-469 Interchange	County and State Allen County, Indiana	
PART II *(To be completed by NRCS)*	Date Request Received by NRCS 7-13-04	

Does the site or corridor contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply - Do not complete additional parts of this form)	Acres Irrigated	Average Farm Size 168 Ac
Major Crop(s) Corn	Farmable Land in Government Jurisdiction Acres: 419,151 % 99	Amount of Farmland As Defined in FPPA Acres: 396,265 % 94
Name of Land Evaluation System Used LESA	Name of Local Site Assessment System Allen County, Indiana	Date Land Evaluation Returned by NRCS 7-23-04

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Interchange Modification	Alternatives	Alternatives	Alternatives
A. Total Acres To Be Converted Directly	44.2	-	-	-
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	-	-	-
C. Total Acres in Site	130.8	-	-	-
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	39.1			
B. Total Acres Statewide and Local Important Farmland	0			
C. Percentage of Farmland in County or Local Govt. Unit to be Converted	0.011			
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	3			
PART V *(To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland to be Serviced or Converted (Scale of 0 - 100 Points)*	88			
PART VI *(To be completed by Federal Agency)* Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)) — Maximum Points				
1. Area in Nonurban Use — 15	13			
2. Perimeter in Nonurban Use — 10	9			
3. Percent of Site Being Farmed — 20	20			
4. Protection Provided by State and Local Government — 20	18			
5. Distance from Urban Built-up area — NA	NA			
6. Distance to Urban Support Services — NA	NA			
7. Size of Present Farm Unit Compared to Average — 10	5			
8. Creation of Non-Farmable Farmland — 25	0			
9. Availability of Farm Support Services — 5	5			
10. On-Farm Investments — 20	20			
11. Effects of Conversion on Farm Support Services — 25	0			
12. Compatibility with Existing Agricultural Use — 10	9			
TOTAL SITE ASSESSMENT POINTS — 160	99			
PART VII *(To be completed by Federal Agency)*				
Relative Value of Farmland (from Part V above) — 100	88			
Total Corridor or Site Assessment (From Part VI above or a local site assessment) — 160	99			
TOTAL POINTS *(Total of above 2 lines)* — 260	187			

Site Selected: Preferred Alternative for the I-469/US24 Interchange

Date of Selection: Nov. 2003

3. Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:
See Attachment #1 and Figure #1

Attachment 1

The Indiana Department of Transportation (INDOT) and the Ohio Department of Transportation (ODOT) have undertaken a study of possible improvements to United States Route 24 (US 24) in northeast Indiana and northwest Ohio. In 2001, a preferred highway alternative was selected for the US 24 New Haven to Defiance project (PAU/DEF-24-0.00/0.00). Prior to the selection of the preferred alternative, coordination with your office and completion of AD-1006 forms were completed in August of 2000.

Since that time, however, the preferred alternative was modified with several design revisions to minimize impacts on environmental resources. In October 2002, INDOT indicated its intention to construct US 24 as a four-lane divided freeway with full access control between Interstate 469 (I-469) and the Indiana/Ohio state line. Access to the new facility will be provided by interchanges at Ryan/Bruick Road, Webster Road, and SR 101. To accommodate this freeway design, INDOT completed additional analyses in order to improve the existing US 24/I-469 interchange near New Haven, Indiana. Several alternative interchange configurations were evaluated during the analysis. The area around the interchange is primarily agricultural, although nearly 90 acres consist of the existing interchange and associated right-of-way. The immediate vicinity of the interchange has some residential development abutting the southeast and northwest quadrants. The northwest quadrant on the edge of the study area also contains a manufacturing site and a privately owned golf course. The Maumee River is located along the northern edge of both the northwest and northeast quadrants.

