

Environmental Red Flag Summary

Phase II - SR 32 Corridor (SR 32 Batavia and SR 32 Williamsburg) Clermont County, Ohio



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1. INTRODUCTION

This Red Flag Summary presents the results of an inventory of environmental resources for two areas along State Route (SR) 32 in central and eastern Clermont County identified by the county for potential future economic development (see Figure 1-1), including:

- *SR 32 Batavia*, extending from Bauer Road east to Batavia Road; and
- *SR 32 Williamsburg*, extending from the East Fork Little Miami River east to Dela Palma Road - Clermont/Brown County line.

The total red flag area is approximately 1,060 acres in size for both locations combined.

Data collection included review of secondary source materials and available mapping, and reconnaissance field survey, following the Ohio Department of Transportation Project Development Process (PDP) red flag guidelines for compliance with provisions of the National Environmental Policy Act (NEPA).

This report summarizes known environmental resources occurring in the study area based on the literature review and reconnaissance survey. It also identifies features of concern in the area that may warrant protection, require resource agency coordination, and/or that may offer opportunity for mitigation of environmental impacts. Detailed environmental studies may be required for some features as actions in these areas are further developed.

The information compiled for this red flag summary provides an understanding and awareness of the important environmental issues associated with the SR 32 Batavia and Williamsburg corridors early in the planning process. In this way, resource protection can be fully considered as an integral part of the future development of these sites, as well as for other improvements in these areas associated with

economic development, such as transportation and infrastructure improvements, and for right-of-way preservation for these future actions.

This Phase II red flag summary is a continuation of previous inventory work conducted for the SR 32 corridor. A Phase I Environmental Red Flag Summary was initially completed in July 2006 for a portion of the SR 32 corridor (the SR 32 Afton Corridor) located between Batavia Road and Half Acre Road, generally between the two study areas presented in this report.

The remainder of this red flag document is divided into two parts: SR 32 Batavia and SR 32 Williamsburg. Each part presents information on project setting, environmental resources/red flags, permitting issues and preliminary mitigation opportunities pertinent to that portion of the SR 32 corridor.



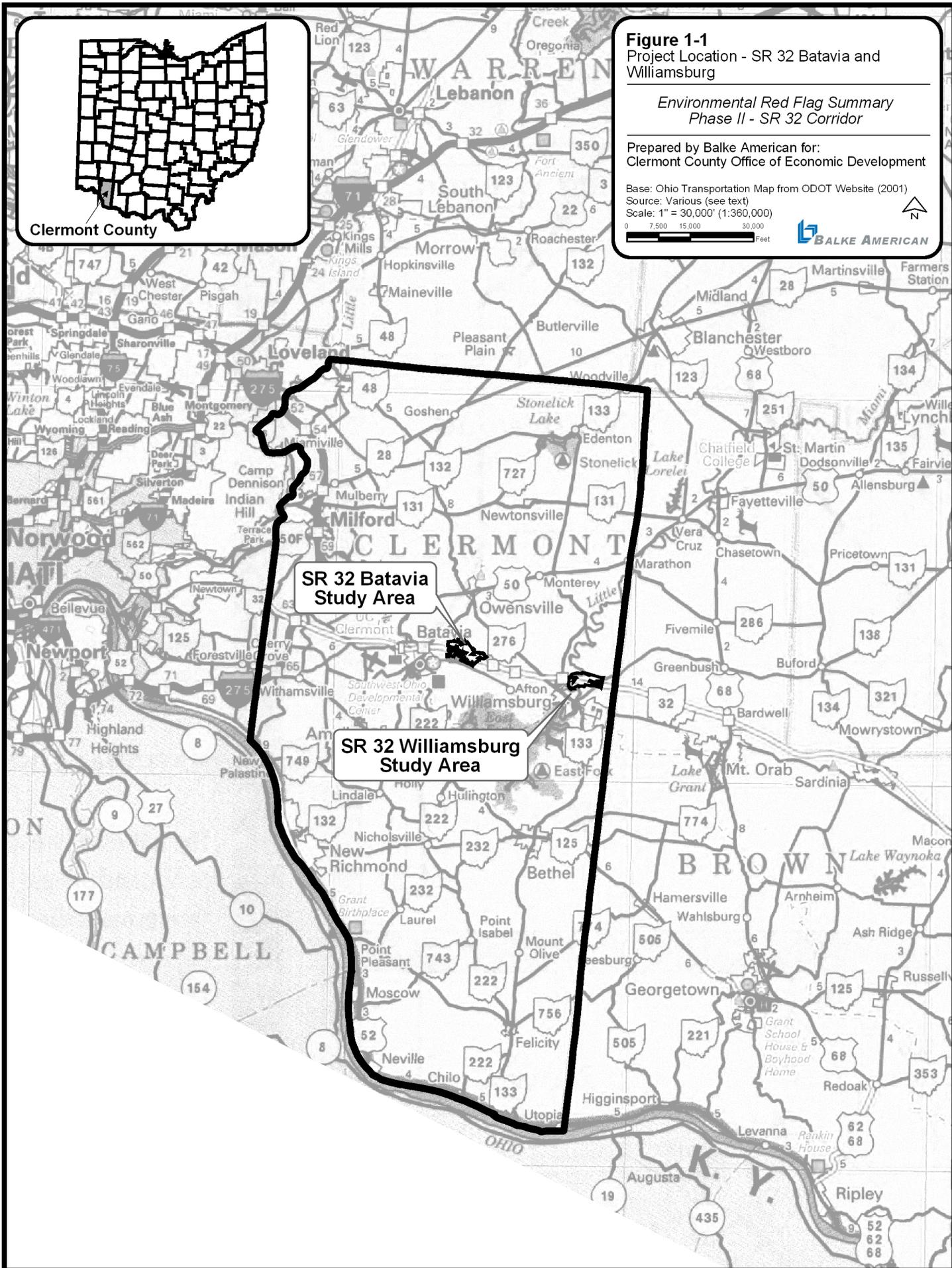
Clermont County

Figure 1-1
Project Location - SR 32 Batavia and
Williamsburg

*Environmental Red Flag Summary
Phase II - SR 32 Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Base: Ohio Transportation Map from ODOT Website (2001)
Source: Various (see text)
Scale: 1" = 30,000' (1:360,000)



2. SR 32 BATAVIA

2.1. Project Setting

Existing Land Use

The SR 32 Batavia corridor is located in Batavia Township, just east of the Village of Batavia, along SR 32 generally between Bauer and Batavia roads. The study area evaluated for this red flag is about 580 acres in size and encompasses about 62 parcels. The SR 32 Batavia corridor is a mix of agricultural land, wooded stream corridors, and commercial, residential and institutional development. The larger facilities and development complexes in the area include the Clermont County Administrative complex and Clermont County Medical Services located to the north of SR 32, and the Clermont Mercy Hospital and Batavia Nursing Care Center located to the south of SR 32. Commercial properties (gas stations, restaurants, small shopping plaza, etc.) occur along Bauer Road and Hospital Drive south of SR 32. Residential subdivisions in the vicinity include Pleasant Acres, located to the south of the SR 32 Batavia corridor along Old SR 32, and a new subdivision (Crosspointe Community) located immediately to the west of the study area on the south side of SR 32. The Batavia Township Municipal Building and Batavia High School are located along Old SR 32 just south and east of the study area, respectively. These and other key existing land use features are shown on Figure 2-1.

Transportation and Public Utilities

Existing transportation and public utilities in the project area are shown on Figure 2-2. The SR 32 Batavia study area is bordered by Bauer Road to the west, Old SR 32 to the south, and Herold Road/Batavia Road to the east. Hospital Drive parallels existing SR 32 on the south side between Bauer Road and Herold Road, and provides local access to existing commercial development and the Clermont Mercy Hospital

occurring in this vicinity. Both Bauer Road and Herold Road terminate on Old SR 32 to the south and SR 276 to the north. Old SR 32 extends to the west from the project area into the Village of Batavia, and to the east to the Village of Williamsburg. SR 276 extends north from the project area to the Village of Owensville, and south from the project area to the Village of Williamsburg.

Bauer Road, Old SR 32, Herold Road, Hospital Drive, and SR 276 are all Local Streets by current roadway functional classification, and SR 32 in the project vicinity is classified as Principal Arterial (source: 2006 Access Clermont). SR 32, which is a key east-west route through Clermont County, is also designated as a component of the Appalachian Development Highway System (ADHS).

The Norfolk Southern Railroad roughly parallels existing SR 32 about a mile to two miles south of the SR 32 Batavia study area. This line, which extends from the west through the Village of Batavia, provides rail connections to southeast Indiana, southwest Ohio and other regional rail networks, and serves industrial facilities in Clermont County just east of the SR 32 Batavia study area (near Afton).

Public water and sewer lines are located in the area along Bauer Road, SR 32, Batavia Road, Hospital Drive, and adjoining local streets to serve existing residential and commercial / industrial development in the project vicinity (see Figure 2-2). Clermont County Water and Sewer is the provider in the SR 32 Batavia area.

Clermont County is also served by private utilities, providing cable, electric, natural gas, telephone and waste collection services (these utilities not located for this red flag). A cell tower is located on the Clermont County Administrative Complex property on the north side of SR 32.

Population and Employment

The population of Clermont County rose 6% between 2000 and 2004, and is currently 193,300 persons. Future projections for the county estimate 245,000 persons by the year 2030 (OKI, 2005), for an approximately 27% population increase over the next 25 years. Batavia Township's population (2000) is 17,503 persons, and is the third largest in the county.

Key industries in Clermont County include consumer goods, financial services, manufacturing and health care services. Five of the county's 25 largest private sector employers are located in Batavia Township, including: Batavia Transmissions – located along Front Wheel Drive just east of the SR 32 Batavia study area; the Midland Company; Mercy Hospital-Clermont; American Micro Products; and Sportsman's Market, Incorporated. Clermont County has approximately 850,000 workers within a 45-minute drive of the county, and is projected to have the fifth fastest rate of employment growth in Ohio through 2025, with an estimated annual increase of 1.72% (source: Clermont County Office of Economic Development).

Future Land Use and Infrastructure Improvements

Future Land Use – Future land use mapping and recommendations for the Batavia area were developed by the Clermont County Department of Community Planning and Development as part of the SR 32 Corridor Vision Plan (see excerpts in Appendix A). Future land use in the SR 32 Batavia study area is proposed to be a combination of mixed use (both residential and non-residential mixed uses), institutional, and neighborhood center. The Batavia Township Land Use Plan (see Appendix A) recommends the SR 32 Batavia area for business development and neighborhood/infill.

Planned subdivisions, currently in the active planning and design stages, are proposed

between Bauer Road and Herold Road just north of the SR 32 Batavia study area, along Old SR 32 just south of the study area, and along SR 32 just west of the study area. These planned unit developments are depicted on Figure 2-3.

Planned Transportation Improvements – The 2006 Access Clermont (Official Clermont County 2006 Thoroughfare Plan Update) identified a tiered listing of transportation improvement projects based on status of plan development and funding, including the following projects located in the SR 32 Batavia corridor vicinity:

Tier 2 Projects (construction within 6-20 years):

- SR 32 Frontage Road II – new parallel frontage road on north side of SR 32 from Bauer Road to Batavia Road
- SR 32 Frontage Road III – new parallel frontage road on north side of SR 32 from Batavia Road to Half Acre Road

Tier 3 Projects (long-range plan):

- Herold Road / Bauer Road Area Interchange – construct grade-separated interchange at Herold Road / Bauer Road and SR 32
- Batavia Road / SR 32 – interchange modification (complete the existing interchange)

Tier 4 Project (visionary plan):

- Hospital Drive – roadway relocation (hospital vicinity to Brunk Road/Bauer Road)

Locations of these planned transportation improvements relative to the SR 32 Batavia study area are depicted on Figure 2-3.

2.2. Environmental Features and Red Flags

This section of the red flag summary presents an inventory of known environmental resources occurring in the SR 32 Batavia area. Each resource description includes:

- a summary of the secondary source materials reviewed,
- description of existing conditions in the project area based on literature review and field survey, and
- discussion of red flag issues associated with that resource, as applicable (*italicized in text boxes*).

For some resources, red flag issues (such as the need for additional studies, agency coordination and/or permit approval) come into play when a “federal action” is involved. **Federal actions** typically include projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies (CEQ regulations, Section 1508.18).

Figure 2-4 presents a regional map of known environmental resources in the SR 32 Batavia vicinity based on literature review and database searches conducted for this red flag study. Figures 2-5 through 2-8 present more detailed mapping for those features occurring within the immediate SR 32 Batavia study area.

Physiography and Geology

Physiography and geology information was obtained through review of available materials from the U.S. Environmental Protection Agency (USEPA), the Ohio Department of Natural Resources (ODNR) Division of Geological Survey, and the U.S. Geological Survey (USGS) 7.5-minute topographic mapping.

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is

characterized as a rolling glacial till plain, with soils derived from glacial materials, original natural vegetation consisting of beech-maple hardwood and elm-ash swamp forests, and predominant land uses consisting of agricultural, woodland and small to medium urban areas.

Topography in the vicinity of the SR 32 Batavia study area is nearly level to moderately sloping along drainage features, with elevations generally between 840 and 880 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

Soils and Hydric Soils

Soils information was obtained from review of materials from the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS Soil Survey of Clermont County and related USDA website and mapping information).

Soils in the SR 32 Batavia study area are part of the Rossmoyne-Cincinnati Association (west half) and Avonburg-Clermont Association (east half). The Rossmoyne-Cincinnati soils consist of deep, sloping and well-drained soils along major drainageways (such as the East Fork), and the Avonburg-Clermont Association consists of deep, nearly level, poorly drained soils formed from glacial materials and occurring on broad flats and uplands. Avonburg silt loam, Clermont silt loam and Rossmoyne silt loam are the predominant soils within the study area (see Figure 2-5). Avonburg and Clermont soils occur in flat, upland areas, and Avonburg soils also occur occasionally along small drainage features. Both soils have a clayey subsoil, are poorly drained, and exhibit slow permeability, ponding, and slow runoff. Rossmoyne soils mostly occur in the west half of the study area along the narrow ridgetops of small drainage features tributary to the East Fork.

Minor soils in the project study area include Eden silty clay loam, Edenton loam, and Genesee silt loam, primarily along stream channels (Genesee soils) or on slopes along small drainage features in the east half of the study area. All three are well-drained soils with medium to high available water capacity.

Red Flag Summary for Soils

Hydric soils are poorly drained soils that may be associated with the occurrence of wetlands. Clermont silt loam, which comprises about 16% of the SR 32 Batavia study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Figure 2-5 shows the extent of hydric soils coverage within the project study area.

Streams and Floodplains

Stream information was obtained through review of reports and mapping, website information and other materials from the Ohio Environmental Protection Agency (OEPA) Division of Water, ODNR, USEPA, USGS topographic mapping, and Clermont County Office of Environmental Quality. Field survey was conducted in August 2006 to assess on-site stream conditions. Floodplains were identified using Federal Emergency Management Agency (FEMA) National Flood Insurance Program mapping obtained from the county GIS database.

The project is located within the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-120). This sub-watershed is listed as a 303(d) Priority Impaired Water (Category 5) in OEPA's Final 2006 Integrated Water Quality Monitoring and Assessment Report. Key causes of impairment reported by OEPA include nutrients, siltation, organic enrichment/dissolved oxygen, flow alteration and other direct habitat alterations. Watershed sources of impairment include municipal point sources, land development, urban runoff/storm sewers (non-point source), septic tank runoff, and channelization and flow

modifications from development. An East Fork Little Miami River Action Plan, which includes the project area, has been endorsed by OEPA and ODNR. Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.

The north half of the SR 32 Batavia study area (north of SR 32) is drained by unnamed USGS headwater tributaries in the Backbone Creek drainage, and the south half of the area (south of SR 32) is drained by unnamed USGS headwater tributaries to the East Fork. No FEMA-mapped floodplains occur within the SR 32 Batavia study area. The Ohio Environmental Protection Agency (OEPA) classifies Backbone Creek (mainstem) as a Warmwater Habitat (per OAC 3745-1-18). The East Fork mainstem in the study area is classified as an Exceptional Warmwater Habitat and a State Resource Water.

Based on review of USGS mapping and reconnaissance field survey, 18 ordinary high water (OHW) features were observed within the project study area, including two USGS perennial streams, two USGS intermittent streams and fourteen other small non-USGS channels/ditches (see Figure 2-6). Preliminary assessment indicates that the smaller USGS intermittent and non-USGS features are likely OEPA Class I or II Primary Headwater streams (limited quality streams). One feature classifies as a Class III Primary Headwater stream (good quality), and one feature classifies as Warmwater Habitat (see Section 2.4 – Preliminary Mitigation Opportunities).

Based on review of secondary source materials, no specific biological, physical or water quality assessments have been conducted for these features in the SR 32 Batavia vicinity. The Clermont County Office of Environmental Quality has collected biological, physical and water quality data in Backbone Creek and East Fork further downstream in these drainages.

Red Flag Summary for Streams

Streams are typically natural corridors that provide habitat for fish and wildlife and greenspace and recreational opportunities for people. Surface features that have an "Ordinary High Water" (OHW) channel (definable stream bottom and banks) are under the jurisdiction of the U.S. Army Corps of Engineers and require a permit for filling and dredging activities under Section 404 of the Clean Water Act. Eighteen OHW features were identified in the SR 32 Batavia study area. Actions involving these features may also require Section 401 water quality certification from OEPA and possible coordination with other agencies for fit with watershed action plans and TMDL initiatives. Impacts to streams require mitigation, usually at a 1:1 or 2:1 ratio. Stream corridors may also provide mitigation opportunities by preservation through conservation easement or other means, as further described in Section 2.4.

Wetlands and Ponds

U.S. Department of the Interior National Wetland Inventory (NWI) maps, USDA-NRCS soils information, and aerial photographs of the project area were reviewed to determine suspect wetland features. Field survey was conducted in June-July, 2006 to assess on-site wetland conditions. Wetland boundaries were estimated in the field based on observed vegetation, hydrology and soils conditions, and mapped using a Trimble hand-held GPS unit.

Wetland determinations using USACE 1997 methods and evaluation of wetland quality using OEPA rapid assessment methods (ORAM) were not conducted. The field data collected for this red flag are considered preliminary estimates of wetland conditions in the area, subject to more detailed investigation for determining final jurisdictional status and size.

From reconnaissance field survey, an estimated 13 preliminary wetlands, ranging in size from 0.03 to 0.2 acre, were identified within the SR

32 Batavia study area, as shown on Figure 2-6. All of these preliminary wetlands are limited quality features (OEPA Category 1) that are associated with drainage swales or depressional areas in woodlands or fields. These are typically narrow, linear wetlands dominated by cattails, sedges and other common emergent plants. One large NWI-mapped wetland associated with a large woodland tract on the north side of SR 32 was determined from field survey to be non-wetland, except for a small area in the center (see Figure 2-4).

Three ponds occur in the project study area boundaries (see Figure 2-6). Two are small farm ponds, and the third is a 5-acre feature that was possibly excavated for embankment materials or for adjacent development.

Red Flag Summary for Wetlands

Wetlands provide habitat for wildlife, help control floods, are natural groundwater filters, and can offer recreation and greenspace opportunities for people. Wetlands are special aquatic sites under the jurisdiction of the U.S. Army Corps of Engineers. Filling and dredging activities require a Section 404 permit from the Corps and may require Section 401 water quality certification from OEPA for compliance with the Clean Water Act. An estimated 13 wetlands, ranging in size from 0.03 to 0.2 acre, were noted in the SR 32 Batavia study area. For wetland impacts greater than 0.1 acre, a mitigation plan needs to be developed and approved by the U.S Army Corps of Engineers and OEPA. Wetlands are usually mitigated at a 1.5:1 or 2:1 ratio.

Federal and State Threatened and Endangered Species

Information from the U.S. Fish and Wildlife Service and database search materials provided by ODNR Division of Natural Areas and Preserves were reviewed to assess the presence of federal and state-listed species in the SR 32 Batavia study area.

U.S. Fish and Wildlife reports that Clermont County is within the known range of four federal listed species, including:

Federal endangered:

- Indiana bat (*Myotis sodalis*)
- running buffalo clover (*Trifolium stoloniferum*)

Federal candidate:

- sheepnose mussel (*Plethobasus cyphus*)
- rayed bean (*Villosa fabalis*)

ODNR lists about four state-listed species that have been reported from within 2.5 miles of the SR 32 Batavia study area (see Figure 2-4 and Appendix B), including:

State threatened:

- southern woodrush (*Luzula bulbosa*)

State species of concern:

- wavy rayed lampmussel (*Lampsilis fasciola*)
- salamander mussel (*Simpsonia ambigua*)
- river redhorse (*Moxostoma carinatum*)

None of these state listed species were reported from the immediate SR 32 Batavia study area nor were any observed during reconnaissance field surveys. ODNr database records for these species are mostly from the East Fork Little Miami River and from East Fork State Park.

None of the four federal listed species are known from the immediate project study area, although potential summer roosting habitat for Indiana bat was noted during reconnaissance field surveys conducted for this project. Potential summer habitat consists of trees with exfoliating bark and dead limbs/trunks with cavities. All of the woodlands in the study area possess some trees with suitable Indiana bat roosting habitat.

Limited potential habitat for running buffalo clover was noted during reconnaissance field

survey. Potential habitat for this species consists of partially shaded, grassy areas (limited herbaceous competition) that are periodically disturbed by mowing or grazing. Semi-wooded grazed pastureland occurs sporadically in the study area. Potential habitat for the two listed federal mussels was not observed in the study area.

Red Flag Summary for T&E Species

Species are listed as threatened or endangered when their numbers are low or declining due to direct destruction or loss or degradation of suitable habitat. The presence of a threatened or endangered species in an area indicates a good quality environment. The SR 32 Batavia study area contains potential summer roosting habitat for the federal endangered Indiana bat, and activities involving the removal of trees may require coordination with the U.S. Fish and Wildlife Service for compliance with Section 7 of the Endangered Species Act of 1973 as amended, if federal actions are involved. Limited potential habitat for the federal endangered running buffalo clover was also noted in the study area, and detailed survey for this species during its flowering season (May-June) may be required if federal actions involve disturbance to potential habitat.

Aquifers and Public Water Supplies

Groundwater, aquifer, and information about public water supplies (PWS) were obtained through review of report materials, mapping and website information from USEPA, OEPA Division of Drinking and Groundwaters, and ODNr Division of Water.