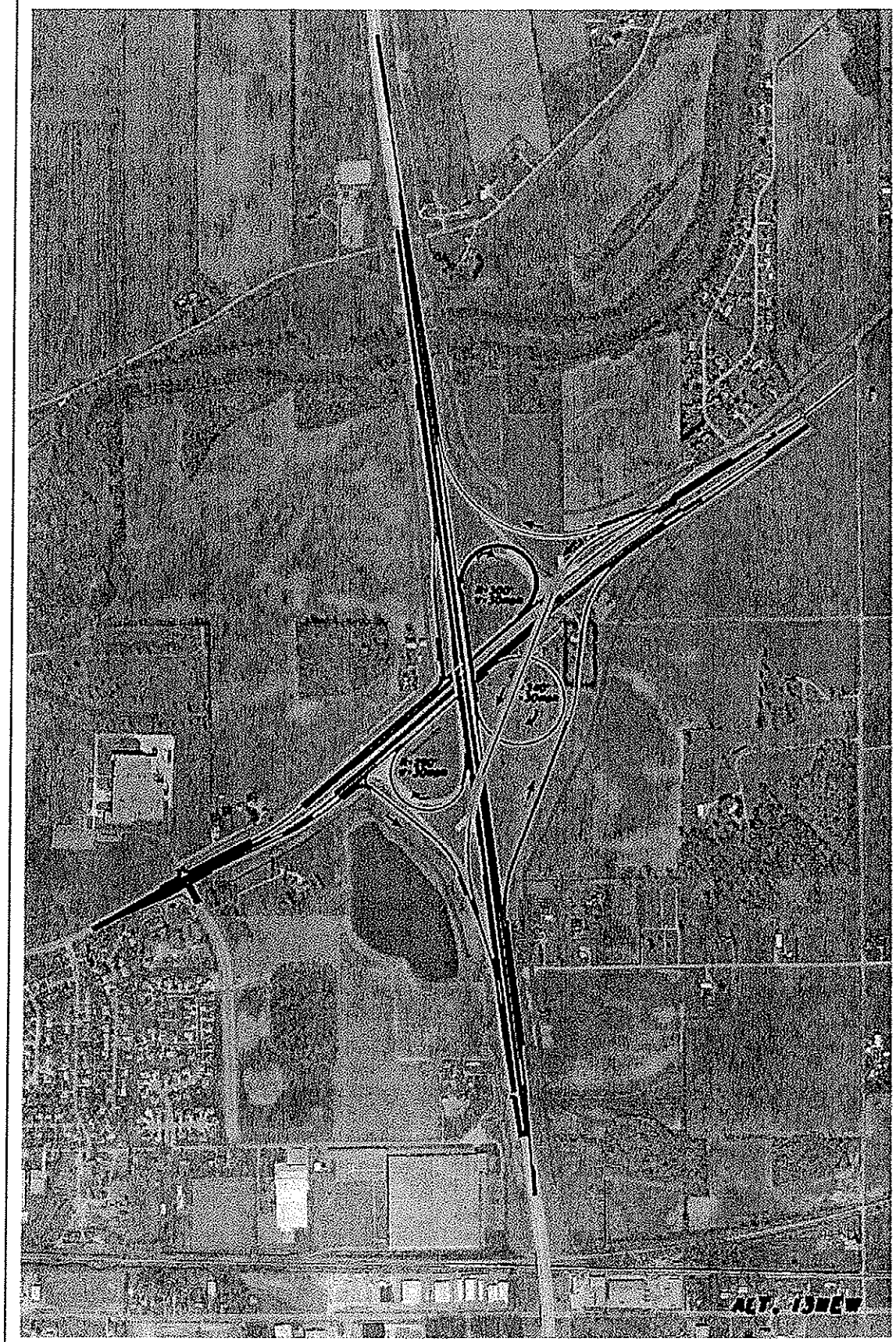
Two studies, *I-469 and US 24 Interchange Conceptual Alternatives Summary* and *I-469 and US 24 Interchange Feasible Alternatives Analysis* were completed in 2003. The Conceptual Alternatives Summary presented 19 alternatives for the interchange. The Feasible Alternatives Analysis detailed 3 alternatives – 12, 13, and 14. From the three, a hybrid of alternatives 13 and14 was chosen as the preferred alternative.

As described in the report, Alternative 13 Modified is a blend of Alternatives 13 and 14, essentially using alternative 13 as the base with the addition of a southbound "tight" diagonal off-ramp in the northwest quadrant. Southbound vehicles on I-469 would exit I-469 north of US 24 on the new "tight" diagonal ramp that would intersect US 24 on the north side at what is anticipated to be an unsignalized intersection. The intersection of US 24 and the southbound ramps would be eliminated, as southbound vehicles from I-469 would no longer turn across US 24 to reach westbound US 24.

Under Alternative 13 Modified, the existing ramp to southbound I-469 would be modified to eliminate the westbound left turn onto the ramps. Westbound vehicles would exit US 24 on the right side east of I-469 and travel along a directional fly-over ramp over I-469. The fly-over would merge with the southbound I-469 diagonal ramp from eastbound US 24, and then merge onto the southbound I-469 mainline.

The proposed design for the interchange is depicted on Figure 1. This interchange configuration requires a total of 130.8 acres, including 88.6 acres of existing right-of-way. An additional 44.2 acres of right-of-way is required. The 44.2 acres includes 37.4 acres of agricultural land and 6.8 acres of residential area.

Figure 1. Preferred Interchange design



NRCS

Natural Resources Conservation Service
260 Dooley Drive, Suite B
Paulding, Ohio 45879

May 26, 2005

Jennifer Graf
Parson, Bricherhoff
312 Elm Street
Cincinnati, Ohio 45202

Dear Jennifer:

The NRCS has reviewed supplimental information submitted to our office in November 2004 for the US 24 Project. This agency has determined that no further action is required for the US 24 Project.

Sincerely,

Denise Lange
NRCS

/sb

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer

APPENDIX E: LIST OF TECHNICAL REPORTS

INDEX OF TECHNICAL REPORTS

- *US 24 New Haven to Defiance Environmental Inventory*, June 1999. This report documents the preliminary investigations and agency coordination conducted to identify sensitive resources and concerns related to the development of alternatives within a 1282.05 square kilometer (500 square mile) study area. Discussions focused on known (previously reported) cultural resources, known ecologically sensitive areas and reported occurrences of rare, threatened and endangered species, geologically sensitive areas, and hazardous materials screening assessments.

- *US 24 New Haven to Defiance Modal Analysis,* June 1999. The report documents the analysis of six modal alternatives evaluated for the US 24 project: No Build, Transportation System Management (TSM), Transportation Demand Management (TDM), Transit, Rail Freight, and Highway. The modal alternatives were evaluated on their ability to address the current and future transportation needs and problems identified in the US 24 New Haven to Defiance study area.

- *US 24 New Haven to Defiance Purpose and Need Statement*, June 1999. The purpose and need statement identifies and describes transportation and socioeconomic needs to be addressed by the proposed project. Transportation and socioeconomic factors addressed include safety, inconsistencies in existing roadway design as compared to currently acceptable design criteria, system linkage, travel demand, demographics, and regional economics. This information has been used to determine which components or operational characteristics of the existing transportation system require improvement in order to satisfy these needs and alleviate deficiencies. The purpose and need statement documents the problems anticipated without the proposed project. It also defines the study area and identifies logical termini. Setting the basis for project goals and objectives, the purpose and need statement provides a set of measures by which the alternatives are evaluated.