The SR 32 Batavia study area is not located within the boundaries of any USEPA-designated sole source aquifer, nor are there any OEPA public water supply wells located in the immediate vicinity. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork outside of the study area.

Review of groundwater mapping from ODNR (Groundwater Resources of Clermont County, Walker, 1986) indicates that the project occurs in an area that is a poor source of groundwater. Yields seldom exceed three gallons per minute, and groundwater is generally inadequate for domestic water supplies. No water wells on file with ODNR Division of Water occur in the immediate SR 32 Batavia study area. The closest private well is located about 0.6 miles east of the study area along SR 32.

A small spring was noted in the SR 32 study area, along Hospital Drive (see Figure 2-9). It discharges to an unnamed headwater stream to the East Fork.

Boundaries of the Source Water Protection area (SWA) of the Clermont County Public Water System occur about 2 miles east of the SR 32 Batavia study area (see Figure 2-4). This system uses surface water, primarily intakes along East Fork Reservoir, for public drinking water. This SWA should not be affected by proposed activities in the SR 32 Batavia corridor.

The SWA program, which was established out of the Safe Water Drinking Act as amended in 1996, is implemented at the local level. OEPA provides technical assistance to local communities to develop SWA protection plans for public drinking water sources.

SR 32 is an ODOT MS4 Phase 2 regulated state route in Clermont County (from Hamilton County to SR 276), and most of the SR 32 Batavia study area occurs within an ODOT MS4 Phase 2 Regulated Area.

Oil and Gas Wells

Oil and gas well locations in the project vicinity were obtained through review of mapping available from ODNR Division of Mineral Resources Management. No oil and gas wells registered with ODNR are located within the study area boundaries or within 2.5 miles from

the SR 32 Batavia study area (see Figure 2-4).

Woodlands

Information about terrestrial habitats in the project study area was obtained through review of database search materials provided by ODNR Division of Natural Areas and Preserves and reconnaissance field survey conducted from June 1-6, 2006.

Several large woodland tracts occur within the project study area boundaries. Most of these occur along sloping ravines associated with headwater streams in the Backbone Creek and East Fork drainages. Typical canopy trees are young to intermediate in age and composed of a mix of oak, cherry, maple, and hickory, with occasional large sycamore.

One large upland woods, located on the north side of SR 32, is associated with mapped hydric soils and an NWI-mapped wetland. Field survey, however, determined that this woodland only contains a small wetland area. This woodland is mostly open with a young red maple canopy and large oak, cherry and shagbark hickory scattered throughout.

Woodlands in the study area are valuable in that they contain trees with potential Indiana bat roosting habitat. No high quality woodlands were reported by ODNR from the SR 32 Batavia study area, however the primarily undisturbed wooded ravines along headwater streams and large upland wooded tracts are identified as potential preservation opportunities, as further described in Section 2.4.

Farmland

Information concerning the locations of Agricultural Districts (AD) and Current Agricultural Use Value (CAUV) parcels in the project area was obtained from review of Clermont County GIS data and information obtained from the auditor's website.

An AD is an agricultural land enrollment program that provides landowners protection against nuisance suits over farm operations, deferment of tax assessments on land to build sewer and water lines, and under certain circumstances, allows for additional review if land is taken by eminent domain for a public purpose. Impact to AD parcels beyond an established threshold requires notification to the Ohio Department of Agriculture, as required by Ohio Revised Code 929.05(a).

The CAUV Program is a differential real estate tax assessment program which affords farmland owners the opportunity to have their parcels taxed according to their value in agriculture rather than full market value.

Much of the SR 32 Batavia study area is in agricultural land use (row crop and pasture). No Agricultural Districts occur in the study area. About half of the agricultural parcels in the area, however, are included in the CAUV Program, as depicted on Figure 2-7.

Hazardous Materials Concerns

Potential hazardous materials concerns in the project study area were determined by reviewing regulatory database records and by reconnaissance field survey conducted in August, 2006.

An environmental records database search for the project area was conducted on August 8, 2006 by FirstSearch Technology Corporation (see Appendix C). This search, which included review of 11 agency databases for a 1.25 mile radius area centered on the SR 32 Batavia study area, identified 22 records encompassing about 15 sites (some sites with multiple database records), as shown on Figures 2-4 and 2-6. Nine records were reported from within or immediately adjacent to the SR 32 Batavia study boundaries, as summarized below:

- Site 1 – Clermont Mercy Hospital, 3000 Hospital Drive; RCRA Generator

(RCRAGN); multiple violations cited

- Site 2 – Batavia Nursing & Convalescent Home; 4000 Golden Age Drive; Leaking Underground Storage Tank (LUST); no closure report received
- Site 3 – Clermont County Communications; 2279 Clermont Center Drive; LUST; confirmed release with no further action recommended
- Site 4 – Clermont County Commissioners; 2283 Bauer Road; Registered Underground Storage Tank (UST); no site information
- Site 7 – Ohio State Highway Patrol; 1000 Hospital Drive; LUST/UST; confirmed release with no further action recommended
- Site 8 – Batavia Shell; 2199 Winemiller Lane; LUST/UST; confirmed release with no further action recommended
- Site 9 – Kincaids Carryout; 2415 Old SR 32; LUST; confirmed release or spill > 25 gallons
- Site 10 – Unknown; 2419 Old SR 32; LUST; release reported but not investigated
- Site 11 – United Dairy Farmers; 2200 Winemiller Lane; UST

During reconnaissance field survey, small open dump/debris areas were occasionally observed along portions of several headwater ravines, and it is possible that above-ground fuel storage tanks (AST) associated with older farmsteads or other types of development occur in the area.

Red Flag Summary for Hazardous Materials

No National Priority List or other substantial known hazardous materials concerns were identified from the database search and field reconnaissance. A detailed environmental site assessment (ESA) screening and phase 1 ESA investigation may be necessary to assess potential hazardous materials associated with database sites, observed small open dump / debris areas and possible AST or similar features that may be within and adjacent to the SR 32 Batavia study area.

Cultural Resources

Review of online mapping materials from the Ohio Historic Preservation Office (OHPO) and reconnaissance field survey was conducted to assess cultural resources in the project study area.

Based on review of OHPO online mapping, 57 previously recorded archeological sites (OAI), 97 previously recorded historic inventory sites (OHI), and no sites on or eligible for listing in the National Register of Historic Places occur within a 2.5 mile radius centered on the SR 32 Batavia study area. None of these sites, however, occur within the SR 32 Batavia study area boundaries (see Figure 2-4). One previous cultural resources phase 1 study (conducted in 1995) occurs just east of the study area boundaries (see Figure 2-4), however, no substantial cultural features were identified from this study.

During reconnaissance field survey conducted for this red flag study, several old (> 50 years) residences and agricultural outbuildings were noted north of SR 32 along Bauer Road and adjoining roadways. The historic significance of these structures has not been determined.

Red Flag Summary for Cultural Resources

The National Register of Historic Places is a list of properties determined significant in American history, architecture, archaeology, engineering or culture by virtue of design or architectural criteria, association with historical persons and events, and/or value for historic or prehistoric information. No known NR or NR eligible properties occur within the SR 32 Batavia study area, although several potential historic resources were observed during reconnaissance field surveys. Activities in the study area may require detailed cultural studies and coordination with OHPO to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.

Parks and Potential Section 4(f)/6(f) Resources

Clermont County GIS data and information available from the ODNR Land and Water conservation Fund (LWCF) website were reviewed to determine the presence of parks, greenspaces and any potential 6(f) facilities.

Section 4(f) of the 1966 Department of Transportation Act applies when actions by FHWA involve impacts to public owned parks, recreational areas or cultural resources listed or eligible for listing on the National Register of Historic Places. Section 6(f) of the Land and Water Conservation Fund Act applies when recreational facilities that have received LWCF funds are impacted. No public-owned parks, recreational areas, greenspaces or LWCF facilities occur in the SR 32 Batavia study area, therefore neither Section 4(f) or 6(f) would be applicable to this project. A recently constructed golf driving range occurs along Bauer Road between SR 32 and Old SR 32, however, this is a commercial facility (not public owned). The Batavia High School, located at the corner of SR 32 and Batavia Road, is outside the SR 32 Batavia study area.

Environmental Justice

Executive Order 12898 states that low income and minority populations must be included in project planning to assure nondiscrimination in Federal programs. Environmental justice communities occurring in the project vicinity were determined from review of 2000 Census tract data for Clermont County.

No low income or minority populations were identified in the immediate SR 32 Batavia study area. The closest environmental justice population (low income) by census block group is located in Batavia to the west of the project study area (see Figure 2-8).

Air Quality and Noise

Air quality and noise issues come into consideration if development in the SR 32 Batavia study area includes transportation improvements using federal funds. Clermont County is located in the Cincinnati Air Quality Control Region under the jurisdiction of the OKI Regional Council of Governments. Transportation improvements using federal funds (if involved) would need to be included in OKI's Transportation Improvement Plan (TIP) to be consistent with regional air quality goals.

Potential noise receptors in the area include scattered existing residential development and residential subdivisions along Bauer Road and Old SR 32, the Clermont Mercy Hospital, and the Batavia Nursing Care Center. If development in the SR 32 Batavia corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.

Red Flag Summary for Air Quality & Noise

Agency coordination and/or additional studies for air quality and noise may be required if development in the SR 32 Batavia study area includes transportation improvements using federal funds.

2.3. Permitting Issues

Potential impacts to streams and wetlands due to development activities in the SR 32 Batavia study area may require obtaining a Section 404 permit from the U.S. Army Corps of Engineers and Section 401 Water Quality Certification from OEPA. The type of 404 permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).

Activities in the study area may also involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.

No floodplain permit, U.S. Army Corps of Engineers Section 10 permit (pertaining to navigable waters), or U.S. Coast Guard Section 9 Bridge permit will be required.

2.4. Impact Minimization and Mitigation Opportunities

Approximately 18 jurisdictional streams (OHW channels) and 13 preliminary wetlands (jurisdictional field studies not yet conducted) were identified in the SR 32 Batavia study area boundaries. Most of the streams are small headwater features or USGS-mapped blue-line streams associated with relatively undisturbed wooded ravines and/or adjacent wooded uplands. Cultural resources may also be important in the area, however, additional studies are needed to determine their extent and significance.

This red flag information provides opportunity to fully consider resource protection and impact minimization as integral components during future development of the SR 32 Batavia

corridor. Preliminary resource protection measures include the following:

Summary of Preliminary Resource Protection Measures

- Minimize loss of existing habitat and habitat fragmentation: During site planning and development, take all practicable measures to avoid and minimize impacts to stream corridors, wooded ravines, upland woodlands, and wetlands by incorporating existing natural features into site layout and landscaping to the extent possible. Existing natural features may be incorporated into the site plan as buffers, required greenspace area, or may be preserved for on-site mitigation of impacts.
- Stormwater runoff management: From site planning to facility construction, develop and implement construction and post-construction stormwater management strategies, best management practices (BMP) for erosion control, and resource protection measures following guidelines outlined in the Clermont County Water Management and Sediment Control Regulations, the Clermont County 2003 Phase II Stormwater Management Plan, and the Clermont County 2004 Subdivision Regulations.

Incorporate existing streams, wooded ravines, upland woodlots and other natural features into stormwater management strategies and BMP design to the extent practicable, such as using natural features as vegetated swales or buffers, or for use in stormwater retention or detention.

- Landscaping: Develop landscaping plans that compliment/link with existing natural corridors in and adjacent to the study area. Use native trees, shrubs and herbaceous plantings, and incorporate measures to control the spread of invasive species.

- Determine presence of cultural resources: For any development in the SR 32 Batavia study area involving a federal action, conduct all required historic and archaeological studies for compliance with Section 106 of the Historic Preservation Act, and avoid and minimize impacts to significant resources, if identified.
- Environmental Mitigation: Preserve by conservation easement or other means, existing good quality wooded ravines and associated headwater streams and upland woodlots for on-site mitigation of impacts related to site development and/or evaluate use of existing wooded ravines/headwater streams as a mitigation bank for other actions in the county requiring compensatory stream mitigation.

Summary of Preliminary Mitigation Opportunities

Potential on-site mitigation opportunities were evaluated as part of this red flag effort. Two opportunities were identified in the SR 32 Batavia study area, as shown on Figure 2-9 and summarized below:

- Stream/Woodland Preservation - Area B1: This area, located to the north of SR 32 and west of Bauer Road, contains preservation opportunity for approximately 1,761 linear feet of existing stream channel (unnamed tributaries to Backbone Creek) and 16 acres of adjacent existing woodland. The existing streams are relatively undisturbed and contain good habitat for fish and macroinvertebrates. The larger feature (northernmost) in this area is a USGS blueline stream that has a provisional OEPA classification of Warmwater Habitat (good quality; based on QHEI score; see Appendix G). Two smaller, non-USGS headwater features in this area have a provisional OEPA classification of Class II and Modified Class II Primary Headwater Habitat (moderate quality; based on HHEI

score; see Appendix G). The adjacent steep-sloped woodland area is dominated by a mixed maple canopy (red and sugar maples) with scattered larger oaks, black cherry and shagbark hickory, with a relatively undisturbed understory.

- Stream/Woodland Preservation - Area B2: This area, located to the north of SR 32 and east of Bauer Road, contains preservation opportunity for approximately 2,300 linear feet of existing stream channel (unnamed tributary to Backbone Creek) and 44 acres of adjacent existing riparian and upland woods. The existing stream is a USGS blueline feature that has a provisional OEPA classification of Class III Primary Headwater Habitat (good quality; based on HHEI score; see Appendix G). It is bordered by a relatively undisturbed riparian corridor connected to a large upland woodlot. A large portion of this woodlot is mapped as NWI wetland, although field survey indicates that only a small portion in the center of the woodland actually meets wetland criteria. The woodland is dominated by a red maple canopy with many large oak, black cherry and shagbark hickory, with a relatively open, undisturbed understory.

Red Flag Summary for Mitigation and Banking Opportunities

Identified mitigation opportunities are preliminary only and suitability of these sites for mitigation requires additional study and coordination and approval by the U.S. Army Corps of Engineers, OEPA and/or ODNR. Approved mitigation areas must comply with the U.S. Army Corps of Engineers "Mitigation Guidelines", September 23, 2004. Guidance for establishing mitigation banks is provided by the U.S. Army Corps of Engineers in: "Federal Guidance for the Establishment, Use and Operation of Mitigation Banks", December 28, 1995, and information regarding mitigation banking in Ohio can be found on ODNR's website: www.ohiodnr.com/wetlands/banking. Federal guidance notes that restoration should be the first option considered for mitigation/banking, and that preservation is preferably considered in combination with restoration, creation or enhancement activities.

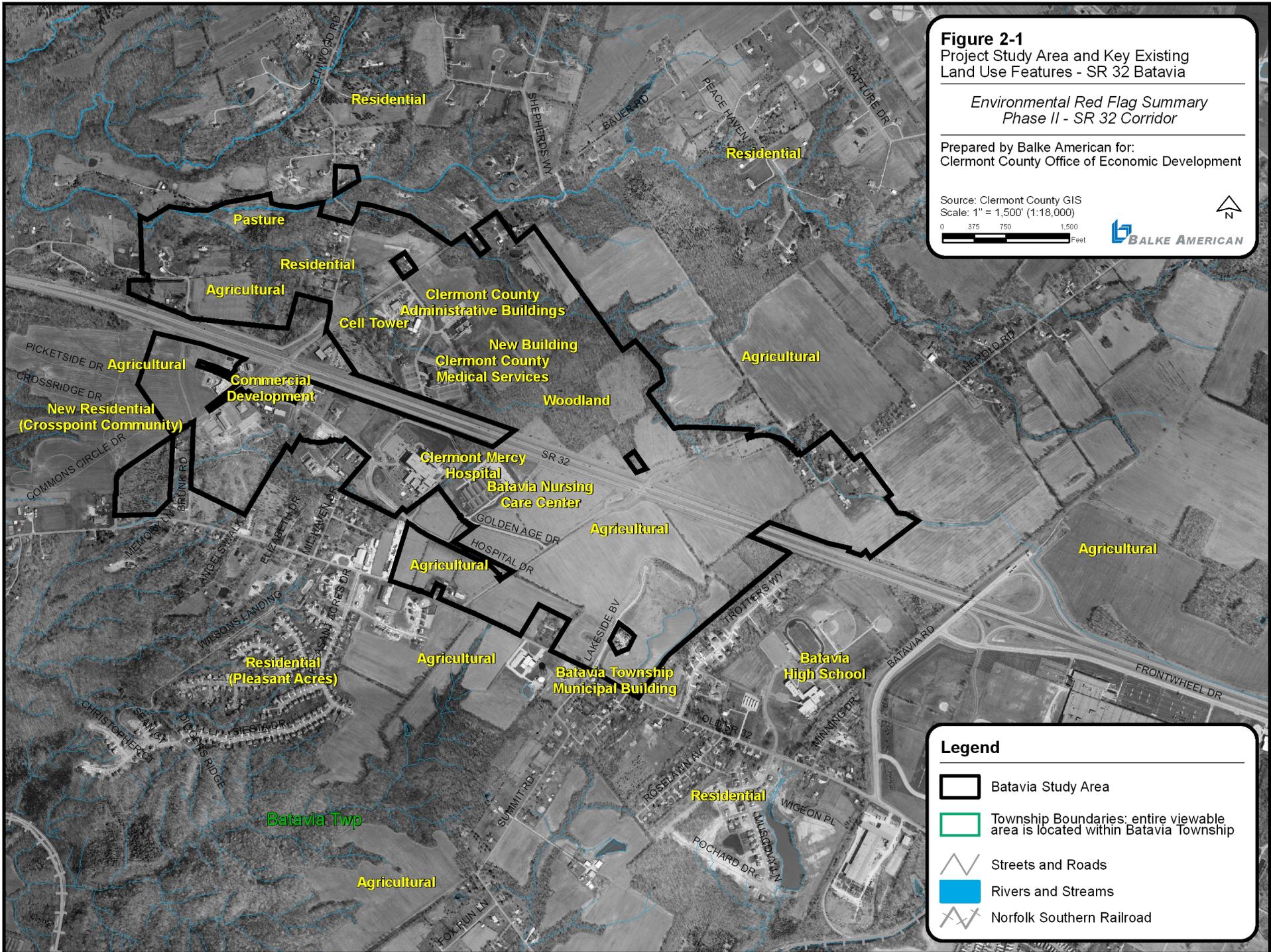


Figure 2-1
 Project Study Area and Key Existing
 Land Use Features - SR 32 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet




Legend

-  Batavia Study Area
-  Township Boundaries: entire viewable area is located within Batavia Township
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad

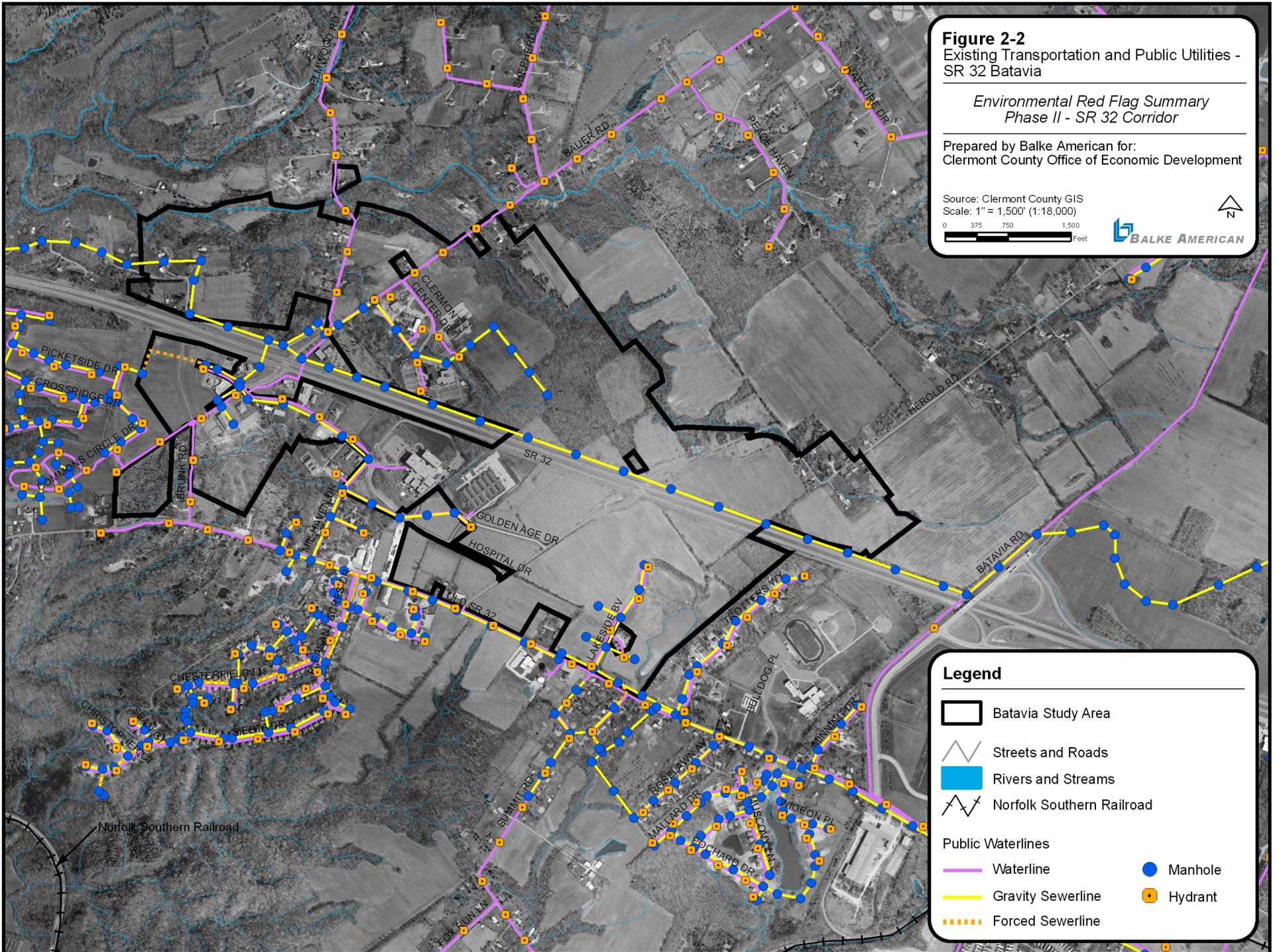
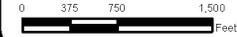
Figure 2-2
Existing Transportation and Public Utilities -
SR 32 Batavia

*Environmental Red Flag Summary
Phase II - SR 32 Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: Clermont County GIS

Scale: 1" = 1,500' (1:18,000)



Legend

- Batavia Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad

Public Waterlines

- Waterline
- Manhole
- Gravity Sewerline
- Hydrant
- Forced Sewerline

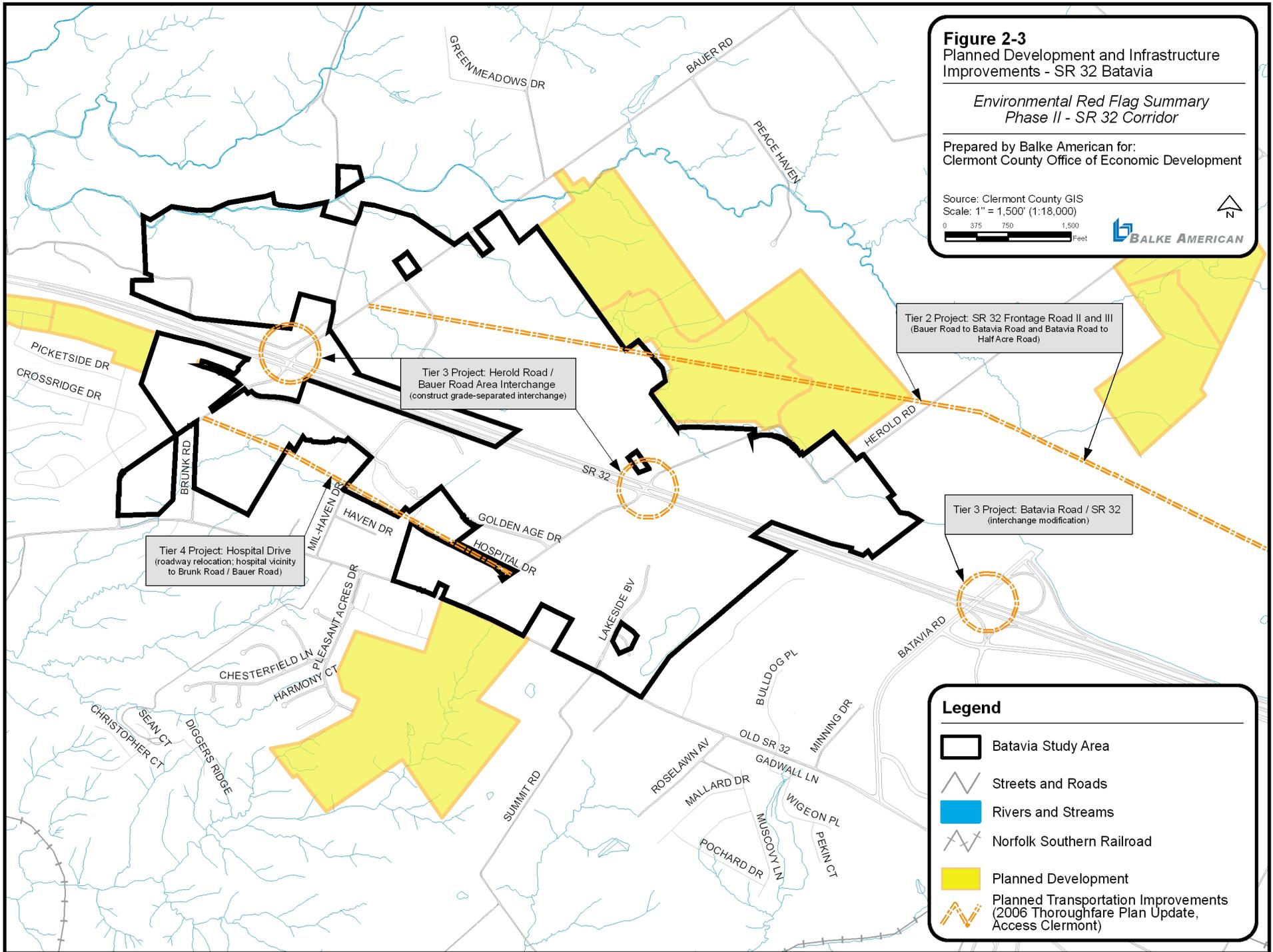
Figure 2-3
 Planned Development and Infrastructure Improvements - SR 32 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS

Scale: 1" = 1,500' (1:18,000)



Tier 3 Project: Herold Road /
 Bauer Road Area Interchange
 (construct grade-separated interchange)

Tier 2 Project: SR 32 Frontage Road II and III
 (Bauer Road to Batavia Road and Batavia Road to
 Half Acre Road)

Tier 3 Project: Batavia Road / SR 32
 (interchange modification)

Tier 4 Project: Hospital Drive
 (roadway relocation: hospital vicinity
 to Brunk Road / Bauer Road)

Legend

- Batavia Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad
- Planned Development
- Planned Transportation Improvements
 (2006 Thoroughfare Plan Update,
 Access Clermont)

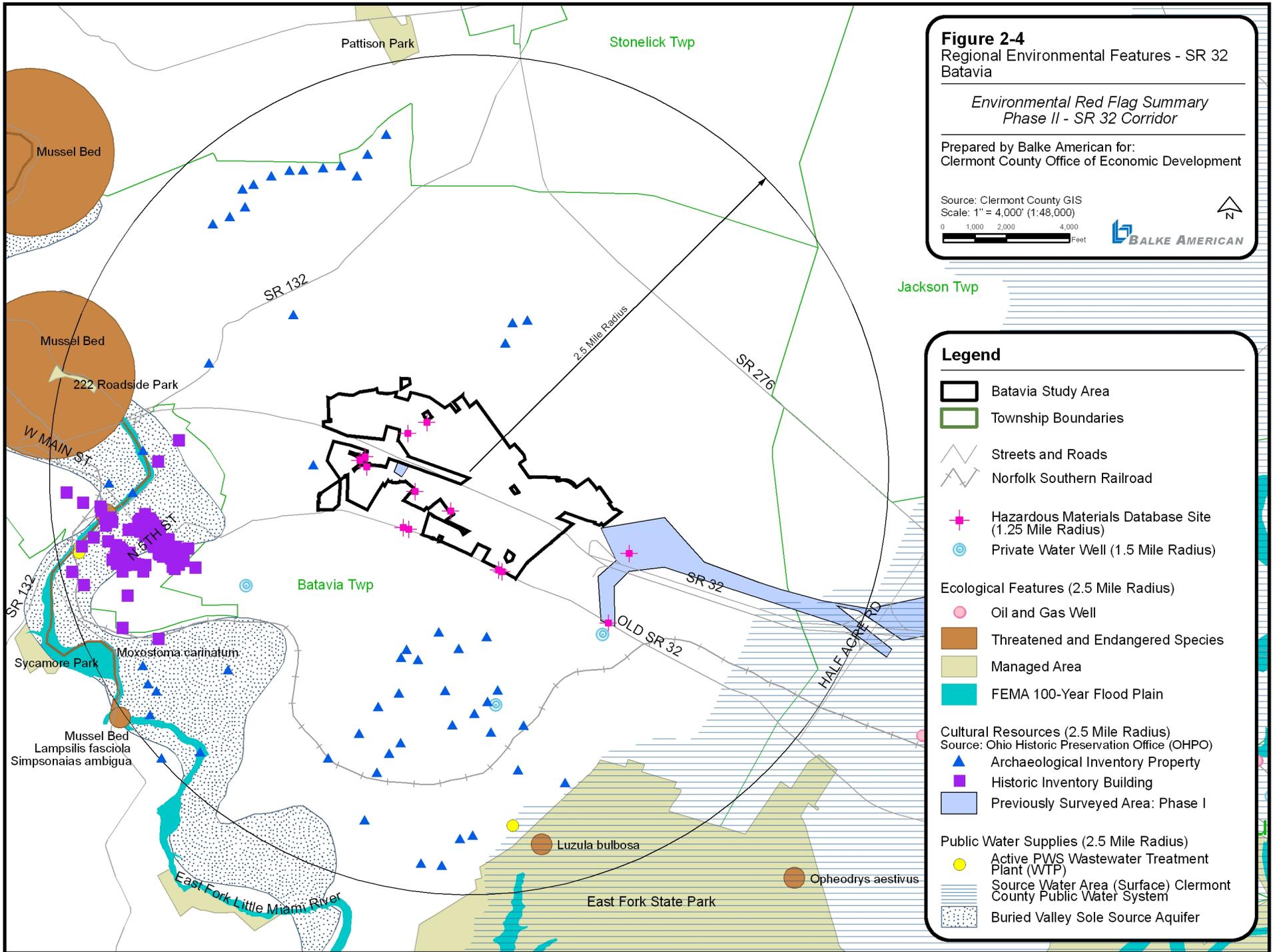


Figure 2-4
 Regional Environmental Features - SR 32
 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 4,000' (1:48,000)

0 1,000 2,000 4,000 Feet

BALKE AMERICAN

Legend

- Batavia Study Area
- Township Boundaries
- Streets and Roads
- Norfolk Southern Railroad
- Hazardous Materials Database Site (1.25 Mile Radius)
- Private Water Well (1.5 Mile Radius)

Ecological Features (2.5 Mile Radius)

- Oil and Gas Well
- Threatened and Endangered Species
- Managed Area
- FEMA 100-Year Flood Plain

Cultural Resources (2.5 Mile Radius)
 Source: Ohio Historic Preservation Office (OHPO)

- Archaeological Inventory Property
- Historic Inventory Building
- Previously Surveyed Area: Phase I

Public Water Supplies (2.5 Mile Radius)

- Active PWS Wastewater Treatment Plant (WTP)
- Source Water Area (Surface) Clermont County Public Water System
- Buried Valley Sole Source Aquifer

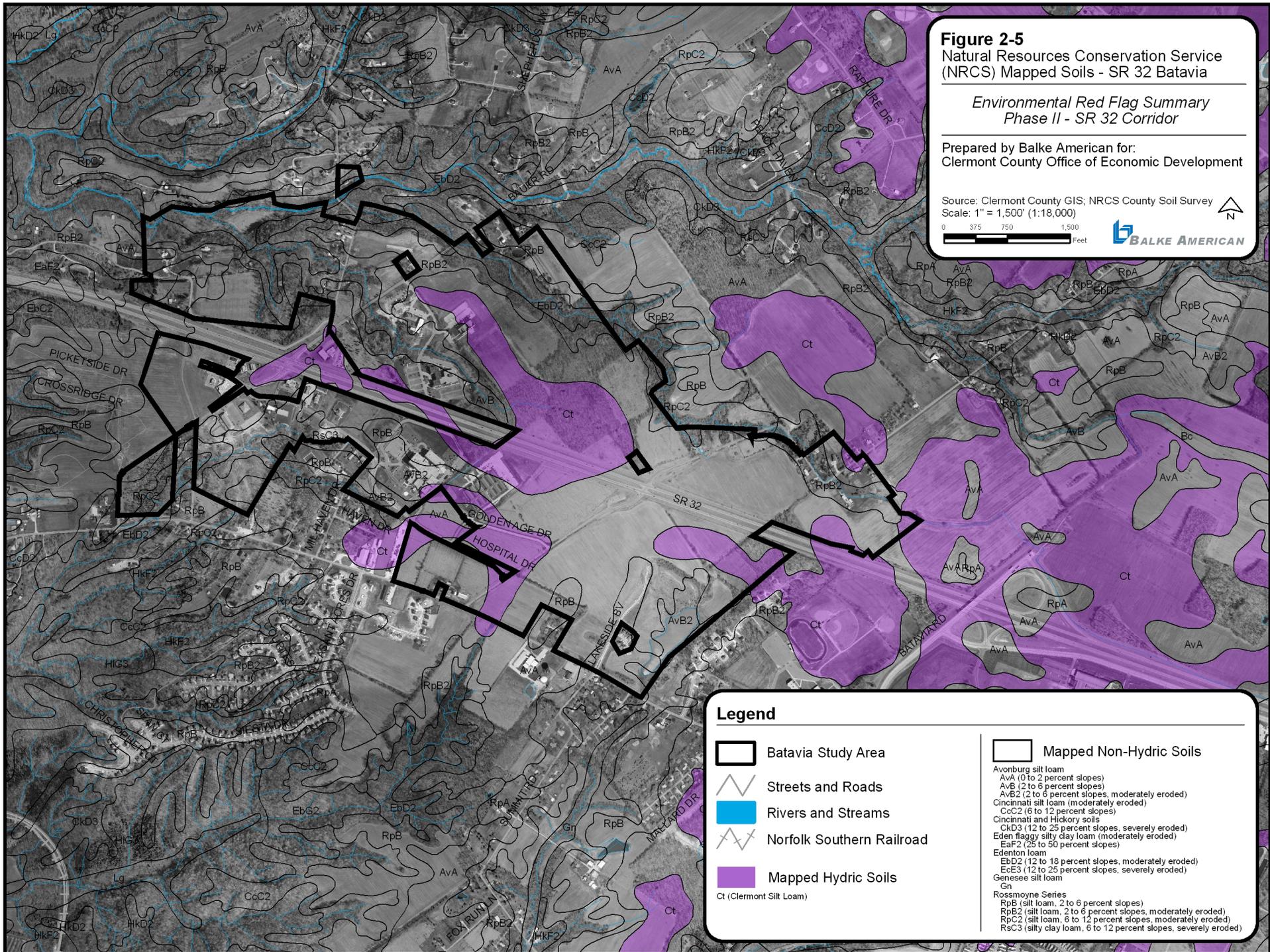


Figure 2-5
 Natural Resources Conservation Service (NRCS) Mapped Soils - SR 32 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS; NRCS County Soil Survey
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet

BALKE AMERICAN

Legend

	Batavia Study Area		Mapped Non-Hydric Soils
	Streets and Roads	Avonburg silt loam AvA (0 to 2 percent slopes) AvB (2 to 6 percent slopes) AvB2 (2 to 6 percent slopes, moderately eroded) Cincinnati silt loam (moderately eroded) CcC2 (6 to 12 percent slopes) Cincinnati and Hickory soils CkD3 (12 to 25 percent slopes, severely eroded) Eden flaggy silty clay loam (moderately eroded) EaF2 (25 to 50 percent slopes) Edenton loam EbD2 (12 to 18 percent slopes, moderately eroded) EcE3 (12 to 25 percent slopes, severely eroded) Genesee silt loam Gn Rossmoyne Series RpB (silt loam, 2 to 6 percent slopes) RpB2 (silt loam, 2 to 6 percent slopes, moderately eroded) RpC2 (silt loam, 6 to 12 percent slopes, moderately eroded) RSc3 (silty clay loam, 6 to 12 percent slopes, severely eroded)	
	Rivers and Streams		
	Norfolk Southern Railroad		
	Mapped Hydric Soils		
	Ct (Clermont Silt Loam)		

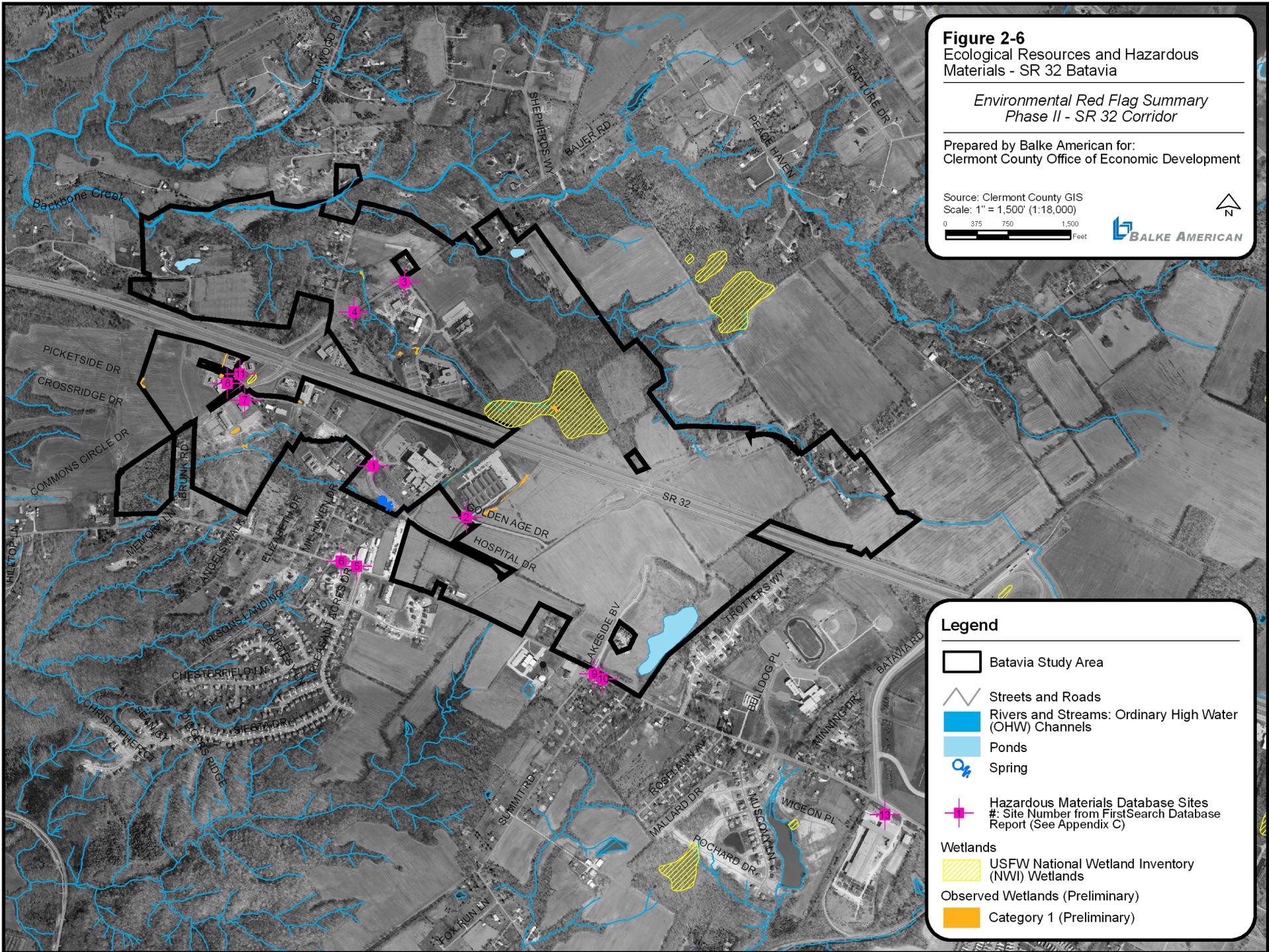
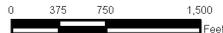


Figure 2-6
 Ecological Resources and Hazardous
 Materials - SR 32 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)



Legend

- Batavia Study Area
- Streets and Roads
- Rivers and Streams: Ordinary High Water (OHW) Channels
- Ponds
- Spring
- Hazardous Materials Database Sites
 #: Site Number from FirstSearch Database Report (See Appendix C)
- Wetlands**
- USFW National Wetland Inventory (NWI) Wetlands
- Observed Wetlands (Preliminary)
- Category 1 (Preliminary)