- *US 24 New Haven to Defiance Preliminary Alternatives Summary,* July 1999. This report documents the Purpose and Need Statement and the Modal Analysis, the development of preliminary corridors for highway alternatives, and the analysis of the Feasible Corridors for further consideration.

- *US 24 New Haven to Defiance Public Involvement Plan,* July 1999. The public involvement plan identifies goals and objectives of the public involvement program; planned activities for public and agency involvement; locations for public involvement activities; communication tools to be used; and an anticipated schedule of events. The plan identifies appropriate methods and activities for dissemination of project information and public input.

- *US 24 New Haven to Defiance Environmental Site Assessment Preliminary Project Screening*, September 1999. This report documents additional evaluation of potential hazardous materials concerns for sites located within or adjacent to existing US 24 corridor and the 609.8-meter (2,000-foot) Feasible Corridors investigated for new highway alternatives.

- *US 24 New Haven to Defiance Phase I Environmental Site Assessment Survey* (3 Volumes), December 1999. This report documents the Phase I Site Investigations conducted on 30 sites with potential environmental concerns (hazardous materials) located within or immediately adjacent to the 609.8-meter (2,000-foot) Feasible Corridors investigated for new highway alternatives.

- *Phase I History/Architecture Report of the US 24 Improvements in Jefferson, Maumee, and Milan Townships, Allen County, Indiana,* March 2000. This report documents the Phase I History/Architecture survey of potential historic resources located within or immediately adjacent to the 609.8-meter (2,000-foot) Feasible Corridors investigated for new highway alternatives in Allen County, Indiana.

- *US 24 New Haven to Defiance Phase I Environmental Site Assessment Survey Addendum,* March 2000. This report documents the Phase I Site Investigations conducted on 5 sites with potential environmental concerns (hazardous materials) located within or immediately adjacent to the existing US 24 Corridor.

- *Phase I History/Architecture Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements in Noble, Delaware and Defiance Townships, Defiance County and Emerald, Crane, Carryall and Harrison Townships, Paulding County, Ohio,* April 2000. This report documents the Phase I History/Architecture survey of potential historic resources located within or immediately adjacent to the 609.8-meter (2,000-foot) Feasible Corridors investigated for new highway alternatives in Paulding and Defiance counties, Ohio.

- *Addendum to the Phase I History/Architecture Report of the US 24 Improvements in Maumee, Milan and Jefferson Townships, Allen County, Indiana,* August 2000. This report documents the Phase I History/Architecture survey of potential historic resources located within or immediately adjacent to the existing US 24 Corridor in Allen County, Indiana.

- *US 24 New Haven to Defiance Noise Analysis Report,* August 2000. This report documents the existing and future noise levels for sensitive receptors located within or adjacent to the 609.8-meter (2,000-foot) Feasible Corridors investigated for highway development. It also identifies potential noise impacts associated with the proposed Feasible Alternatives and describes potential noise abatement measures.

- *US 24 New Haven to Defiance Relocation Assistance Program Survey,* August 2000. This report documents the number of potential residential and business displacements associated with the 26 Feasible Alternatives, provides cost estimates for the required relocations, and evaluates the availability of "Decent, Safe, and Sanitary" replacement housing for residential displacements.

- *US 24 Traffic Impact Analysis,* August 2000. This report documents the traffic analysis conducted on the 26 Feasible Alternatives under consideration. It presents an overview of the existing traffic conditions; the methodologies used for development of the travel demand forecasts; the analyses used for the evaluation of alternatives; the results of the analyses of future conditions; and a comparison of the analyses results for the Feasible Alternatives.

- *Addendum to the Phase I History/Architecture Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements in Noble, Delaware and Defiance Townships, Defiance County and Emerald, Crane, Carryall and Harrison Townships, Paulding County, Ohio,* September 2000. This report documents the Phase I History/Architecture survey of potential historic resources located within or immediately adjacent to the existing US 24 Corridor in Paulding and Defiance counties, Ohio.

- *US 24 New Haven to Defiance Phase I Environmental Site Assessment Addendum 2,* October 2000. This report documents the Phase I Site Investigation conducted on one additional property located within the existing US 24 Corridor.

- *US 24 Ecological Survey for Allen County, Indiana,* December 2000. The purpose of this ecological survey is to identify all ecological resources within the Feasible Corridors and describe the impacts to these resources associated with each of the 26 Feasible Alternatives. This report also provides a summary of the background ecological resource data collected for the proposed relocation and/or widening of US 24.

- *US 24 Ecological Survey for Defiance and Paulding Counties, Ohio* (3 Volumes), December 2000. The purpose of this ecological survey is to identify all ecological resources within the Feasible Corridors and describe the impacts to these resources associated with each of the 26 Feasible Alternatives. This report also provides a summary of the background ecological resource data collected for the proposed relocation and/or widening of US 24.

- *Phase II History/Architecture Report of the US 24 Improvements in Maumee, Milan and Jefferson Townships, Allen County, Indiana,* January 2001. This report documents the additional history/architectural surveys of potential historic resources located within or immediately adjacent to the 26 Feasible Alternatives investigated for new highway alternatives in Allen County, Indiana. The purpose of the Phase II investigation is to determine if properties are eligible for inclusion in the National Register of Historic Places.

- *US 24 Interstate 469 in New Haven, Indiana to Ohio Route 15 in Defiance, Ohio Preliminary Draft Environmental Impact Statement,* January 2001. This report documents the Purpose and Need for improvements to US 24, the development of 26 Feasible Alternatives for the project, and the potential environmental impacts associated with the Feasible Alternatives. The report was circulated to federal and state resource agencies for review and comment and input into the selection of the Preferred Alternative. In addition, the results of the environmental impact studies and design development as detailed in the report, were presented to the general public for review and comment and input into the selection of the Preferred Alternative. The report is intended to comply with the requirements of the National Environmental Policy Act in accordance with current policies and procedures of the Ohio Department of Transportation.

- *Phase II History/Architecture Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements in Noble, Delaware and Defiance Townships, Defiance County and Emerald, Crane, Carryall and Harrison Townships, Paulding County, Ohio,* March 2001. This report documents the additional history/architecture surveys of potential historic resources located within or immediately adjacent to the 26 Feasible Alternatives investigated for new highway alternatives in Paulding and Defiance counties, Ohio. The purpose of the Phase II investigation is to determine if properties are eligible for inclusion in the National Register of Historic Places.

- *US 24 Common Themes Identification: Cultural Resources in Ohio,* April 2001. The purpose of this report is to review all historic properties over 50 years of age evaluated for the three US 24 planning sections (New Haven, Indiana to Defiance, Ohio; Defiance, Ohio to Napoleon, Ohio; and Napoleon, Ohio to Toledo, Ohio). The historic properties were grouped into historic and thematic categories for identification of common themes and subthemes. Common themes identified include military, early settlements, agriculture, industry, transportation, and recreation.

- *US 24 Fort to Port Project, New Haven, Indiana to Toledo, Ohio - Tribal Coordination and Consultation,* April 2001. This purpose of this report is to summarize information on the three planning studies being conducted for the US 24 Corridor between New Haven, Indiana and Toledo, Ohio for distribution to Native American Tribal Governments with interests and concerns in the study area.

- *US 24 Vehicle License Plate Survey*, August 2001. This report documents the methodology and results of a license plate survey conducted for the US 24 Corridor between Fort Wayne, Indiana and Toledo, Ohio. The purpose of the survey is to define the trip-making characteristics (local versus regional travel) of automobiles and trucks traveling US 24.

- *Documentation for No Adverse Effect on Historic Properties Within the Area of Potential Effects of the US 24 Preferred Alternative in Allen County, Indiana,* November 2001. The Preferred Alternative has the potential to impact three rural historic properties in Indiana. This report documents the application of the Criteria of Effect and Adverse Effect on the three properties and satisfies the requirements of 36 CFR 800.11(e) for above ground resources that may be impacted by the Preferred Alternative. This report is prepared in an effort to enter into consultation with the Indiana Department of Natural Resources - Division of Historic Preservation and Archaeology on the effect of the US 24.

- *Phase I Archaeological Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County and Emerald, Crane, Carryall and Harrison Townships, Paulding County, Ohio (*2 Volumes), December 2001. This report presents the results of the Phase I archaeological investigations conducted to identify potential archaeological resources located within the proposed right-of-way in Paulding and Defiance counties for Alternative D-1, the Antwerp Bypass, and Segments 14 and 19. The report also includes recommendations for additional archaeological studies (Phase II investigations).

- *Phase I Archaeological Report of the US 24 Improvements in Maumee, Milan and Jefferson Townships, Allen County, Indiana,* April 2002. This report presents the results of the Phase I archaeological investigations conducted to identify potential archaeological resources located within the proposed right-of-way for the Preferred Alternative in Allen County, Indiana. The report also includes recommendations for additional archaeological studies (Phase II investigations).

- *US 24 Preliminary Geotechnical Investigation,* May 2002. This report summarizes the results of the preliminary geotechnical investigation conducted for the Preferred Alternative. This investigation consisted of 20 preliminary borings performed at widely spaced intervals along the proposed highway alignment.

- *Phase II Archaeological Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements in Noble, Delaware, and Defiance Townships, Defiance County and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio,* June 2002. This report presents the results of the Phase II archaeological investigations conducted on nine sites to determine if they are eligible for listing on the National Register of Historic Places. The Phase II surveys determined that none of the nine sites meet the eligibility requirements for inclusion in the National Register of Historic Places.

- *Addendum Report: Phase I Archaeological Reconnaissance of the PAU/DEF 24-0.00/0.00 (PID 18904) Improvements in Defiance Township, Defiance County, Ohio,* July 2002. This report presents the results of the Phase I archaeological investigations conducted to identify potential archaeological resources located within the proposed right-of-way of Alternative D-1 within Segments 15 and 18, in Defiance Township, Defiance County, Ohio.

- *Modal Analysis for the US 24 Corridor from Fort Wayne, Indiana to Toledo, Ohio*, September 2002. To insure that all possible corridor-wide Feasible Alternatives have been identified and investigated, a modal analysis of the entire 130.6-kilometer (81-mile) US 24 Corridor was conducted. This report analyzes the feasibility of using parallel roadways such as US 6 and the Ohio Turnpike as well as other modal options to meet the transportation needs of the Fort to Port Corridor. Modal alternatives evaluated in this analysis are freight/rail, dedicated truck facility, transit, and combinations of several modes.

- *Addendum to the Phase I History/Architecture Report of the US 24 Improvements in Maumee, Milan and Jefferson Townships, Allen County, Indiana: US 24/I-469 Interchange,* January 2003. This report documents the Phase I History/Architecture survey of potential historic resources located within a 1/2 mile radius of the existing US 24/I-469 interchange in Allen County, Indiana.