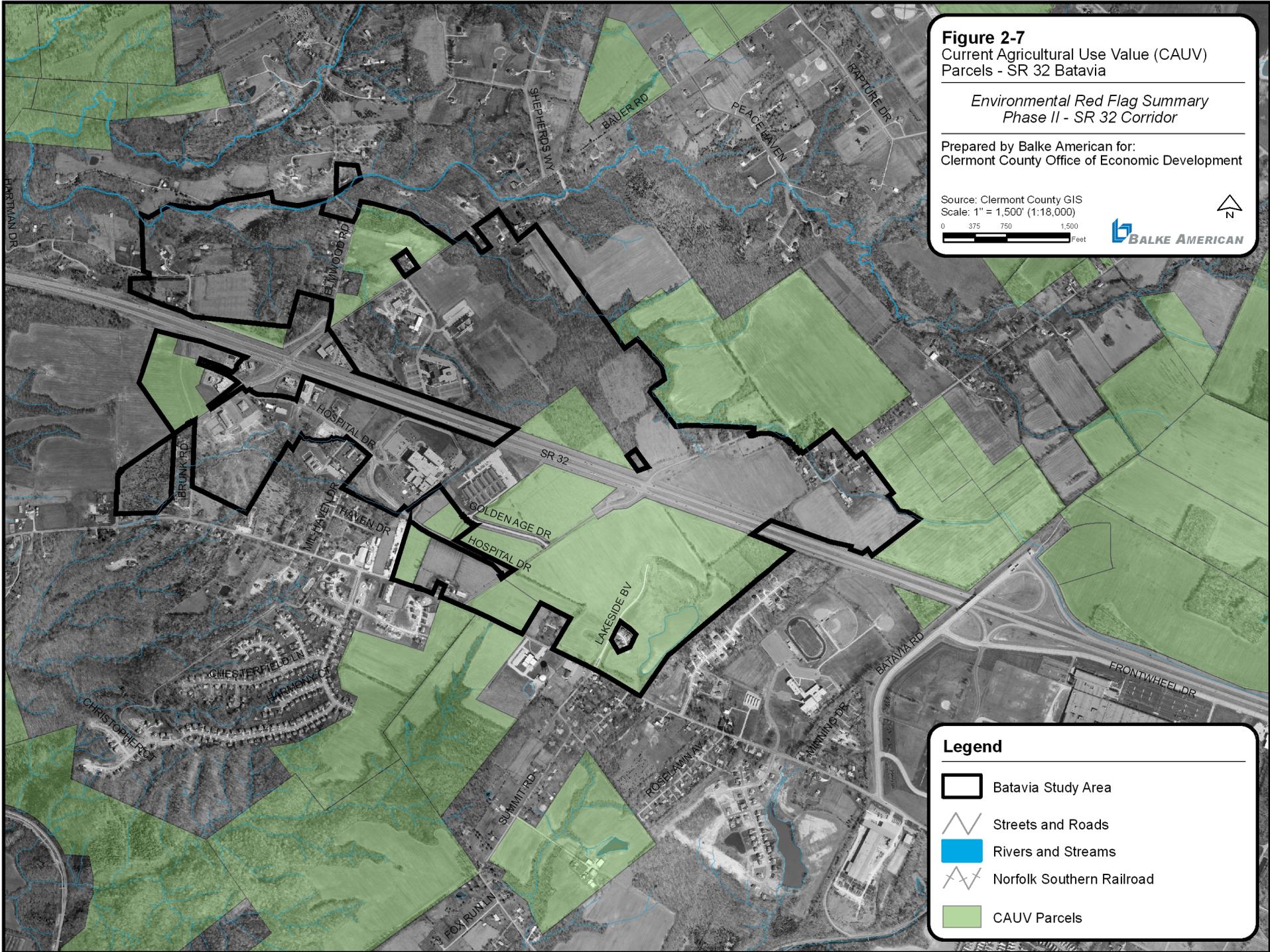


Figure 2-7
 Current Agricultural Use Value (CAUV)
 Parcels - SR 32 Batavia

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

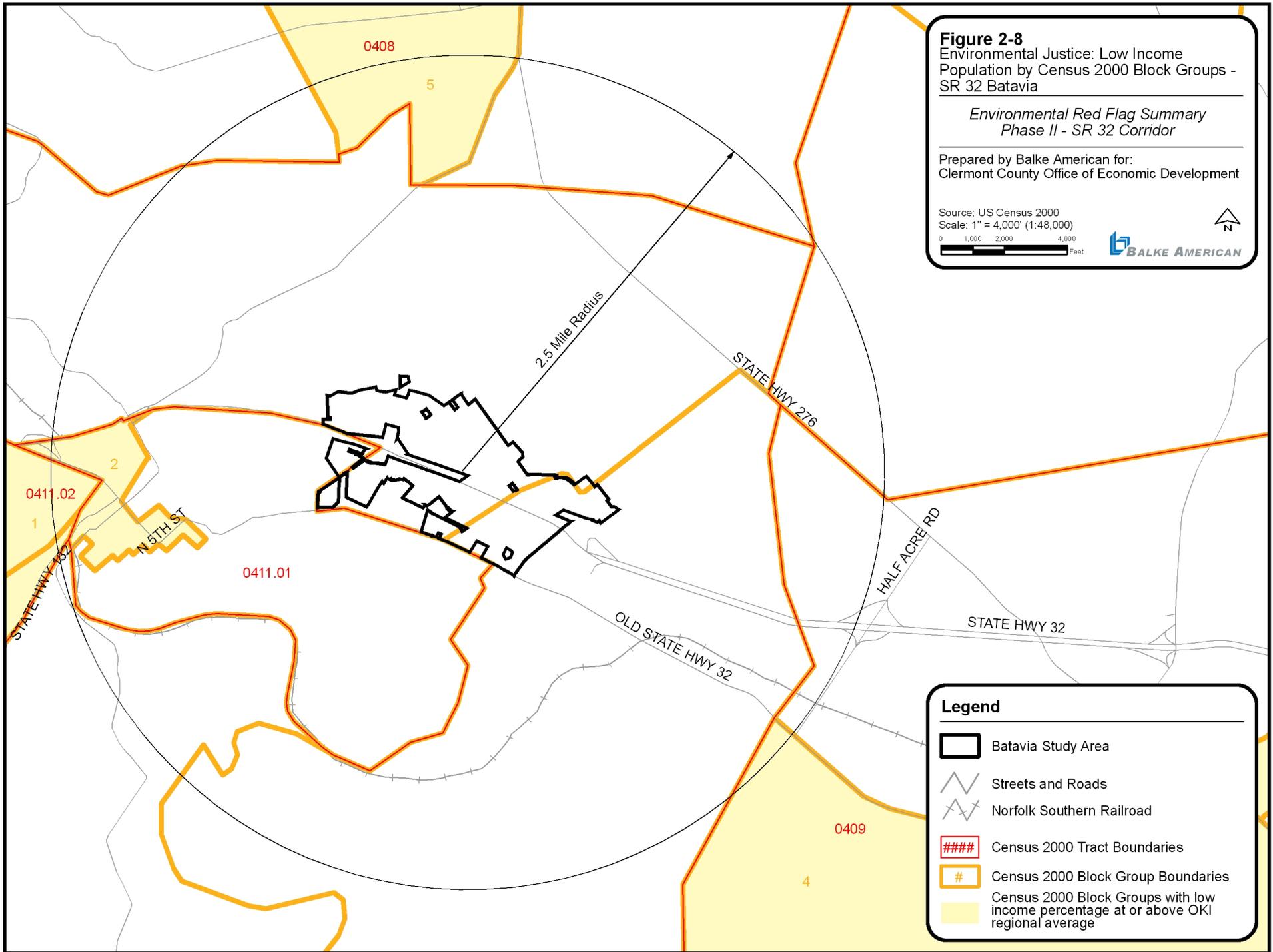
Prepared by Balke American for:
 Clermont County Office of Economic Development

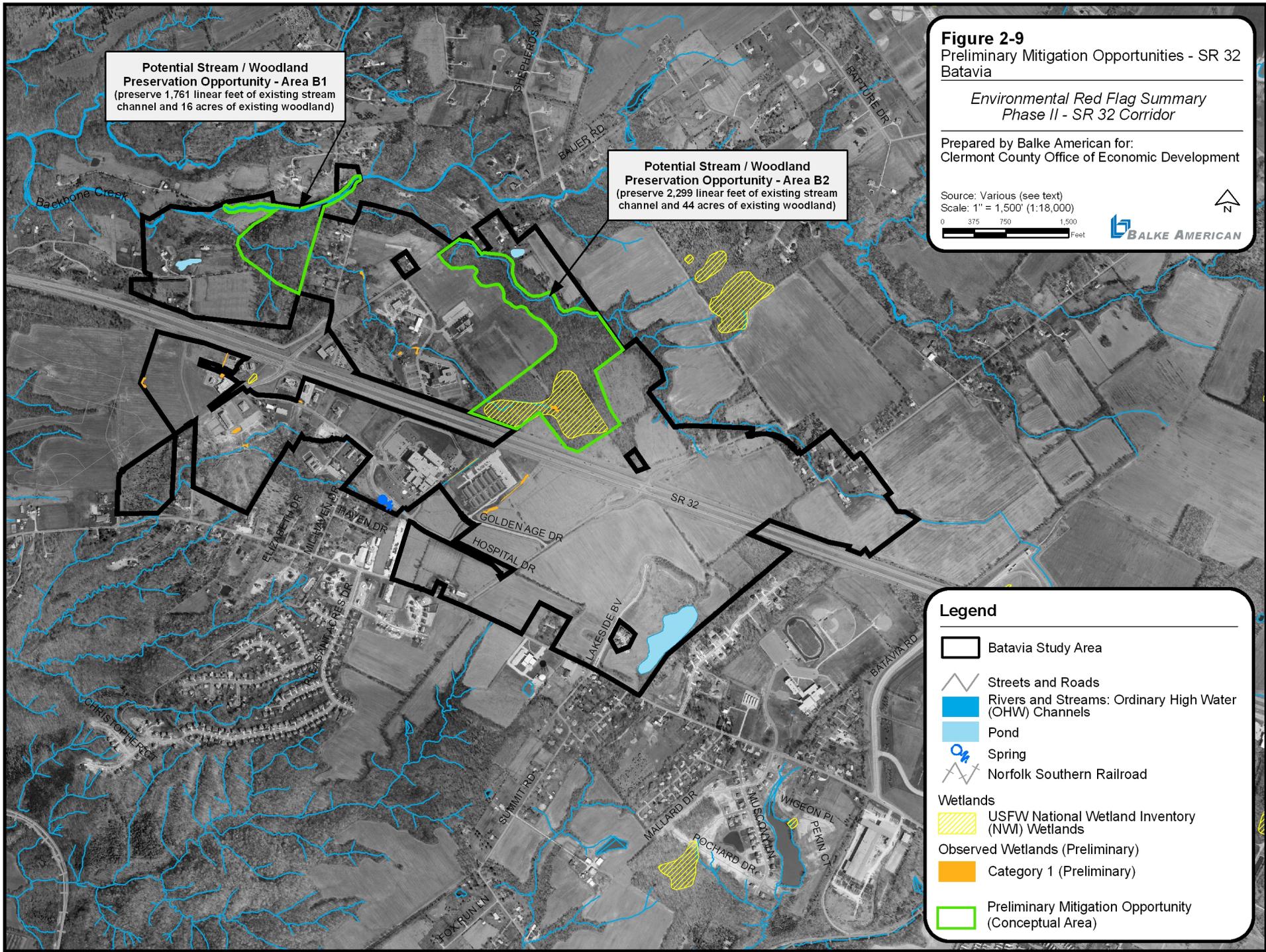
Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)



Legend

-  Batavia Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  CAUV Parcels





Potential Stream / Woodland Preservation Opportunity - Area B1
 (preserve 1,761 linear feet of existing stream channel and 16 acres of existing woodland)

Potential Stream / Woodland Preservation Opportunity - Area B2
 (preserve 2,299 linear feet of existing stream channel and 44 acres of existing woodland)

Figure 2-9
 Preliminary Mitigation Opportunities - SR 32 Batavia

Environmental Red Flag Summary
 Phase II - SR 32 Corridor

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Various (see text)
 Scale: 1" = 1,500' (1:18,000)



Legend

- Batavia Study Area
- Streets and Roads
- Rivers and Streams: Ordinary High Water (OHW) Channels
- Pond
- Spring
- Norfolk Southern Railroad
- Wetlands**
- USFW National Wetland Inventory (NWI) Wetlands
- Observed Wetlands (Preliminary)**
- Category 1 (Preliminary)
- Preliminary Mitigation Opportunity (Conceptual Area)

3. SR 32 WILLIAMSBURG

3.1. Project Setting

Existing Land Use

The SR 32 Williamsburg study area is located in Williamsburg Township, just north of the Village of Williamsburg, along SR 32 generally between McKeever and Dela Palma roads, and just west of the Clermont County/Brown County line. The study area evaluated for this red flag is about 480 acres in size and encompasses about 24 parcels. The SR 32 Williamsburg corridor is predominantly agricultural land and wooded stream corridors, with scattered commercial and residential development. Small businesses within the study area include Schumacher Model Homes and More Landscaping. Land use surrounding the study area is mostly rural residential/agricultural. These and other key existing land use features are shown on Figure 3-1.

Transportation and Public Utilities

Existing transportation facilities in the vicinity of the SR 32 Williamsburg study area are shown on Figure 3-2. SR 32 runs from west to east through the study area, and McKeever Road and Dela Palma Road are north-south county routes that originate in the Village of Williamsburg just south of the study area. McKeever Road extends through the study area and terminates about two miles north at Jackson Pike (County Road 62). Dela Palma Road extends northeast into Brown County towards US 68. SR 133 crosses SR 32 just west of the study area, continuing south through the Village of Williamsburg and north to SR 50.

McKeever Road and Dela Palma Road are Local Streets by current roadway functional classification, SR 32 in the project vicinity is classified as Principal Arterial, and SR 133 is classified as a Major Collector (source: 2006

Access Clermont). SR 32, which is a key east-west route through Clermont County, is also designated as a component of the Appalachian Development Highway System (ADHS).

The Norfolk Southern Railroad roughly parallels existing SR 32 about one-half mile south of the SR 32 Williamsburg study area. This line, which extends from the west through the Village of Williamsburg, provides rail connections to southeast Indiana, southwest Ohio and other regional rail networks, and serves industrial facilities in Clermont County just west of the SR 32 Williamsburg study area (near Afton).

Water supply in the SR 32 Williamsburg corridor is provided by Brown County Rural Water. Public water lines are located in the area along McKeever road, Dela Palma Road, SR 32, SR 133, and adjoining local streets to serve existing residential and commercial development in the project vicinity (see Figure 3-2).

Clermont County is also served by private utilities, providing cable, electric, natural gas, telephone and waste collection services. One cell tower (Global Signal) occurs in the study area along McKeever Road.

Population and Employment

The population of Clermont County rose 6% between 2000 and 2004, and is currently 193,300 persons. Future projections for the county estimate 245,000 persons by the year 2030 (OKI, 2005), for an approximately 27% population increase over the next 25 years. Batavia Township's population (2000) is 17,503 persons, and is the third largest in the county.

Key industries in Clermont County include consumer goods, financial services, manufacturing and health care services. Three of the county's 25 largest private sector employers are located in Williamsburg Township, including: Dualite, located in the

Village of Williamsburg just west of the study area (see Figure 3-1), and Cincinnati Milacron and Core Composites, both located along Half Acre Road about 2 miles west of the study area. Clermont County has approximately 850,000 workers within a 45-minute drive of the county, and is projected to have the fifth fastest rate of employment growth in Ohio through 2025, with an estimated annual increase of 1.72% (source: Clermont County Office of Economic Development).

Future Land Use and Infrastructure Improvements

Future Land Use – Future land use mapping and recommendations for the Williamsburg area were developed by the Clermont County Department of Community Planning and Development as part of the SR 32 Corridor Vision Plan (see excerpts in Appendix A). Future land use in the SR 32 Williamsburg study area is proposed to be a combination of cluster residential, mixed use residential, greenspace, and, in the southeast quadrant of Dela Palma Road/SR 32, non-residential mixed use and light industrial. The Williamsburg Township Land Use Plan (see Appendix A) identifies agricultural and residential land uses in the SR 32 Williamsburg study area.

Planned Transportation Improvements – The 2006 Access Clermont (Official Clermont County 2006 Thoroughfare Plan Update) identified a tiered listing of transportation improvement projects based on status of plan development and funding, including two projects located in the SR 32 Williamsburg vicinity:

Tier 3 Projects (long-range plan):

- Dela Palma Road – construct new grade-separated interchange at SR 32
- SR 32 Frontage Road IV – establish new parallel frontage road on north side of SR 32 between McKeever Road and Dela Palma Road

Locations of these planned transportation improvements relative to the SR 32 Williamsburg study area are depicted on Figure 3-3.

3.2. Environmental Features and Red Flags

This section of the red flag summary presents an inventory of known environmental resources occurring in the SR 32 Williamsburg area. Each resource description includes:

- a summary of the secondary source materials reviewed,
- description of existing conditions in the project area based on literature review and field survey, and
- discussion of red flag issues associated with that resource, as applicable (*italicized in text boxes*).

For some resources, red flag issues (such as the need for additional studies, agency coordination and/or permit approval) come into play when a “federal action” is involved. **Federal actions** typically include projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies (CEQ regulations, Section 1508.18).

Figure 3-4 presents a regional map of known environmental resources in the SR 32 Williamsburg vicinity based on literature review and database searches conducted for this red flag study. Figures 3-5 through 3-8 present more detailed mapping for those features occurring within the immediate SR 32 Williamsburg study area.

Physiography and Geology

Physiography and geology information was obtained through review of available materials from the U.S. Environmental Protection Agency (USEPA), the Ohio Department of Natural Resources (ODNR) Division of Geological Survey, and the U.S. Geological Survey (USGS)

7.5-minute topographic mapping.

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is characterized as a rolling glacial till plain, with soils derived from glacial materials, original natural vegetation consisting of beech-maple hardwood and elm-ash swamp forests, and predominant land uses consisting of agricultural, woodland and small to medium urban areas.

Topography in the vicinity of the SR 32 Williamsburg study area is nearly level to steep sloping along drainage features, with elevations generally between 800 and 900 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

Soils and Hydric Soils

Soils information was obtained from review of materials from the U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS Soil Survey of Clermont County and related USDA website and mapping information).

Soils in the SR 32 Williamsburg study area are part of the Genesee-Williamsburg Association (western third along the East Fork), the Hickory-Cincinnati-Edenton-Eden (middle third of the study area), and the Avonburg-Clermont Association (east third of the study area).

Genesee-Williamsburg soils consist of deep, nearly level, well-drained soils on floodplains and terraces, and, in the study area, include the Genesee and Ockley silt loams along the East Fork (see Figure 3-5). Hickory-Cincinnati-Edenton-Eden soils are deep, steep, well-drained soils on the sides of valleys and on narrow ridgetops, and, in the study area, occur along the narrow steep-sloped, wooded

corridors associated with headwater tributaries. Avonburg-Clermont soils are deep, nearly level, poorly drained soils formed from glacial materials and, in the study area, occur on broad flats, dominated by agricultural uses.

Red Flag Summary for Soils

Hydric soils are poorly drained soils that may be associated with the occurrence of wetlands. Clermont silt loam, which comprises about 11% of the SR 32 Williamsburg study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Figure 3-5 shows the extent of hydric soils coverage within the project study area.

Streams and Floodplains

Stream information was obtained through review of reports and mapping, website information and other materials from the Ohio Environmental Protection Agency (OEPA) Division of Water, ODNR, USEPA, USGS topographic mapping, and Clermont County Office of Environmental Quality. Field survey was conducted in August 2006 to assess on-site stream conditions. Floodplains were identified using Federal Emergency Management Agency (FEMA) National Flood Insurance Program mapping obtained from the county GIS database.

The project is located within the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-110). This sub-watershed is listed as a 303(d) Priority Impaired Water (Category 5) in OEPA's Final 2006 Integrated Water Quality Monitoring and Assessment Report. Key causes of impairment reported by OEPA include nutrients, siltation, organic enrichment/dissolved oxygen, flow alteration and other direct habitat alterations. Watershed sources of impairment include municipal point sources, land development, urban runoff/storm sewers (non-point source), septic tank runoff, and channelization and flow modifications from development. An East Fork Little Miami River Action Plan, which includes

the project area, has been endorsed by OEPA and ODNR. Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.

The East Fork Little Miami River borders the SR 32 Williamsburg study area on the west. The north half of the SR 32 Williamsburg study area (north of SR 32) is drained by Crane Run mainstem and numerous unnamed USGS headwater tributaries in the Crane Run drainage, and the south half of the area (south of SR 32) is drained by unnamed USGS tributaries to the East Fork. FEMA mapped 100-year floodplains occur along the East Fork, Crane Run and an unnamed East Fork tributary within the SR 32 Williamsburg study area (see Figure 3-4). The Ohio Environmental Protection Agency (OEPA) classifies Crane Run (mainstem) as a Warmwater Habitat (per OAC 3745-1-18). The East Fork mainstem in the study area is classified as an Exceptional Warmwater Habitat and a State Resource Water.

Based on secondary source mapping and reconnaissance field survey, about 40 OHW features occur within the project study area (see Figure 3-6). Only one of these, Crane Run, is a USGS mapped blue-line stream, which occurs in the north-central portion of the study area along McKeever Road. The remaining features are non-USGS headwater streams, and preliminary assessment indicates that they are likely OEPA Modified Class I or II Primary Headwater (limited quality) streams.

Based on review of secondary source materials, no specific biological, physical or water quality assessments have been conducted for these features in the SR 32 Williamsburg corridor vicinity. The Clermont County Office of Environmental Quality has collected biological, physical and water quality data in Crane Run and East Fork at other locations in these drainages.

Red Flag Summary for Streams

Streams are typically natural corridors that provide habitat for fish and wildlife and greenspace and recreational opportunities for people. Surface features that have an "Ordinary High Water" (OHW) channel (definable stream bottom and banks) are under the jurisdiction of the U.S. Army Corps of Engineers and require a permit for filling and dredging activities under Section 404 of the Clean Water Act. About 40 OHW features were identified in the SR 32 Williamsburg study area. Actions involving these features may also require Section 401 water quality certification from OEPA and possible coordination with other agencies for fit with watershed action plans and TMDL initiatives. Impacts to streams require mitigation, usually at a 1:1 or 2:1 ratio. Stream corridors may also provide mitigation opportunities by preservation through conservation easement or other means, as further described in Section 3.4.

Wetlands and Ponds

U.S. Department of the Interior National Wetland Inventory (NWI) maps, USDA-NRCS soils information, and aerial photographs of the project area were reviewed to determine suspect wetland features. Field survey was conducted in August 2006 to assess on-site wetland conditions. Wetland boundaries were estimated in the field based on observed vegetation, hydrology and soils conditions, and mapped using a Trimble hand-held GPS unit.

Wetland determinations using USACE 1997 methods and evaluation of wetland quality using OEPA rapid assessment methods (ORAM) were not conducted. The field data collected for this red flag are considered preliminary estimates of wetland conditions in the area, subject to more detailed investigation for determining final jurisdictional status and size.

From reconnaissance field survey, an estimated eleven preliminary wetlands, each less than 0.1

acre in size, were identified within the SR 32 Williamsburg study area boundaries, as shown on Figure 3-6. Eight of the eleven preliminary wetlands are limited quality features (OEPA Category 1) that are associated with farm ponds, drainage swales or depressional areas in fields. These are typically narrow, linear or ring-shaped wetlands dominated by cattails, sedges and other common emergent plants. Three of the preliminary wetlands are moderate quality features (OEPA Category 2). One occurs on a sand bar along the East Fork River, one is a depressional area in a woodlot, and one Category 2 feature is an emergent scrub-shrub feature that formed as a result of a breached dam along the former Village of Williamsburg water reservoir.

Five open water features (ponds) occur in the project study area boundaries. Four are small farm ponds, three of which have associated emergent wetland rings (see above), and one open water feature is a former water reservoir for the Village of Williamsburg, which also has an associated wetland.

Red Flag Summary for Wetlands

Wetlands provide habitat for wildlife, help control floods, are natural groundwater filters, and can offer recreation and greenspace opportunities for people. Wetlands are special aquatic sites under the jurisdiction of the U.S. Army Corps of Engineers. Filling and dredging activities require a Section 404 permit from the Corps and may require Section 401 water quality certification from OEPA for compliance with the Clean Water Act. An estimated 11 wetlands, each less than 0.1 acre in size, were noted in the SR 32 Williamsburg study area. For wetland impacts greater than 0.1 acre, a mitigation plan needs to be developed and approved by the U.S Army Corps of Engineers and OEPA. Wetlands are usually mitigated at a 1.5:1 or 2:1 ratio.

Federal and State Threatened and Endangered Species

Information from the U.S. Fish and Wildlife Service and database search materials provided by ODNr Division of Natural Areas and Preserves were reviewed to assess the presence of federal and state-listed species in the SR 32 Williamsburg study area.

U.S. Fish and Wildlife reports that Clermont County is within the known range of four federal listed species, including:

Federal endangered:

- Indiana bat (*Myotis sodalis*)
- running buffalo clover (*Trifolium stoloniferum*)

Federal candidate:

- sheepnose mussel (*Plethobasus cyphus*)
- rayed bean (*Villosa fabalis*)

The rayed bean mussel (*Villosa fabalis*) has been reported from the East Fork Little Miami River about 2.5 miles upstream (north) of the SR 32 Williamsburg study area. None of the three other federal listed species are known from the immediate project study area, although potential summer roosting habitat for Indiana bat was noted during reconnaissance field surveys conducted for this project. Potential summer habitat consists of trees with exfoliating bark and dead limbs/trunks with cavities. All of the woodlands in the study area possess some trees with suitable Indiana bat roosting habitat.

Limited potential habitat for running buffalo clover was noted during reconnaissance field survey. Potential habitat for this species consists of partially shaded, grassy areas (limited herbaceous competition) that are periodically disturbed by mowing or grazing. These areas occur sporadically in the study area associated with old farmsteads. Potential habitat for the two listed federal mussels was not observed in the study area.

A review of ODNR Natural Heritage data information indicates that two state endangered mussels are reported from the East Fork Little Miami River, about 2.5 miles upstream of the SR 32 Williamsburg study area, including the rayed bean (also a federal candidate species; see above) and the little spectaclecase (*Villosa lienosa*) (see Figure 3-4 and Appendix B).

Red Flag Summary for T&E Species

Species are listed as threatened or endangered when their numbers are low or declining due to direct destruction or loss or degradation of suitable habitat. The presence of a threatened or endangered species in an area indicates a good quality environment. The SR 32 Williamsburg study area contains potential summer roosting habitat for the federal endangered Indiana bat, and activities involving the removal of trees may require coordination with the U.S. Fish and Wildlife Service for compliance with Section 7 of the Endangered Species Act of 1973 as amended, if federal actions are involved. Limited potential habitat for the federal endangered running buffalo clover was also noted in the study area, and detailed survey for this species during its flowering season (May-June) may be required if federal actions involve disturbance to potential habitat.

Aquifers and Public Water Supplies

Groundwater, aquifer, and information about public water supplies (PWS) were obtained through review of report materials, mapping and website information from USEPA, OEPA Division of Drinking and Groundwaters, and ODNR Division of Water.

The SR 32 Williamsburg study area is not located within the boundaries of any USEPA-designated sole source aquifer, nor are there any OEPA public water supply (PWS) wells located in the immediate study area boundaries. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork further

downstream and outside of the study area. A PWS wastewater treatment plant occurs about 0.25 miles from the west study area boundaries near the Village of Williamsburg (see Figure 3-4).

Review of groundwater mapping from ODNR (Groundwater Resources of Clermont County, Walker, 1986) indicates that the project occurs in an area that is a poor source of groundwater. Yields seldom exceed three gallons per minute, and groundwater is generally inadequate for domestic water supplies. No private water wells on file with ODNR Division of Water occur in the SR 32 Williamsburg study area boundaries. The closest private well is located about 0.25 miles southwest of the study area.

The entire SR 32 Williamsburg study area occurs within the boundaries of the Source Water Protection area (SWA) of the Clermont County Public Water System (see Figure 3-4). This system uses surface water, primarily intakes along East Fork Reservoir, for public drinking water.

The SWA program, which was established out of the Safe Water Drinking Act as amended in 1996, is implemented at the local level. OEPA provides technical assistance to local communities to develop SWA protection plans for public drinking water sources.

There are no ODOT MS4 Phase 2 regulated areas within or adjacent to the SR 32 Williamsburg corridor.

Oil and Gas Wells

Oil and gas well locations in the project vicinity were obtained through review of mapping available from ODNR Division of Mineral Resources Management. No oil and gas wells registered with ODNR are located within the SR 32 Williamsburg study area boundaries. The closest well is located along SR 133 about 0.05 mile south of the study area (see Figure 3-4).

Woodlands

Information about terrestrial habitats in the project study area was obtained through review of database search materials provided by ODNR Division of Natural Areas and Preserves and reconnaissance field survey conducted in August 2006.

Much of the SR 32 Williamsburg study area has been cleared for agricultural land use. Remaining woodlands are primarily associated with steep-sloped ravines (undevelopable areas) along headwater drainage features. Field survey indicates these areas are periodically selectively cut for logs, but otherwise relatively undisturbed. Typical canopy trees are young to intermediate in age and composed of a mix of oak, ash, maple and occasional hickory. Woodlands in the study area are valuable in that they contain trees with potential Indiana bat roosting habitat. No high quality woodlands were reported by ODNR from the project study area, however the primarily undevelopable wooded ravines along headwater streams are identified as potential preservation opportunities, as further described in Section 3.4.

Farmland

Information concerning the locations of Agricultural Districts (AD) and Current Agricultural Use Value (CAUV) parcels in the project area was obtained from review of Clermont County GIS data and information obtained from the auditor's website.

An AD is an agricultural land enrollment program that provides landowners protection against nuisance suits over farm operations, deferment of tax assessments on land to build sewer and water lines, and under certain circumstances, allows for additional review if land is taken by eminent domain for a public purpose. Impact to AD parcels beyond an established threshold requires notification to the Ohio Department of Agriculture, as required by Ohio Revised Code 929.05(a).

The CAUV Program is a differential real estate tax assessment program which affords farmland owners the opportunity to have their parcels taxed according to their value in agriculture rather than full market value.

Much of the SR 32 Williamsburg study area is in agricultural land use (row crop). No Agricultural Districts occur in the study area. About one-third of the agricultural parcels in the area, however, are included in the CAUV Program, as depicted on Figure 3-7.

Hazardous Materials Concerns

Potential hazardous materials concerns in the project study area were determined by reviewing regulatory database records and by reconnaissance field survey conducted in August, 2006.

An environmental records database search for the project area was conducted on August 8, 2006 by FirstSearch Technology Corporation (see Appendix C). This search, which included review of 11 agency databases for a 1.25 mile radius area centered on the SR 32 Williamsburg study area, identified 59 records encompassing about 25 sites (some sites with multiple database records), as shown on Figures 3-4 and 3-6. None of these records were reported from within or immediately adjacent to the SR 32 Williamsburg study boundaries (all located within the Village of Williamsburg).

During reconnaissance field survey, an open dump/debris area was observed along a portion of a headwater ravine, and it is possible that above-ground fuel storage tanks (AST) associated with older farmsteads occur in the area.

Red Flag Summary for Hazardous Materials

No National Priority List or other substantial known hazardous materials concerns were identified from the database search and field reconnaissance. A detailed environmental site assessment (ESA) screening and phase 1 ESA investigation may be necessary to assess potential hazardous materials associated with database sites, an observed open dump/debris area and possible AST or similar features that may be within and adjacent to the study area.

Cultural Resources

Review of online mapping materials from the Ohio Historic Preservation Office (OHPO) and reconnaissance field survey was conducted to assess cultural resources in the project study area.

Based on review of OHPO online mapping, 25 previously recorded archeological sites (OAI), 3 previously recorded historic inventory sites (OHI), and 3 sites on or eligible for listing in the National Register of Historic Places occur within a 2.5 mile radius centered on the SR 32 Williamsburg study area. Three of the previously recorded archaeological sites occur within the SR 32 Williamsburg study area boundaries (see Figure 3-4).

During reconnaissance field survey conducted for this red flag study, several old (> 50 years) farmstead residences and agricultural outbuildings were noted within the study area along McKeever Road. The historic significance of these structures has not been determined.

Red Flag Summary for Cultural Resources

The National Register of Historic Places is a list of properties determined significant in American history, architecture, archaeology, engineering or culture by virtue of design or architectural criteria, association with historical persons and events, and/or value for historic or prehistoric information. No known NR or NR eligible properties occur within the SR 32 Williamsburg study area, although three previously recorded archaeological sites and several potential historic resources observed during field surveys occur in the area. Detailed cultural studies and coordination with OHPO may be required to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.

Parks and Potential Section 4(f)/6(f) Resources

Clermont County GIS data and information available from the ODNR Land and Water conservation Fund (LWCF) website were reviewed to determine the presence of parks, greenspaces and any potential 6(f) facilities.

Section 4(f) of the 1966 Department of Transportation Act applies when actions by FHWA involve impacts to public owned parks, recreational areas or cultural resources listed or eligible for listing on the National Register of Historic Places. Section 6(f) of the Land and Water Conservation Fund Act applies when recreational facilities that have received LWCF funds are impacted. No public-owned parks, recreational areas, greenspaces or LWCF facilities occur in the SR 32 Williamsburg study area, therefore neither Section 4(f) of 6(f) would be applicable to this project.

Environmental Justice

Executive Order 12898 states that low income and minority populations must be included in

project planning to assure nondiscrimination in Federal programs. Environmental justice communities occurring in the project vicinity were determined from review of 2000 Census tract data for Clermont County.

No low income or minority populations were identified in the immediate SR 32 Williamsburg study area. The closest environmental justice populations (low income) by census block group are located in Williamsburg to the south of the project study area (see Figure 3-8).

Air Quality and Noise

Air quality and noise issues come into consideration if development in the SR 32 Williamsburg corridor includes transportation improvements using federal funds. Clermont County is located in the Cincinnati Air Quality Control Region under the jurisdiction of the OKI Regional Council of Governments. Transportation improvements using federal funds (if involved) would need to be included in OKI's Transportation Improvement Plan (TIP) to be consistent with regional air quality goals.

Potential noise receptors in the area include scattered existing residential development along McKeever Road and Dela Palma Road. If development in the SR 32 Williamsburg corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.

Red Flag Summary for Air Quality & Noise
Agency coordination and/or additional studies for air quality and noise may be required if development in the SR 32 Williamsburg study area includes transportation improvements using federal funds.

3.3. Permitting Issues

Potential impacts to streams and wetlands due to development activities in the SR 32 Williamsburg corridor may require obtaining a

Section 404 permit from the U.S. Army Corps of Engineers and Section 401 Water Quality Certification from OEPA. The type of 404 permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).

Activities in the study area may also involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.

No U.S. Army Corps of Engineers Section 10 permit (pertaining to navigable waters) or U.S. Coast Guard Section 9 Bridge permit will be required. Consultation with the local floodplain coordinator may be required for activities occurring in the East Fork floodplain.

3.4. Impact Minimization and Mitigation Opportunities

Approximately 40 jurisdictional streams (OHW channels) and 11 preliminary wetlands (jurisdictional field studies not yet conducted) were identified in the SR 32 Williamsburg study area boundaries. Most of the streams are small headwater features associated with steep-sloped, relatively undisturbed wooded ravines. Cultural resources may also be important in the area, however, additional studies are needed to determine their extent and significance.

This red flag information provides opportunity to fully consider resource protection and impact minimization as integral components during future development of the SR 32 Williamsburg corridor. Preliminary resource protection measures include the following:

Summary of Preliminary Resource Protection Measures

- Minimize loss of existing habitat and habitat fragmentation: During site planning and development, take all practicable measures to avoid and minimize impacts to wooded ravines, stream channels and wetlands by incorporating existing natural features into site layout and landscaping to the extent possible. Existing natural features may be incorporated into the site plan as buffers, required greenspace area, or may be preserved for on-site mitigation of impacts.
- Stormwater runoff management: From site planning to facility construction, develop and implement construction and post-construction stormwater management strategies, best management practices (BMP) for erosion control, and resource protection measures following guidelines outlined in the Clermont County Water Management and Sediment Control Regulations, the Clermont County 2003 Phase II Stormwater Management Plan, and the Clermont County 2004 Subdivision Regulations.

Incorporate existing woodlands, stream and other natural features into stormwater management strategies and BMP design to the extent practicable, such as using natural features as vegetated swales or buffers, or for use in stormwater retention or detention.

- Landscaping: Develop landscaping plans that compliment/link with existing natural corridors in and adjacent to the study area. Use native trees, shrubs and herbaceous plantings, and incorporate measures to control the spread of invasive species.
- Determine presence of cultural resources: For any development in the SR 32 Williamsburg corridor involving a federal action, conduct all required historic and archaeological studies for compliance with Section 106 of the Historic Preservation Act,

and avoid and minimize impacts to significant resources, if identified.

- Environmental Mitigation: Preserve by conservation easement or other means, existing good quality wooded ravines and associated headwater streams for on-site mitigation of impacts related to site development and/or evaluate use of existing wooded ravines/headwater streams as a mitigation bank for other actions in the county requiring compensatory stream mitigation.

Summary of Preliminary Mitigation Opportunities

Potential on-site mitigation opportunities were evaluated as part of this red flag effort. Five opportunities were identified in the SR 32 Williamsburg study area, as shown on Figure 3-9 and summarized below:

- Stream Corridor Preservation – East Fork: This segment of the East Fork Little Miami River, occurring north of SR 32 along the west edge of the SR 32 Williamsburg corridor, contains diverse stream habitat (pool/riffle/run) and a mostly undisturbed wooded riparian corridor linked to other upland woods. Preservation potential along this reach is about 3,484 linear feet.
- Stream Corridor Preservation – Crane Run: This potential preservation segment of Crane Run extends from its mouth at the East Fork upstream for approximately 1,787 linear feet. Crane Run in this area is a USGS blue line stream with a provisional OEPA classification of Warmwater Habitat (good quality; based on QHEI score; see Appendix G). It is bordered by a continuous, mostly undisturbed wooded riparian corridor.
- Stream/Woodland Preservation – Area W1: This area, located to the north of SR 32 and west of Dela Palma Road, contains

preservation opportunity for approximately 5,456 linear feet of existing stream channel (unnamed headwater tributaries to Crane Run) and 20 acres of adjacent existing riparian and ravine woodland. The existing headwater streams in this area are USGS blueline features with provisional OEPA classifications of Class II Primary Headwater Habitat (moderate quality; based on HHEI scores; see Appendix G). The headwater streams are bordered by relatively undisturbed steep-sloped woodland ravines dominated by a mixed maple canopy (red and sugar maples) with scattered larger oaks, black cherry and shagbark hickory.

- Stream/Woodland Preservation – Area W2: This area, located to the south of SR 32 and east of McKeever Road, contains preservation opportunity for approximately 5,460 linear feet of existing stream channel (unnamed headwater tributaries to the East Fork) and 20 acres of adjacent existing riparian and ravine woods. The existing headwater streams in this area are USGS blueline features with provisional OEPA classifications of Class II Primary Headwater Habitat (moderate quality; based on HHEI scores; see Appendix G). The headwater streams are bordered by relatively undisturbed steep-sloped woodland ravines dominated by a mixed maple canopy (red and sugar maples) with scattered larger oaks, black cherry and shagbark hickory.

Red Flag Summary for Mitigation and Banking Opportunities

Identified mitigation opportunities are preliminary only and suitability of these sites for mitigation requires additional study and coordination and approval by the U.S. Army Corps of Engineers, OEPA and/or ODNR. Approved mitigation areas must comply with the U.S. Army Corps of Engineers “Mitigation Guidelines”, September 23, 2004. Guidance for establishing mitigation banks is provided by the U.S. Army Corps of Engineers in: “Federal Guidance for the Establishment, Use and Operation of Mitigation Banks”, December 28, 1995, and information regarding mitigation banking in Ohio can be found on ODNR’s website: www.ohiodnr.com/wetlands/banking. Federal guidance notes that restoration should be the first option considered for mitigation/banking, and that preservation is preferably considered in combination with restoration, creation or enhancement activities.

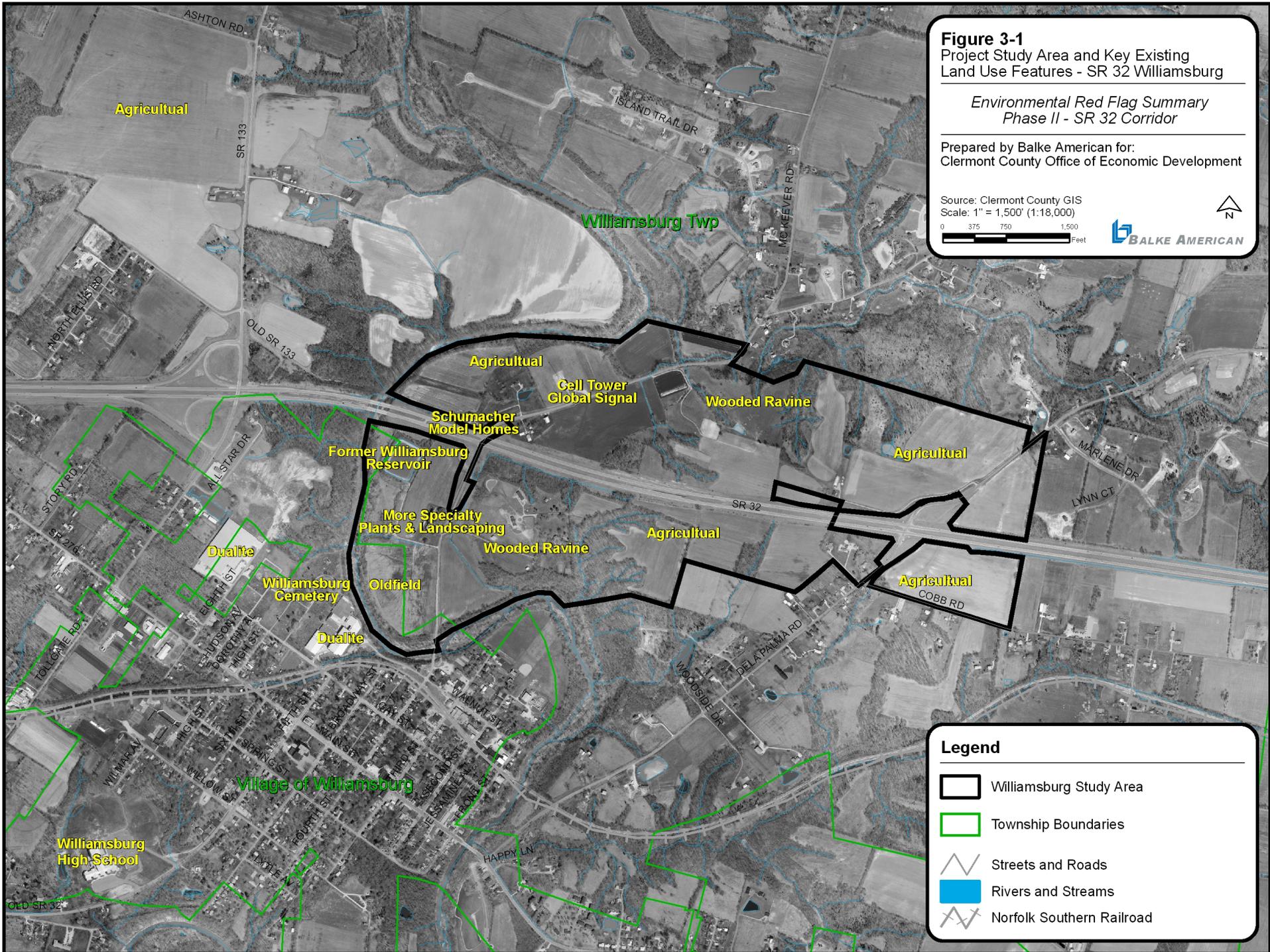


Figure 3-1
 Project Study Area and Key Existing
 Land Use Features - SR 32 Williamsburg

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet

BALKE AMERICAN

Legend

- Williamsburg Study Area
- Township Boundaries
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad

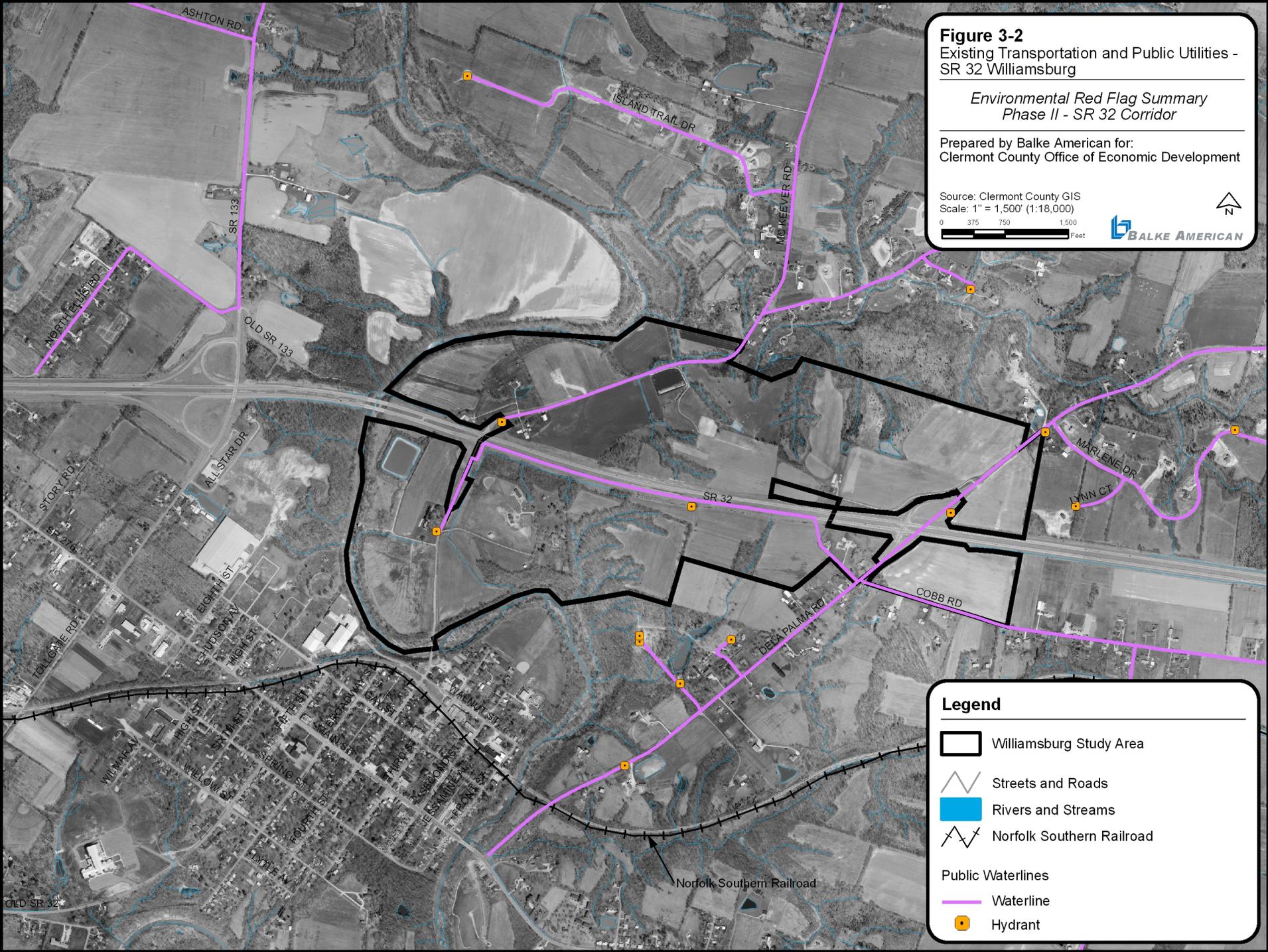


Figure 3-2
Existing Transportation and Public Utilities -
SR 32 Williamsburg

*Environmental Red Flag Summary
Phase II - SR 32 Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: Clermont County GIS

Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet



Legend

-  Williamsburg Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
- Public Waterlines
 -  Waterline
 -  Hydrant

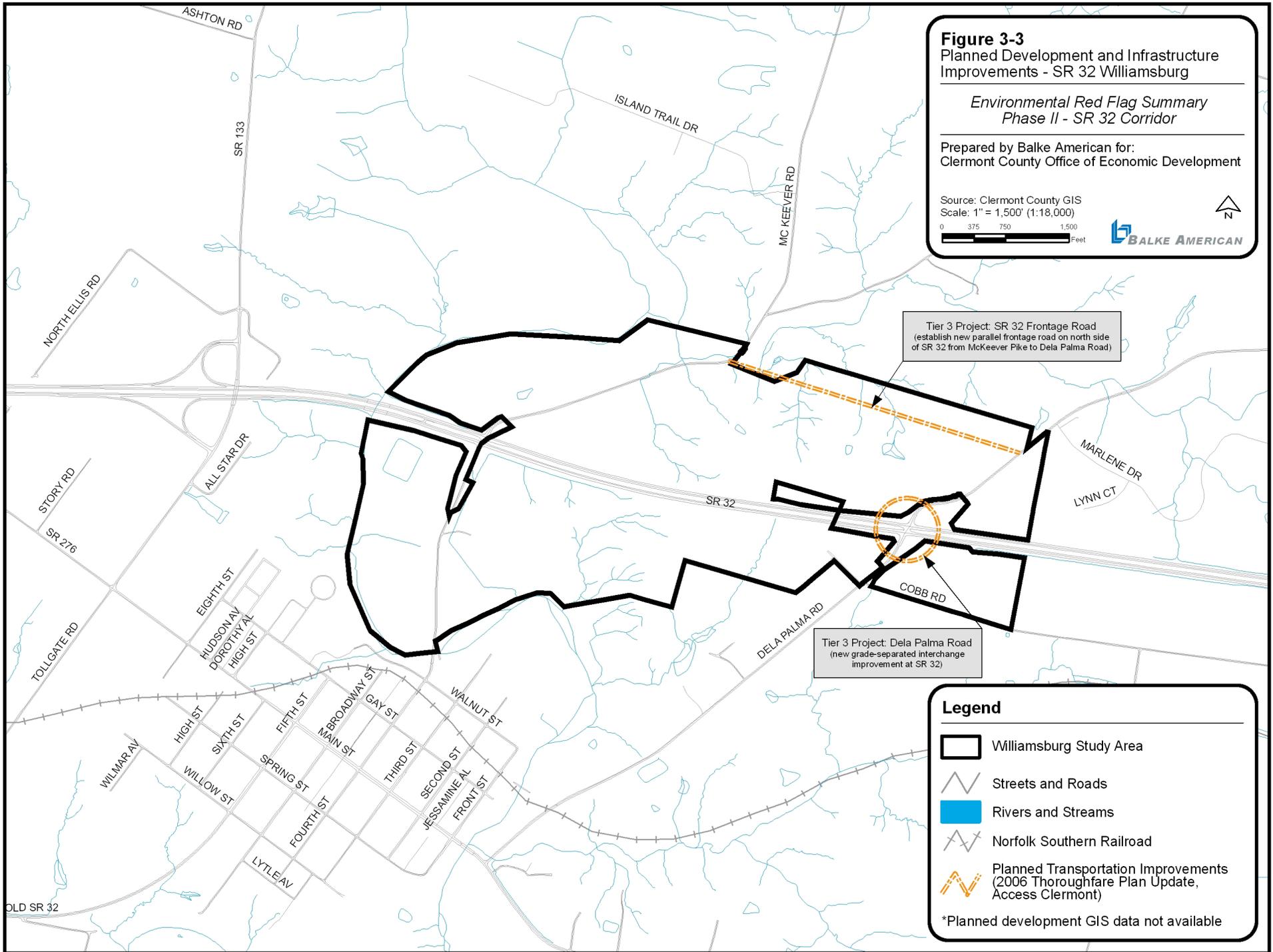


Figure 3-3
Planned Development and Infrastructure Improvements - SR 32 Williamsburg

Environmental Red Flag Summary
Phase II - SR 32 Corridor

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet




Tier 3 Project: SR 32 Frontage Road
 (establish new parallel frontage road on north side of SR 32 from McKeever Pike to Dela Palma Road)

Tier 3 Project: Dela Palma Road
 (new grade-separated interchange improvement at SR 32)

Legend

-  Williamsburg Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  Planned Transportation Improvements (2006 Thoroughfare Plan Update, Access Clermont)

*Planned development GIS data not available

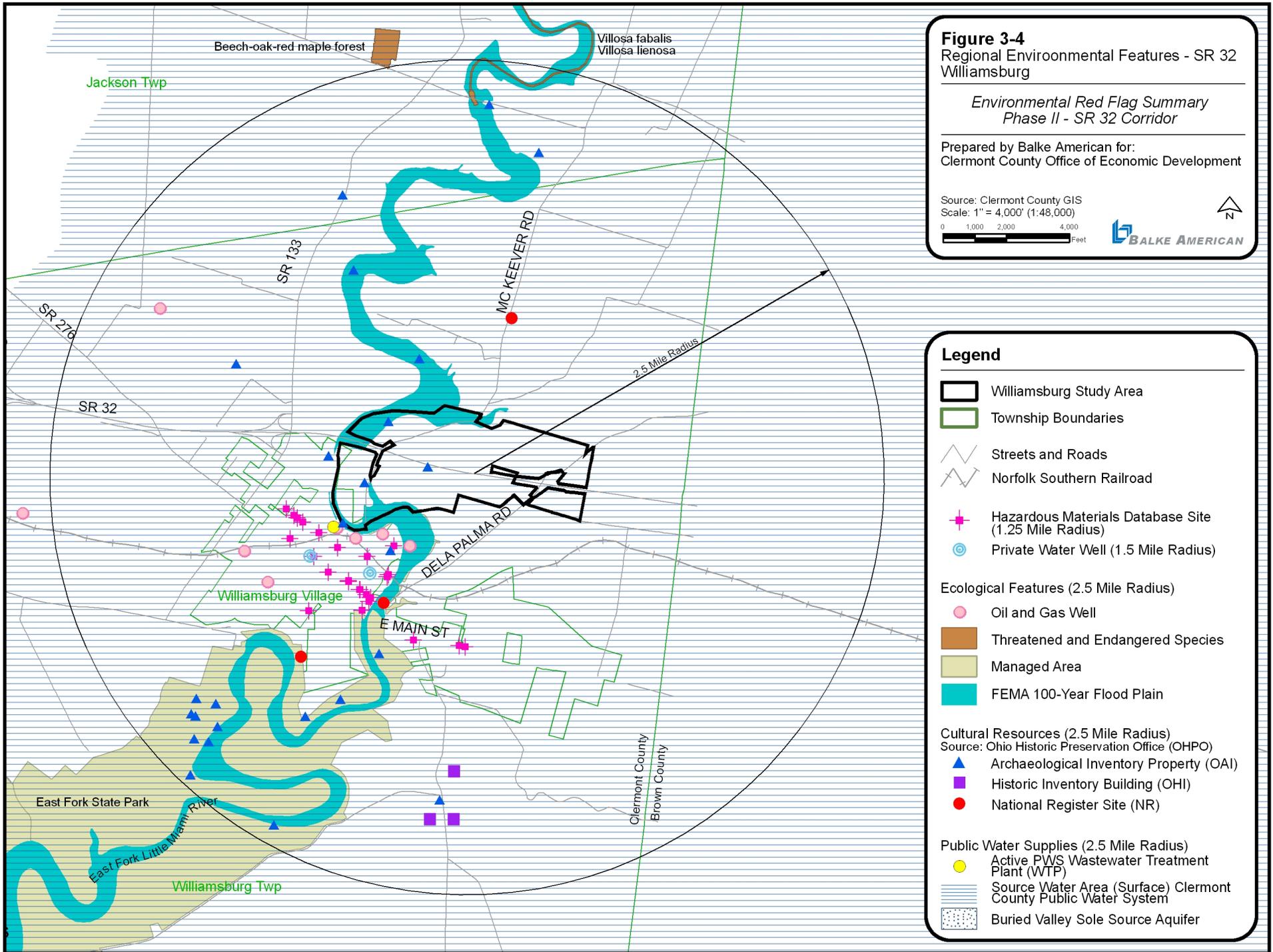


Figure 3-4
Regional Environmental Features - SR 32
Williamsburg

*Environmental Red Flag Summary
Phase II - SR 32 Corridor*

Prepared by Balke American for:
Clermont County Office of Economic Development

Source: Clermont County GIS
Scale: 1" = 4,000' (1:48,000)
0 1,000 2,000 4,000 Feet



Legend

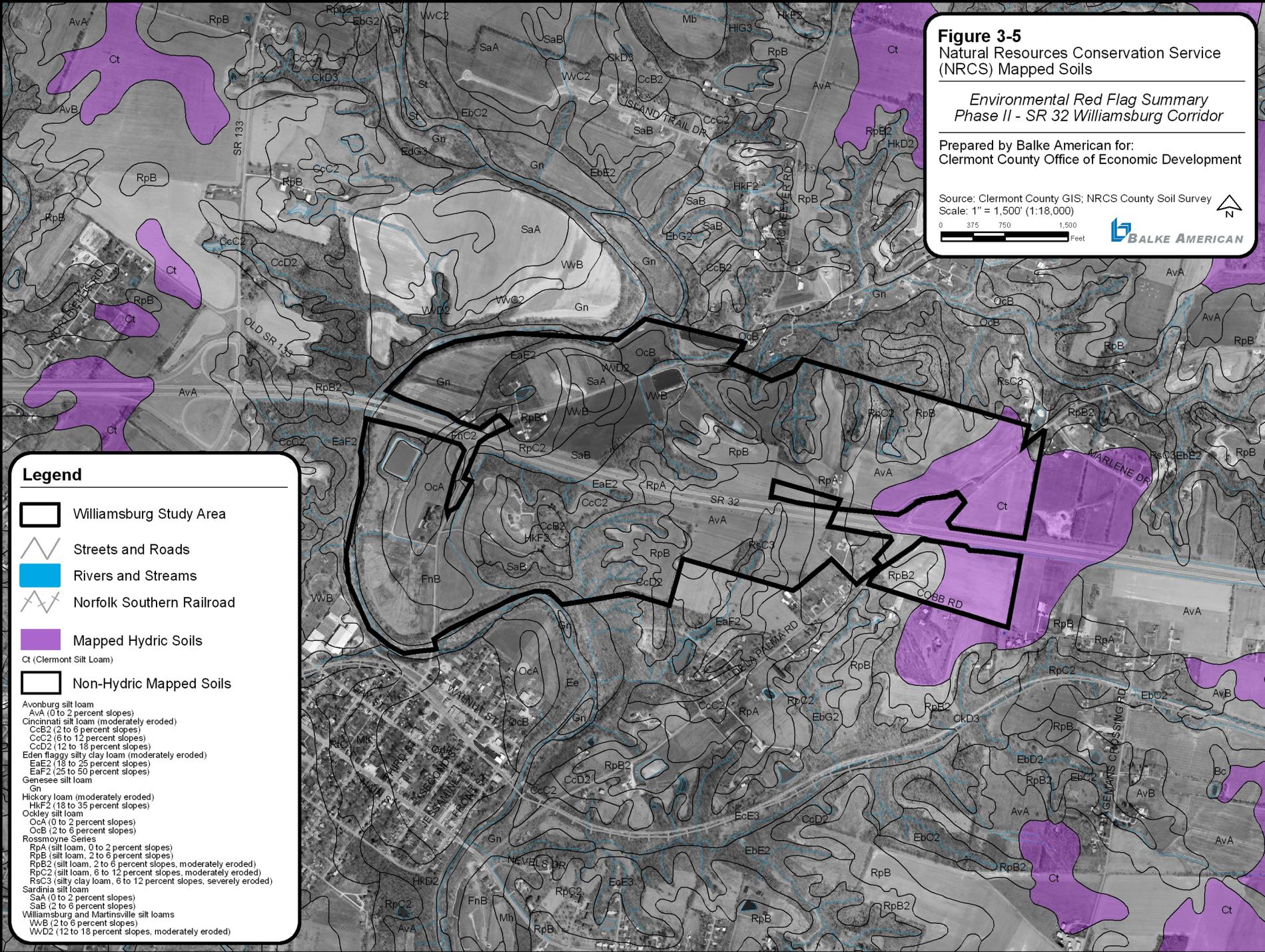
- Williamsburg Study Area
- Township Boundaries
- Streets and Roads
- Norfolk Southern Railroad
- Hazardous Materials Database Site (1.25 Mile Radius)
- Private Water Well (1.5 Mile Radius)
- Ecological Features (2.5 Mile Radius)**
 - Oil and Gas Well
 - Threatened and Endangered Species
 - Managed Area
 - FEMA 100-Year Flood Plain
- Cultural Resources (2.5 Mile Radius)**
Source: Ohio Historic Preservation Office (OHPO)
 - Archaeological Inventory Property (OAI)
 - Historic Inventory Building (OHI)
 - National Register Site (NR)
- Public Water Supplies (2.5 Mile Radius)**
 - Active PWS Wastewater Treatment Plant (WTP)
 - Source Water Area (Surface) Clermont County Public Water System
 - Buried Valley Sole Source Aquifer

Figure 3-5
 Natural Resources Conservation Service
 (NRCS) Mapped Soils

*Environmental Red Flag Summary
 Phase II - SR 32 Williamsburg Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS; NRCS County Soil Survey
 Scale: 1" = 1,500' (1:18,000)

Legend

-  Williamsburg Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  Mapped Hydric Soils
-  Non-Hydric Mapped Soils

Ct (Clermont Silt Loam)

Non-Hydric Mapped Soils

- Avonburg silt loam
- AvA (0 to 2 percent slopes)
- Cincinnati silt loam (moderately eroded)
- CcB2 (2 to 6 percent slopes)
- CcC2 (6 to 12 percent slopes)
- CcD2 (12 to 18 percent slopes)
- Eden flaggy silty clay loam (moderately eroded)
- EaE2 (18 to 25 percent slopes)
- EaF2 (25 to 50 percent slopes)
- Genesee silt loam
- Gn
- Hickory loam (moderately eroded)
- HkF2 (18 to 35 percent slopes)
- Ockley silt loam
- OcA (0 to 2 percent slopes)
- OcB (2 to 6 percent slopes)
- Rossmoyne Series
- RpA (silt loam, 0 to 2 percent slopes)
- RpB (silt loam, 2 to 6 percent slopes)
- RpB2 (silt loam, 2 to 6 percent slopes, moderately eroded)
- RpC2 (silt loam, 6 to 12 percent slopes, moderately eroded)
- RcC3 (silty clay loam, 6 to 12 percent slopes, severely eroded)
- Sardinia silt loam
- SaA (0 to 2 percent slopes)
- SaB (2 to 6 percent slopes)
- Williamsburg and Martinsville silt loams
- WwB (2 to 6 percent slopes)
- WwD2 (12 to 18 percent slopes, moderately eroded)

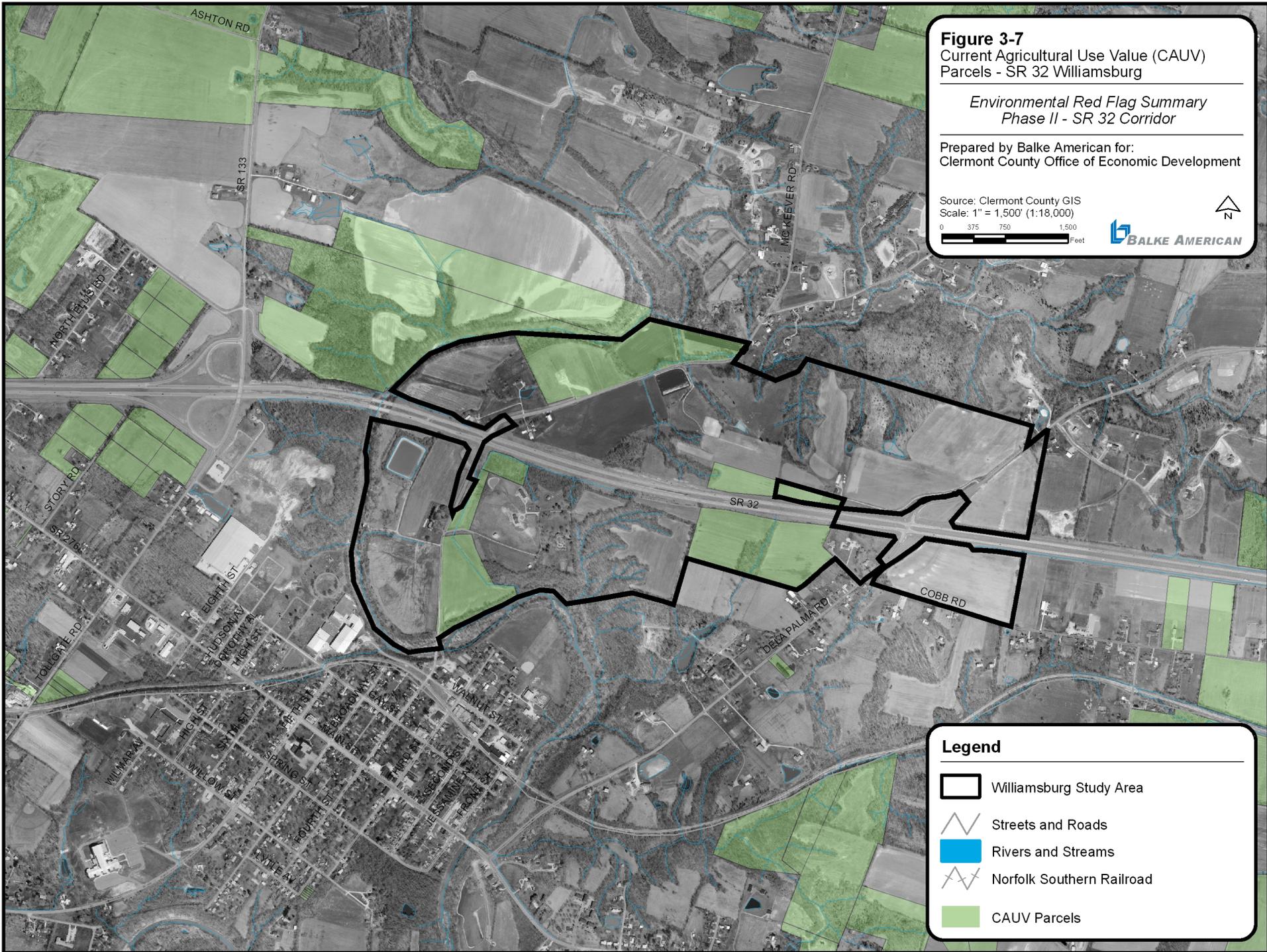


Figure 3-7
 Current Agricultural Use Value (CAUV)
 Parcels - SR 32 Williamsburg

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)

0 375 750 1,500 Feet

BALKE AMERICAN

Legend

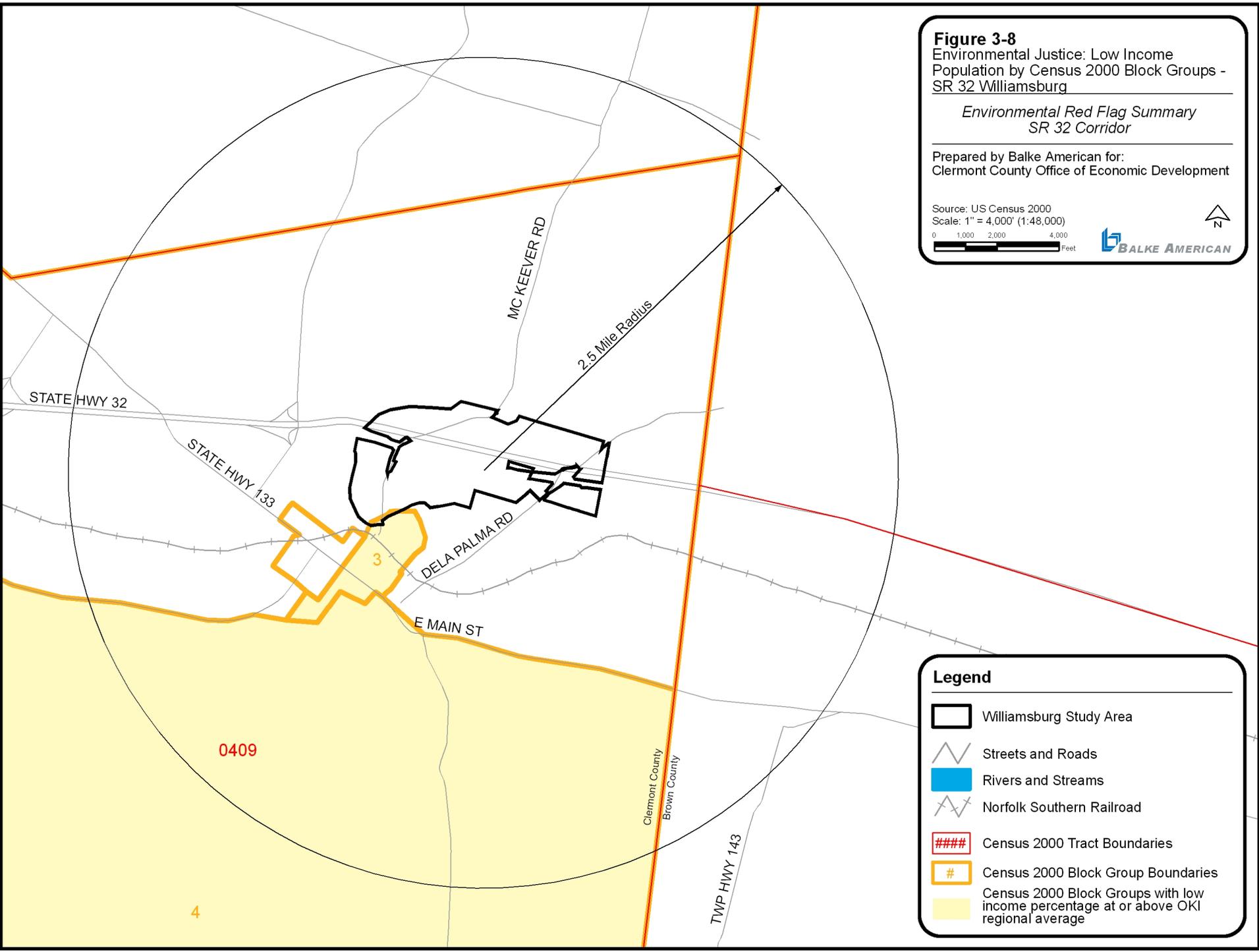
-  Williamsburg Study Area
-  Streets and Roads
-  Rivers and Streams
-  Norfolk Southern Railroad
-  CAUV Parcels