- *Phase II Archaeological Report of the PAU/DEF 24-0.00/0.00 PID 18904 Improvements at Sites 12-AL-898 and 12-AL-2034, Milan and Maumee Townships, Allen County, Indiana,* January 2003. This report presents the results of the Phase II archaeological testing recommended for two sites in Allen County, Indiana and recommendations concerning the significance of the sites and eligibility for inclusion in the National Register of Historic Places.

- *City of Defiance, Ohio Traffic Study: Assessment of Traffic Impacts Due to the Proposed Grade Separation of US 24 and West High Street*, February 2003. This report documents the traffic-related effects of the proposed grade separation at US 24 and West High Street on the surrounding roadway network.

- *US 24 New Haven to Defiance Phase II Environmental Site Assessments for Sites 177, 194 and 384 in Defiance and Paulding Counties, Ohio*, March 2003. The report documents the Phase II Environmental Site Assessment investigations completed for three properties located within the proposed right-of-way for Alternative D-1.

- *US 24 Section Corner Recovery Report*, (3 volumes) March 2003. This report presents the results of the Public Land Survey System (PLSS) survey effort that was conducted for the Preferred Alternative. The survey included researching, field locating, and re-monumenting

each Township, Range, Section and Quarter Section that is in, or crosses, the alignment of the Preferred Alternative. The data obtained from this effort will be used for construction of property maps, county and township road alignments and right of way delineation, including the resolution of boundary lines and parcel creation during future right of way plan development.

- *US 24 Corridor Segmentation Analysis,* April 2003. 23 CFR Part 777.111(f) anticipates that an agency's approach to a highway development project may be to separate the project into smaller segments if warranted by circumstances and if in compliance with specific criteria (the individual projects must have logical termini and independent utility, and must not restrict the consideration of alternatives for other reasonably foreseeable transportation improvements). This analysis documents the justification for separating the US 24 Fort to Port project into three separate planning studies.

- *US 24 New Haven to Defiance Section 106 Consulting Party Coordination: Summary of Section 106 Investigations,* April 2003. In accordance with the provisions of the National Historic Preservation Act, additional coordination with the Section 106 Consulting Parties was undertaken for this project. This report summarizes the Section 106 investigations and Eligibility recommendations for the project. It also discusses the Effects recommendations for four properties in Allen County, Indiana which are located within the Area of Potential Effect for the Preferred Alternative.

- *I-469 and US 24 Interchange: Conceptual Alternatives Summary,* May 2003. As part of the US 24 New Haven to Defiance project, INDOT is proposing to improve the I-469 and US 24 interchange to maintain free-flow operation for freeway-to-freeway movements (system-to-system interchange). The report documents the development and evaluation of 19 conceptual improvement alternatives for the existing US 24/I-469 interchange.

- *US 24 New Haven to Defiance Wetlands Delineation Study - Addendum to the Ecological Survey for Allen County, Indiana and Defiance and Paulding Counties, Ohio,* June 2003. This addendum presents the results of the delineation study conducted on wetlands located within the proposed rights-of-way for Alternatives C, D-1, and the Antwerp Bypass. The functional quality of each wetland and provisional category of the wetland areas are based on the Ohio Environmental Protection Agency's Rapid Assessment Method for Wetlands (ORAM) Version 5.0.

- *US 24 Draft Environmental Impact Study*, July 2003 (approved by FHWA on August 19, 2003). This report documents the purpose and need for improvements to US 24, modal alternatives, Feasible Alternatives, potential environmental impacts associated with t he Feasible Alternatives, identification of the Preferred Alternative, public involvement efforts, and agency coordination. This report was made available to the public and circulated to local, state, and federal agencies. The report is intended to comply with the requirements of the National Environmental Policy Act in accordance with policies and procedures of the Ohio Department of Transportation.

- *US 24 Traffic Impact Analysis for the Preferred Alternative*, September 2003. This report presents an overview of the existing traffic conditions of the local roadway network, the methodologies used for development of the travel demand forecasts, and the results of the local roadway impact analysis, which describes how local roads will be affected by the construction of the Preferred Alternative D-1.

- *Addendum Report: Phase Ia Archaeological Reconnaissance of the US 24 Improvements in Adams, Jefferson, and Milan Townships, Allen County, Indiana: I-469/US 24 Interchange,* November 2003. This report presents the findings of the Phase Ia archaeological survey for the proposed right-of-way limits for improvements to the I-469/US 24 interchange.

- *West High Street/Switzer Road Access Study,* November 2003. This study evaluates options to closing the existing US 24 and West High Street/Switzer Road intersection in Defiance County, Ohio.

- *US 24 Service Road Study*, January 2004. This report documents the investigation into the feasibility of constructing service roads to reduce the number of parcels landlocked by construction of the Preferred Alternative D-1.

- *I-469 and US 24 Interchange Feasible Alternative Analysis, INDOT DES. 0200906*, January 2004. This document presents the results of the traffic, engineering, and environmental studies conducted for three feasible alternatives to improve the I-469 interchange with US 24. A recommended preferred alternative is also presented.

- *US 24/SR 15/18 Interchange Traffic Capacity Analysis Report,* March 2004. This study documents the traffic related improvements needed for the US 24/SR 15/18 Interchange.

- *Addendum Report: Phase IA Archaeological Reconnaissance of the US 24 Improvements in Adams, Jefferson, and Milan Townships, Allen County, Indiana,* July 2004. This report presents the findings of the Phase Ia archaeological survey of the expanded area of potential effect of the Indiana portion of the Preferred Alternative D-1 Modified.

- *Addendum Report: Phase I Cultural Resource Survey Of The Pau/Def-24-0.00/0.00 (PID 18904) Improvements in Noble, Delaware, and Defiance Townships, Defiance County, and Emerald, Crane, Carryall, and Harrison Townships, Paulding County, Ohio*, October 2004. This report presents the findings of the Phase I history/architecture surveys and Phase I archaeological investigations within the expanded areas of potential effect of the Ohio portion of the Preferred Alternative D-1 Modified.

- *I-469 and US 24 Interchange Engineer's Report, INDOT DES. 0200906*, October 2004. This report documents the engineering assessment phase to improve the I-469 interchange with US 24, including an explanation of the physical infrastructure and traffic operating conditions of the existing interchange, alternative improvement plans, more detailed consequences of the proposal, and the recommended plan of action.

- *Addendum to the Ecological Survey Reports and Wetlands Delineation Study for Allen County, Indiana and Paulding Counties, Ohio,* October 2004. This report identifies ecological resources with the expanded right-of-way limits of the Preferred Alternative D-1 Modified. Impacts to the ecological resources resulting from the construction of the Preferred Alternative D-1 Modified are discussed.

- *Phase I Environmental Site Assessment of 1119 Ralston Avenue (A.K.A. State Route 15) DEF-24-7.96 PID No: 24337, Defiance, Ohio,* December 2004. This report documents the Phase I Environmental Site Assessment investigation completed for one property located within the proposed right-of-way for Alternative D-1 Modified.

- *Biological Assessment of Federally Listed Species for the Ohio Department of Transportation's US 24 New Haven, Indiana to Defiance, Ohio* (ALL [Indiana] PAU/DEF [Ohio] 24-0.00 PID 18904), April 29, 2005.

- *Addendum to the US 24 Noise Analysis*, October 2005. This report documents the additional noise analyses completed to reflect the design changes of the Preferred Alternative D-1 Modified. The report also includes a discussion of the noise mitigation analysis completed for the Bohlman Trailer Park.

APPENDIX F: LIST OF PREPARERS AND REVIEWERS

LIST OF PREPARERS AND REVIEWERS

FEDERAL HIGHWAY ADMINISTRATION

Mark Vonder Embse, P.E.
Senior Transportation Engineer, Ohio Division
MS, Civil Engineering: BS, Civil Engineering
20 years of experience

Gary Davis, P.E.
Transportation Engineer, Ohio Division
BS, Civil Engineering
4 years of experience

Robert Dirks, P.E.
Environmental Coordinator, Indiana Division
BS, Civil Engineering
9 years of experience

Matt Fuller
Environmental Engineer, Indiana Division
BS and MS Environmental Engineering
7 years of experience

Victoria Peters, P.E.
Director of Engineering and Operations, Ohio Division
BS, Geological Engineering
21 years of experience

Herman Rodrigo
Director of Program Development, Ohio Division
BS, Civil Engineering
25 years of experience

David Snyder, P.E.
Environmental Program Coordinator, Ohio Division
BS, Civil Engineering
8 years of experience

OHIO DEPARTMENT OF TRANSPORTATION

Kirk Slusher, P.E.
District 1 Planning and Programs Administrator
BS, Civil Engineering
17 years of experience

Timothy Hill
Administrator, Office of Environmental Services
BS, Architectural and Environmental Design
12 years of experience

Noel Alcala, P.E.
Major New Projects Coordinator
BS, Civil Engineering
12 years of experience

Bruce W. Aument
Environmental Specialist
PhD, Anthropology; MA, Anthropology; BA, History
21 years of experience

Stan Baker
Environmental Specialist
BA, Anthropology
28 years of experience

William Cody
Assistant Environmental Administrator
BS, Landscape Architecture
25 years of experience

Susan Gasbarro
Historic Resources/Historic Bridges Specialist
BA, History
13 years of experience

Paul Graham
Assistant Environmental Administrator
Masters Certificate in Public Service Archaeology; BA, Anthropology
25 years of experience

Elvin Pinckney
Environmental Specialist
BA, Business Management
31 years of experience

Joan Randall
Environmental Specialist
MLA, Landscape Architecture: BS, Mathematics
8 years of experience

Donald Rostofer
Environmental Specialist
BS, Natural Resources
19 years of experience

John Schweikart
Environmental Specialist
MA, Anthropology
6 years of experience

Fredric Steck
Environmental Supervisor
Doctoral Studies in Plant Ecology; MS, Forest Ecology; BS, Life Sciences
29 years of experience

Brian Tatman
Environmental Specialist
BS, Environmental Biology
5 years of experience

INDIANA DEPARTMENT OF TRANSPORTATION

Tarlochan Bansi
Supervisor Engineering Assessment Section
BS, Civil Engineering
28 years of experience

Mary Ellen Crowe
Environmental Document Review
MS, Historic Preservation, BA, History
5 years of experience

Roger Manning
Project Manager
Media/Communications
30 years of experience

Janice Osadczuk
Project Management
MA, Ecology, BA, Biology
27 years of experience

Brad Steckler, P.E.
Transportation Engineer
MS, Engineering, BS, Civil Engineering
18 years of experience

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

Jennifer Graf
Supervising Environmental Planner
Project Manager, FEIS Preparation
BS, Natural Resource Management
17 years of experience

Ed Carmichael
Senior Designer
Horizontal and Vertical Alignment Design, Utility Coordination, CADD Coordination (MicroStation/GeoPak)
AD, Specialized Technology; Computer Graphics/CADD
15 years of experience