Figure 3-8
 Environmental Justice: Low Income
 Population by Census 2000 Block Groups -
 SR 32 Williamsburg

*Environmental Red Flag Summary
 SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: US Census 2000
 Scale: 1" = 4,000' (1:48,000)
 0 1,000 2,000 4,000 Feet



Legend

- Williamsburg Study Area
- Streets and Roads
- Rivers and Streams
- Norfolk Southern Railroad
- Census 2000 Tract Boundaries
- Census 2000 Block Group Boundaries
- Census 2000 Block Groups with low income percentage at or above OKI regional average

Legend

-  Williamsburg Study Area
-  Streets and Roads
-  Rivers and Streams: Observed Ordinary High Water (OHW) Channels
-  Norfolk Southern Railroad
- Wetlands**
-  USFW National Wetland Inventory (NWI) Wetlands
- Observed Wetlands (Preliminary)**
-  Category 1 (Preliminary)
-  Category 2 (Preliminary)
-  Preliminary Mitigation Opportunity (Conceptual Area)

Figure 3-9
 Preliminary Mitigation Opportunities - SR 32
 Williamsburg

*Environmental Red Flag Summary
 Phase II - SR 32 Corridor*

Prepared by Balke American for:
 Clermont County Office of Economic Development

Source: Clermont County GIS
 Scale: 1" = 1,500' (1:18,000)
 0 375 750 1,500 Feet

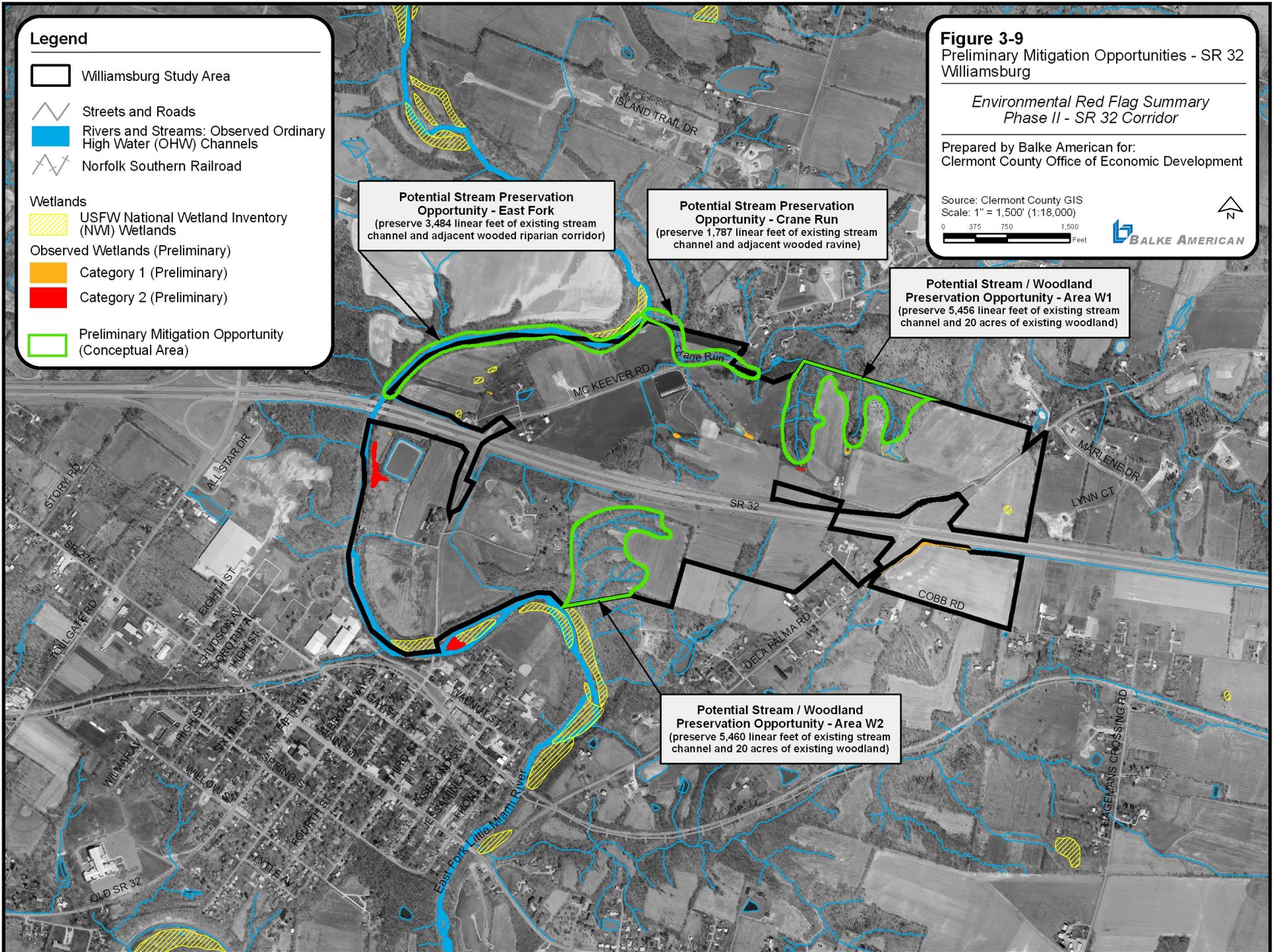


Potential Stream Preservation Opportunity - East Fork
 (preserve 3,484 linear feet of existing stream channel and adjacent wooded riparian corridor)

Potential Stream Preservation Opportunity - Crane Run
 (preserve 1,787 linear feet of existing stream channel and adjacent wooded ravine)

Potential Stream / Woodland Preservation Opportunity - Area W1
 (preserve 5,456 linear feet of existing stream channel and 20 acres of existing woodland)

Potential Stream / Woodland Preservation Opportunity - Area W2
 (preserve 5,460 linear feet of existing stream channel and 20 acres of existing woodland)

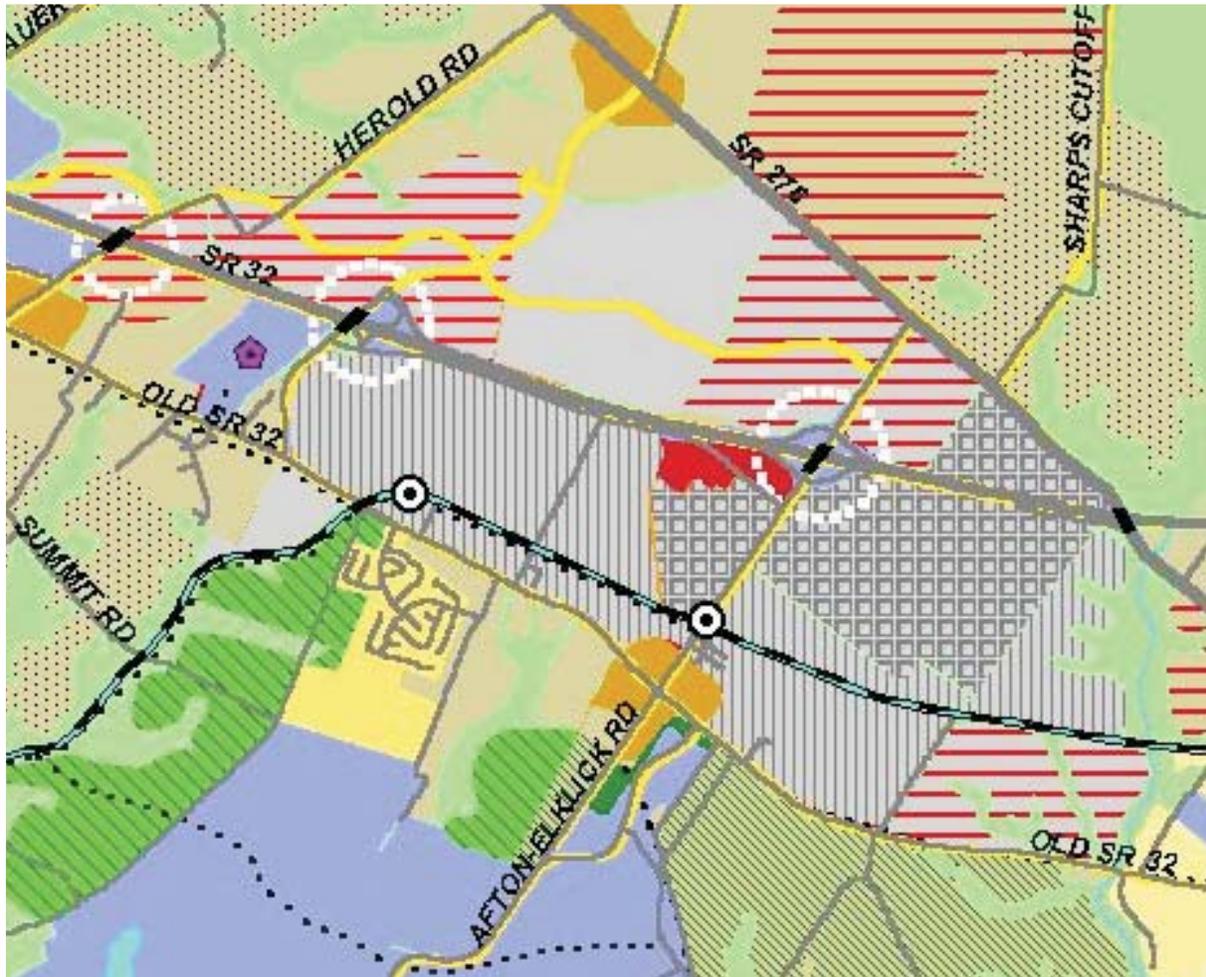


APPENDICES

**Appendix A:
Future Land Use Mapping
(Clermont County Department of
Community Planning and Development)**

Appendix A1:

SR 32 Afton Corridor Focus Area Future Land Use/Improvements



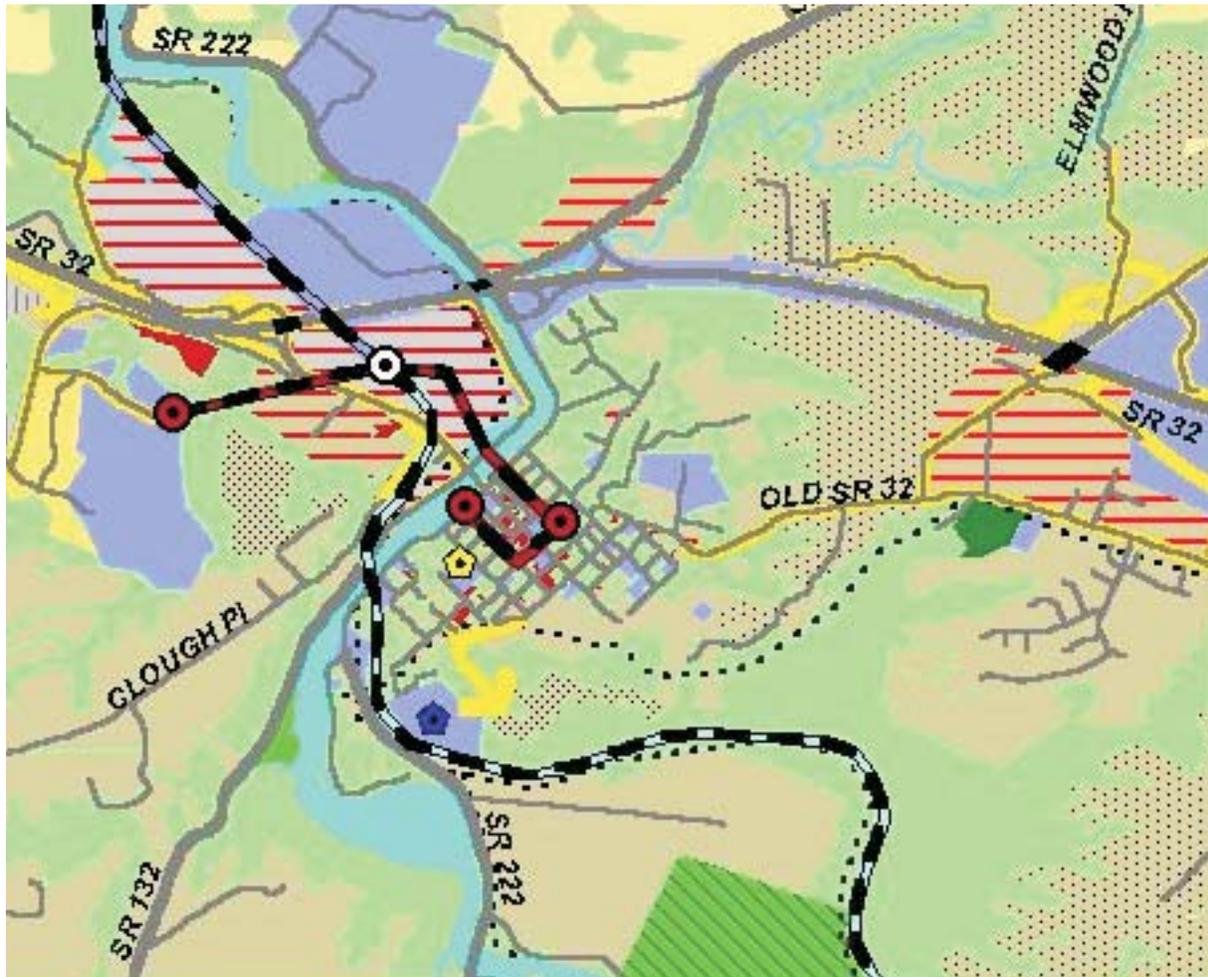
Existing Features		
	Elementary School	
	High School	
	Intermediate School	
	Middle School	
		Rivers/Streams/Lakes
		Roads

Proposed Features		
	Focus Areas	
	Potential Overpasses	
	Potential Rail Stations	
	Eastgate Personal Transit	
		Commuter Phase I
		Commuter Phase II
		Roads/Road Improvements
		Western Transit Alignment
		Major Access Improvement Zones
		Potential Hike/Bike Path
		Batavia Personal Transit

Proposed Land Use		
	Agricultural	
	Airfield	
	Civic Institutional	
	Commercial	
	Existing Golf Course	
	Foreign Trade Zone	
	Light Industrial	
	Low Density Residential	
	Cluster Residential	
	Golf Course/Residential	
	Medium Density Residential	
	High Density Residential	
		Proposed Green Space
		Industrial
		Mixed Use with Residential
		Mixed Use Non-Residential
		Neighborhood Center
		Park or Proposed Park

Appendix A2:

SR 32 Batavia Corridor Focus Area Future Land Use/Improvements



Existing Features		
	Elementary School	
	High School	
	Intermediate School	
	Middle School	
	Roads	
	Rivers/Streams/Lakes	

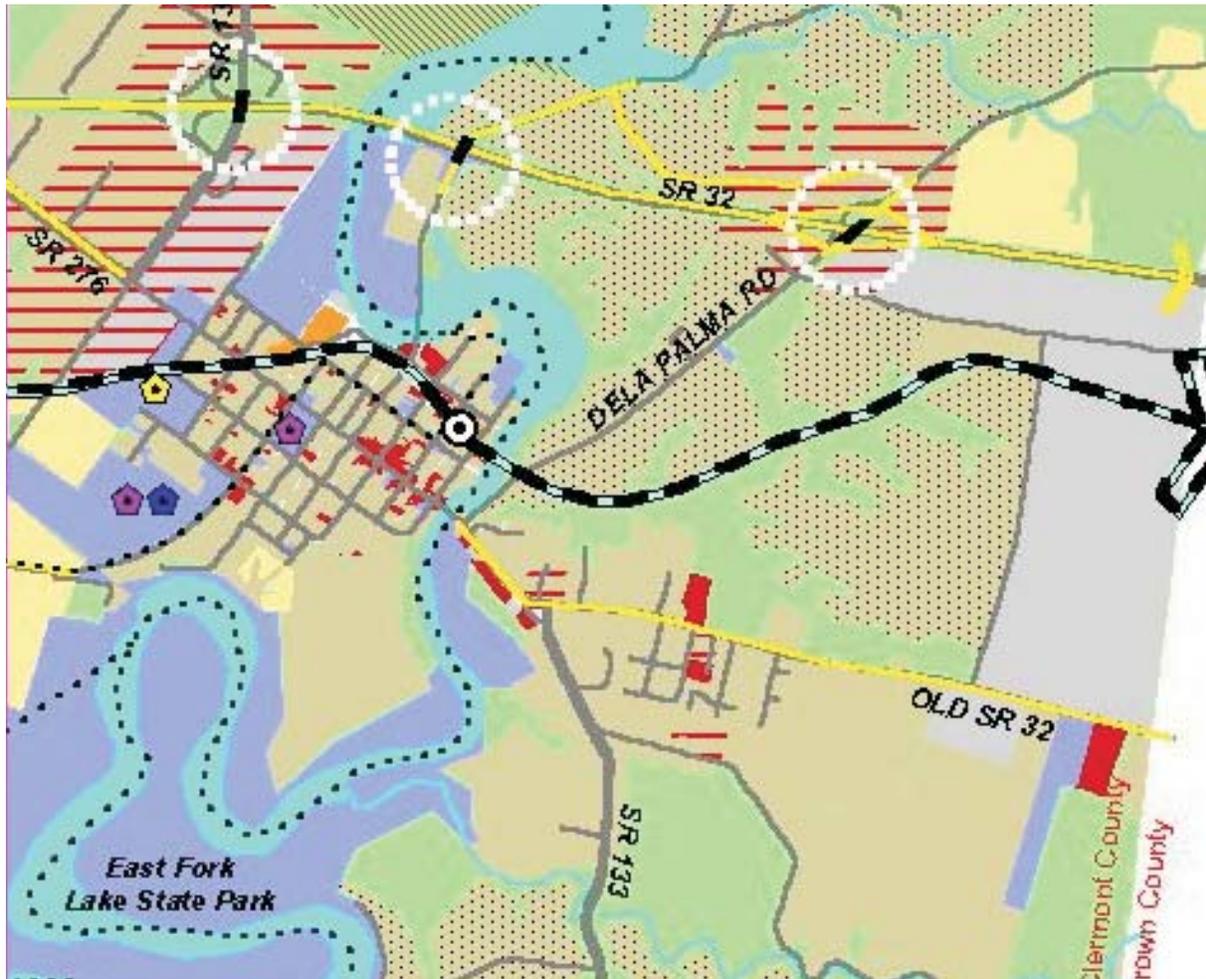
Proposed Features		
	Focus Areas	
	Potential Overpasses	
	Potential Rail Stations	
	Eastgate Personal Transit	

Proposed Land Use		
	Agricultural	
	Airfield	
	Civic Institutional	
	Commercial	
	Existing Golf Course	
	Foreign Trade Zone	
	Light Industrial	
	Low Density Residential	
	Cluster Residential	
	Golf Course/Residential	
	Medium Density Residential	
	High Density Residential	

Source: SR 32 Corridor Vision Plan, Clermont County Department of Community Planning and Development

Appendix A3:

SR 32 Williamsburg Corridor Focus Area Future Land Use/Improvements



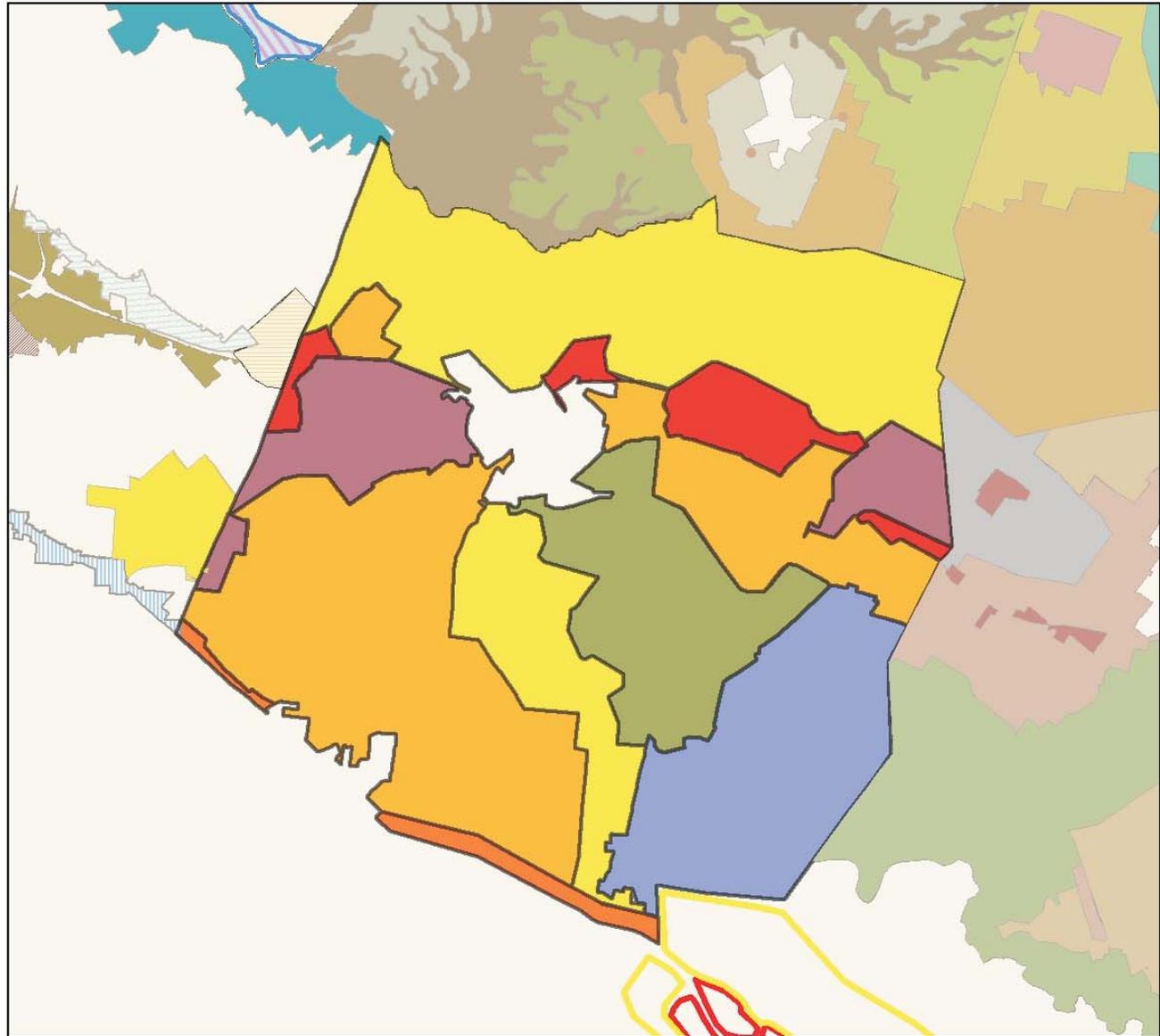
Existing Features		
	Elementary School	
	High School	
	Intermediate School	
	Middle School	
	Roads	
	Rivers/Streams/Lakes	