Chris Coffield
CADD Technician
Graphics/Exhibits
AD, Specialized Technology
9 years of experience

Kathleen Colbert-Gibson, AICP
Senior Planner
Socioeconomic Impact Analysis, DEIS Preparation, FEIS Preparation
MER (Energy Resources); BS, Special Programs (Environmental Science and Economics
16 years of experience

Bryan Jackson
Designer
Service Road Analysis
Associate Degree, Specialized Technology, Computer Graphics
12 years of experience

Paul Landry, P.E.
Civil Engineer
Bridge Design, Interchange Design
BS, Civil Engineering
13 years of experience

Steve Lane, AICP
Planner
Land Use, Farmlands, Public Involvement, FEIS Preparation
MS, Botany; BA, Biology
8 years of experience

Tracey Nixon, AICP
Lead Planner
FEIS Preparation
MUP, Economic Development
13 years of experience

Kelly Owens
Graphic Designer
DEIS Preparation, FEIS Preparation
BFA, Graphic Design
7 years of experience

Rodney Saylor
GIS Analyst
GIS Mapping and Analysis
AD, Civil Engineering
18 years of experience

Eric Sherer, P.E.
Senior Structural Engineer
Bridge Design
BS, Civil Engineering
13 years of experience

Andrew Schetter, IT
Civil Engineer
Drainage Analysis
BS, Civil Engineering
8 years of experience

Margaret Slater, AICP
Principal Planner
FEIS Preparation
MA, Historic Preservation
20 years of experience

Susan Wyant
Lead Planner
FEIS Preparation
Planning and Environmental Resources
30 years of experience

Mehmet Yildirim, P.E.
Roadway Design Engineer
Highway Alternatives
Design
MS, Civil/Transportation Engineering; BS, Civil Engineering
23 years of experience

THE MANNIK AND SMITH GROUP

John Kusnier, Jr.
Development Group Manager
Project Director for Ecological, Hazardous Material and Cultural Resources Investigations
Graduate Studies, Biology and Ecology; BS, Biology
18 years of experience

Bryan Agosti
GIS Technician
GIS Specialist, Graphics
MA, Geography; BA, Geography and Planning
6 years of experience

Nicholas Boland
Environmental Technician
Environmental Site Assessments
BS, Environmental and Hazardous Materials Management
8 years of experience

Richard Brunton
Associate Scientist Geologist
Geology Document Review, Environmental Site Assessments and Documentation
BS, Geology
12 years of experience

Erica Cameron
Archaeological Technician
Archaeological Investigation and Documentation
MA, Archaeology; BA, Anthropology
8 years of experience

Regina Collins
Section Manager Phase I ESA Services
Environmental Site Assessments and Documentation
MS, Environmental Science; BS, Resource Development
14 years of experience

Nicole Costello
Environmental Technician
Ecological Investigations and Documentation
6 years of experience

Jason Earley
Environmental Scientist
Wetlands Assessments and Delineation Studies, GPS, and Documentation
MS, Natural Resource and Environmental Management; BA, Environmental Policy and Analysis
5 years of experience

Margaret Gill
Associate Scientist
MS, Biology and Ecology; BS, Biology
15 years of experience

Jessica Hickey
Environmental Technician
Ecological Investigations and Documentation
BS, Environmental Science
5 years of experience

Tim Isley
Information Technology Director
Project Director for GIS Projects
BS, Sociology; AS Civil Engineering
14 years of experience

Maura Johnson
Cultural Resources Associate
Historic Architecture Assessment and Documentation
MA, Historic Preservation Planning; BA, Art, Art History
18 years of experience

Jason Koralewski
Archaeological Technician
Archaeological Investigations and Documentation
MLS, Archaeology; BA, Anthropology
10 years of experience

Michael Momenee, CP
Environmental Services Group Manager
Environmental Document Review, Environmental Site Assessments, Geological Data Compilation and Review
BA, Geology; Ohio Voluntary Action Program Certified Professional No. 236
19 years of experience

John Pushka, EIT
Assistant Engineer
Environmental Site Assessments
BS, Chemical Engineering
17 years of experience

Susan Sholl, EIT
Associate Engineer
Phase I Environmental Site Assessments and Documentation
BS, Chemical Engineering
13 years of experience

Timothy Walters
Botanist
Wetlands Assessments and Delineation Studies, Threatened/Endangered Plant Surveys and Documentation
PhD, Biology-Ecology (in progress); MS, Biology; BA, Biology/Environmental Science
10 years of experience

APPENDIX G: DISTRIBUTION LIST

DISTRIBUTION LIST

FEDERAL AGENCIES

Federal Aviation Administration, Great Lakes Region Chief Planning Staff, Des Plaines, Illinois

Federal Emergency Management Agency, Chicago, Illinois

Federal Railroad Administration, Office of Economic Analysis, Washington, D.C.

US Army Corps of Engineers, Environmental Analysis Branch, Detroit District, Detroit, Michigan

US Army Corps of Engineers, Chicago District, Chicago, Illinois

US Army Corps of Engineers, Regulatory Branch, Buffalo, New York

US Coast Guard, District 9, Cleveland, Ohio

US Department of Agriculture, Natural Resources and Environment, Office of the Secretary, Washington, D.C.

US Department of Agriculture, Natural Resources Conservation Service, Indianapolis, Indiana

US Department of Agriculture, Natural Resources Conservation Service, Columbus, Ohio

US Department of Commerce, National Oceanic and Atmosphere Administration, Program Planning and Integration, Silver Spring, Maryland

US Department of Energy, Office of Environmental Compliance, Washington, D.C.

US Department of Health and Human Services Center for Disease Control and Prevention, Center for Environmental Health and Injury Control, Atlanta, Georgia

US Department of Housing and Urban Development, Community Planning and Development, Chicago, Illinois

US Department of Housing and Urban Development, Columbus, Ohio

US Department of Housing and Urban Development, Region V, Indianapolis, Indiana

US Department of the Interior, Fish and Wildlife Service, Bloomington Field Office, Bloomington, Indiana

US Department of the Interior, Fish and Wildlife Service, Reynoldsburg Field Office, Reynoldsburg, Ohio

US Department of the Interior, Office of Environmental Policy and Compliance, Washington, D.C.

US Department of Transportation, Office of Secretary, Washington, D.C.

US Environmental Protection Agency, Office of Federal Activities, Washington, D.C.

US Environmental Protection Agency, Region V, Environmental Review Section, Chicago, Illinois

STATE AGENCIES

Indiana Board of Health, Indianapolis, Indiana

Indiana

Indiana Department of Environmental Management, Indianapolis, Indiana

	Indiana Department of Natural Resources, Division of Fish and Wildlife, Indianapolis, Indiana
	Indiana Department of Natural Resources, Habitat Diversity Protection Unit, Indianapolis, Indiana
	Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis, Indiana
	Indiana Department of Transportation, Division of Design, Indianapolis, Indiana
	Indiana Department of Transportation, Public Hearings Office, Indianapolis, Indiana
	Indiana Geological Survey, Bloomington, Indiana
	Indiana State Attorney General, Indianapolis, Indiana
Ohio	Ohio Department of Agriculture, Reynoldsburg, Ohio
	Ohio Department of Development, Columbus, Ohio
	Ohio Department of Natural Resources, Columbus, Ohio
	Ohio Environmental Protection Agency, Columbus, Ohio
	Ohio Historic Preservation Office, Technical Review Services, Columbus, Ohio
LOCAL AGENCIES	Allen County Department of Planning Services, Fort Wayne, Indiana
Allen County, Indiana	Allen County Engineer, Fort Wayne, Indiana
	Allen County Fire Department, Fort Wayne, Indiana
	City of Fort Wayne, Fort Wayne, Indiana
	City of New Haven, New Haven, Indiana
	City of Woodburn, Woodburn, Indiana
	Jefferson Township, Allen County, Indiana
	Maumee Township, Allen County, Indiana
	Maumee Township Volunteer Fire Department, City of Woodburn, Indiana
	Milan Township, Allen County, Indiana
	Milan Township Fire Department, Milan Township, Indiana
	Northeastern Indiana Regional Coordinating Council, Fort Wayne, Indiana
Paulding County, Ohio	Antwerp Branch, Paulding County Carnegie Library, Antwerp, Ohio
	Carryall Township, Antwerp, Ohio
	Crane Township, Cecil, Ohio

Emerald Township, Cecil, Ohio

Harrison Township, Paulding County, Ohio

Paulding County Engineer, Paulding, Ohio

Payne Branch, Paulding County Carnegie Library, Payne, Ohio

Village of Antwerp, Antwerp, Ohio

Village of Cecil, Cecil, Ohio

Village of Paulding, Paulding, Ohio

Defiance County, Ohio

City of Defiance, Defiance, Ohio

Defiance County Engineer, Defiance, Ohio

Defiance Public Library, Defiance, Ohio

Defiance Township, Defiance, Ohio

Delaware Township, Defiance, Ohio

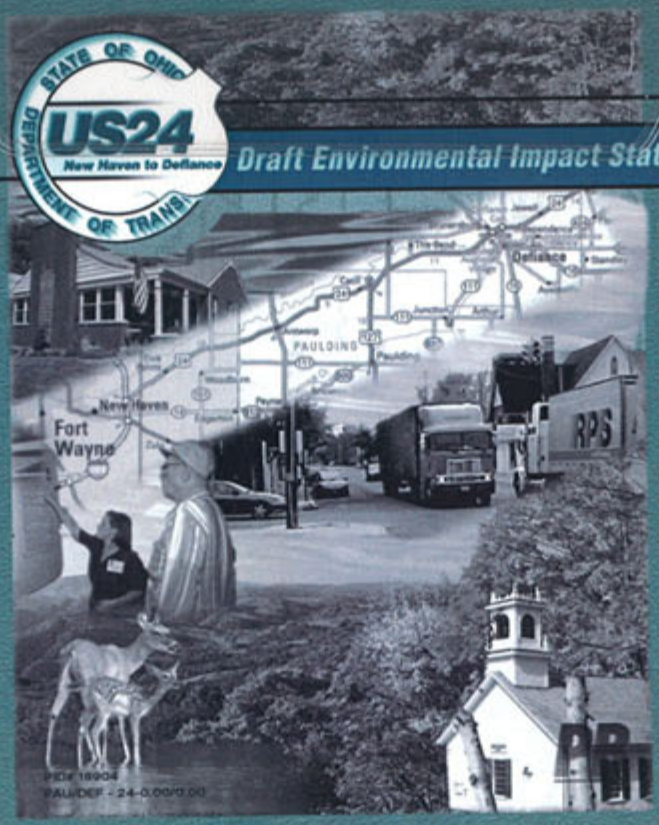
Maumee Valley Planning Organization, Defiance, Ohio

Noble Township, Defiance, Ohio

APPENDIX H: DRAFT ENVIRONMENTAL IMPACT STATEMENT

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

US24

New Haven to Defiance

Draft Environmental Impact Statement