Proposed Features		
	Focus Areas	
	Potential Overpasses	
	Potential Rail Stations	
	Eastgate Personal Transit	
	Commuter Phase I	
	Commuter Phase II	
	Roads/Road Improvements	
	Western Transit Alignment	
	Major Access Improvement Zones	
	Potential Hike/Bike Path	
	Batavia Personal Transit	

Proposed Land Use		
	Agricultural	
	Airfield	
	Civic Institutional	
	Commercial	
	Existing Golf Course	
	Foreign Trade Zone	
	Light Industrial	
	Low Density Residential	
	Cluster Residential	
	Golf Course/Residential	
	Medium Density Residential	
	High Density Residential	
	Mixed Use with Residential	
	Mixed Use Non-Residential	
	Neighborhood Center	
	Park or Proposed Park	
	Proposed Green Space	
	Industrial	

Source: SR 32 Corridor Vision Plan, Clermont County Department of Community Planning and Development

Appendix A4:
Batavia Township Land Use Plan



**Batavia Township
Recommended
Land Use -**

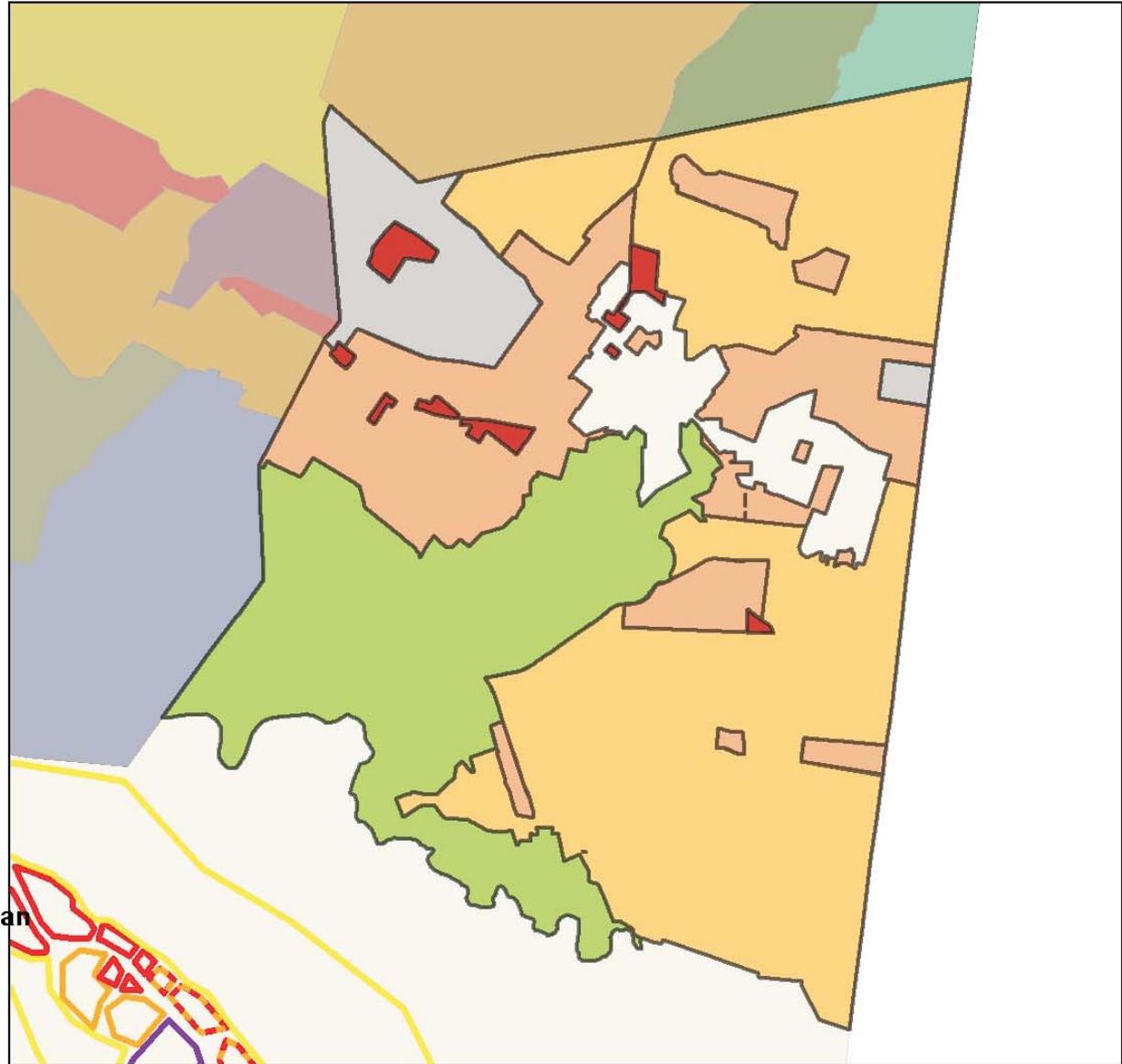
Land Use

-  Business Development Area
-  East Fork Lake State Park
-  Existing Neighborhood/Infill Area
-  Industrial Development Area
-  Neighborhood Development Area
-  Rural & Agricultural Area
-  State Route 125 Corridor



Appendix A5:

Williamsburg Township Land Use Plan



Williamsburg Township Land Use Plan

Land Use

-  A = Agriculture
-  B = Business
-  I = Industrial
-  P = Park
-  R = Residential



**Appendix B:
Threatened and Endangered Species Database Search -
ODNR Division of Natural Areas and Preserves**

From: Woischke, Debbie [Debbie.Woischke@dnr.state.oh.us]
Sent: Wednesday, May 31, 2006 1:33 PM
To: Leopold, William
Subject: Natural Heritage Data

Attachments: data.dbf; data.sbn; data.sbx; data.shp; data.shx; ma.dbf; ma.sbn; ma.sbx; ma.shp; ma.shx

Dear Mr. Leopold:

Per your request, I have e-mailed you a set of ArcView shape files with our Natural Heritage Database records for the SR 32 Afton Corridor Environmental Red Flag Summary project ('data'), in Clermont County and on the Williamsburg and Batavia Quads (project #6060005). The projection is NAD83 Ohio South. Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and breeding and non-breeding animal concentrations. Fields included are scientific and common names, state and federal statuses, as well as managed area, date of the most recent observation and feature ID and elcode. The feature ID and elcode fields are codes we use to differentiate between records of the same species. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered and FT = federal threatened.

Also included is a layer for managed areas ('ma'). The 'ma' layer includes state nature preserves, parks, forests and wildlife areas, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

You may notice that some of the locations are represented by circles of two sizes. This represents the locational accuracy of the record, and can be translated as follows: an exact location = a circle with a 328 foot radius and a general location within a square mile = a circle with a half mile radius. As time allows, these circles will be edited into more appropriate shapes.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance. I will send a hard copy of this letter along with the invoice.

<<data.dbf>> <<data.sbn>> <<data.sbx>> <<data.shp>> <<data.shx>> <<ma.dbf>> <<ma.sbn>> <<ma.sbx>>
<<ma.shp>> <<ma.shx>>

Debbie Woischke, Ecological Analyst
Ohio Department of Natural Resources
Division of Natural Areas and Preserves

Threatened and Endangered Species Database Search

Batavia Study Area Threatened and Endangered Species (2.5 Mile Radius)

FEATURE_ID	EO_ID	SCIENCE_NA	COMMON_NAM	EO_NUM	CATEGORY	MANAGED_AR	LAST_OBSER	STATE_STAT
9866	2785	Simpsonaias ambigua	Salamander Mussel	24	Invertebrate Animal		1990-07	SC
25470	2562	Moxostoma carinatum	River Redhorse	16	Vertebrate Animal		1982-10-13	SC
11772	4071	Mussel Bed		125	Animal Assemblage		1990-07	
12922	4843	Lampsilis fasciola	Wavy-rayed Lampmussel	16	Invertebrate Animal		1990-07	SC
17394	7788	Truncilla donaciformis	Fawnsfoot	61	Invertebrate Animal		1990-07	T
18792	8743	Mussel Bed		124	Animal Assemblage		1990-07	
4754	10726	Mussel Bed		126	Animal Assemblage		1990-07	
10342	3110	Luzula bulbosa	Southern Woodrush	7	Vascular Plant	EAST FORK STATE PARK	1990-06-16	T
30447	0			0		647		

Williamsburg Study Area Threatened and Endangered Species (2.5 Mile Radius)

FEATURE_ID	EO_ID	SCIENCE_NA	COMMON_NAM	EO_NUM	CATEGORY	MANAGED_AR	LAST_OBSER	STATE_STAT
25430	2166	Villosa fabalis	Rayed Bean	11	Invertebrate Animal		1990-07-07	E
25620	4301	Villosa lienosa	Little Spectaclecase	1	Invertebrate Animal		1990-07-07	E
14644	5915	Beech-oak-red maple forest		6	Plant Community		1980-11	

Managed Areas Database Search

Batavia Study Area Managed Areas (2.5 Mile Radius)

MACODE	FIRST_CONT	FEATURE_ID	MANAGED_AR	MANAGED__1
M.USOHHP*395	PARKS	29987	187	East Fork State Park
M.USOHHP*743	Clermont County Park District	30447	647	222 Roadside Park
M.USOHHP*744	Clermont County Park District	30271	471	Pattison Park

Williamsburg Study Area Managed Areas (2.5 Mile Radius)

MACODE	FIRST_CONT	FEATURE_ID	MANAGED_AR	MANAGED__1
M.USOHHP*994	WILDLIFE-LEASED	34967	700	East Fork Wildlife Park

**Appendix C:
Environmental Site Assessment Database Search -
FirstSearch Technology Corporation**

FirstSearch Technology Corporation

Environmental FirstSearch™ Report

TARGET PROPERTY:

BATAVIA OH 45103

Job Number: 45103

PREPARED FOR:

Balke American

1848 Summit Road

Cincinnati, OH 45237-2804

08-08-06



Tel: (317) 823-3500

Fax: (317) 823-3535

Environmental FirstSearch Search Summary Report

Target Site:

BATAVIA OH 45103

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	06-08-06	1.25	0	0	0	0	0	0	0
CERCLIS	Y	06-08-06	1.25	0	0	0	0	0	0	0
NFRAP	Y	06-08-06	1.25	0	0	0	0	0	0	0
RCRA TSD	Y	04-16-06	1.25	0	0	0	0	0	0	0
RCRA COR	Y	04-16-06	1.25	0	0	0	0	0	0	0
RCRA GEN	Y	04-16-06	1.25	0	0	1	0	2	0	3
ERNS	Y	12-31-05	1.25	0	0	0	0	0	0	0
State Sites	Y	05-15-06	1.25	0	0	0	0	0	0	0
SWL	Y	02-23-06	1.25	0	0	0	0	0	0	0
REG UST/AST	Y	03-15-06	1.25	0	0	0	1	5	1	7
Leaking UST	Y	03-14-06	1.25	0	0	0	4	8	0	12
- TOTALS -				0	0	1	5	15	1	22

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch
Site Information Report***

Request Date: 08-08-06
Requestor Name: Virginia Lisovicz/Balke/cp
Standard: ASTM

Search Type: COORD
Job Number: 45103
Filtered Report

TARGET ADDRESS:

BATAVIA OH 45103

Demographics

Sites: 22	Non-Geocoded: 1	Population: NA
Radon: 0.2 - 10.7 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-84.140833	-84:8:27	Easting:	747323.521
Latitude:	39.081533	39:4:54	Northing:	4329508.434
			Zone:	16

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)	Services:																																		
<table border="1" style="width: 100%;"><thead><tr><th>ZIP Code</th><th>City Name</th><th>ST</th><th>Dist/Dir</th><th>Sel</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>	ZIP Code	City Name	ST	Dist/Dir	Sel						<table border="1" style="width: 100%;"><thead><tr><th></th><th>Requested?</th><th>Date</th></tr></thead><tbody><tr><td>Sanborns</td><td>No</td><td> </td></tr><tr><td>Aerial Photographs</td><td>No</td><td> </td></tr><tr><td>Historical Topos</td><td>No</td><td> </td></tr><tr><td>City Directories</td><td>No</td><td> </td></tr><tr><td>Title Search</td><td>No</td><td> </td></tr><tr><td>Municipal Reports</td><td>No</td><td> </td></tr><tr><td>Online Topos</td><td>No</td><td> </td></tr></tbody></table>		Requested?	Date	Sanborns	No		Aerial Photographs	No		Historical Topos	No		City Directories	No		Title Search	No		Municipal Reports	No		Online Topos	No	
ZIP Code	City Name	ST	Dist/Dir	Sel																															
	Requested?	Date																																	
Sanborns	No																																		
Aerial Photographs	No																																		
Historical Topos	No																																		
City Directories	No																																		
Title Search	No																																		
Municipal Reports	No																																		
Online Topos	No																																		

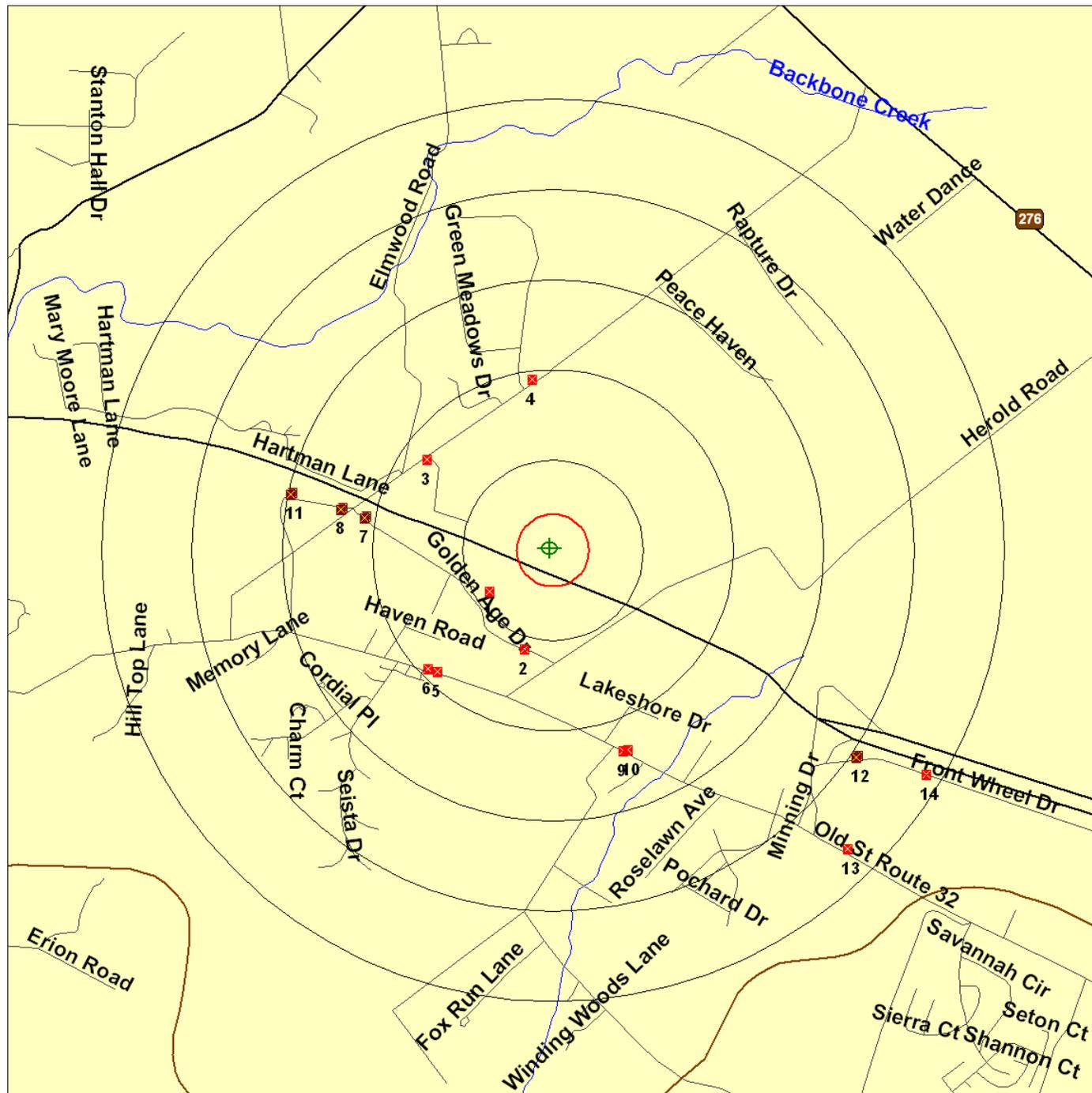


Environmental FirstSearch

1.25 Mile Radius
ASTM: Multiple Databases



, BATAVIA OH 45103



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 39.081533 Longitude: -84.140833)
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads



Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch Sites Summary Report

TARGET SITE:
BATAVIA OH 45103

JOB: 45103

TOTAL: 22 **GEOCODED:** 21 **NON GEOCODED:** 1 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
1	RCRAGN	CLERMONT MERCY HOSPITAL OHD068948983/SGN	3000 HOSPITAL DR BATAVIA OH 45103	0.21 SW	1
3	LUST	BATAVIA NURSING & CONVALES 13009488-N00001/FACILITY ACTIVE	4000 GOLDEN AGE DR BATAVIA OH 45103	0.29 SW	2
3	LUST	CLERMONT COUNTY COMMUNICATIONS C 13009334-N00001/FACILITY INACTIVE	2279 CLERMONT CENTER DR BATAVIA OH 45103	0.42 NW	3
4	UST	CLERMONT COUNTY COMMISSIONERS 13005768	2283 BAUER RD BATAVIA OH 45103	0.47 NW	4
4	LUST	HOBERG DISTRIBUTION CO. 13008764-N00001/FACILITY INACTIVE	2290 BATAVIA-WILLIAMSBURG RD BATAVIA OH 45103	0.47 SW	5
5	LUST	FORMER MOSBACKER OIL CO 13010006-N00001/FACILITY INACTIVE	2284 BATAVIA WILILAMSBURG P BATAVIA OH 45103	0.48 SW	6
5	LUST	OHIO STATE HIGHWAY PATROL POST 13000013-N00001/FACILITY INACTIVE	1000 HOSPITAL RD BATAVIA OH 45103	0.52 NW	7
6	UST	OHIO STATE HIGHWAY PATROL POST 13000013	1000 HOSPITAL RD BATAVIA OH 45103	0.52 NW	7
7	LUST	BATAVIA SHELL 13002315-N00002/FACILITY INACTIVE	2199 WINEMILLER LN BATAVIA OH 45103	0.59 NW	8
7	LUST	BATAVIA SHELL 13002315-N00001/FACILITY INACTIVE	2199 WINEMILLER LN BATAVIA OH 45103	0.59 NW	8
8	UST	BATAVIA SHELL 13002315	2199 WINEMILLER LN BATAVIA OH 45103	0.59 NW	8
9	LUST	KINCAIDS CARRYOUT 13010059-N00001/FACILITY ACTIVE	2415 OLD SR 32 BATAVIA OH 45103	0.60 SE	9
9	LUST	UNKNOWN (JOHNSON PROPERTY) 13009998-N00001/FACILITY ACTIVE	2419 BATAVIA WILLIAMSBURG P BATAVIA OH 45103	0.60 SE	10
10	UST	UNITED DAIRY FARMERS #130 1-3002613/3 TANKS LISTED	2200 WINEMILLER LN BATAVIA OH 45103	0.74 NW	11
11	UST	UNITED DAIRY FARMERS #130 13002613	2200 WINEMILLER LN BATAVIA OH 45103	0.74 NW	11
12	LUST	FORD MOTOR CO 132039601/NO FURTHER ACTION	1981 FRONT WHEEL (W OF GUAR BATAVIA OH 45103	1.02 SE	12
13	LUST	FORD MOTOR CO BATAVIA PLANT 132039602/DEF	1981 FRONT WHEEL (E OF GUAR BATAVIA OH 45103	1.02 SE	12
14	LUST	FORD MOTOR CO. 13000168-N00001/FACILITY INACTIVE	1981 FRONT WHEEL DR BATAVIA OH 45103	1.02 SE	12
15	RCRAGN	BATAVIA TRANSMISSIONS LLC OHD093941565/SGN	1981 FRONT WHEEL DR BATAVIA OH 45103	1.02 SE	12
17	RCRAGN	CLERMONT STEEL FABRICATORS LLC OHD085513026/SGN	2565 OLD STATE ROUTE 32 BATAVIA OH 45103	1.17 SE	13
19	UST	FRONT WHEEL DRIVE BP 13009680	2098 FRONT WHEEL DRIVE BATAVIA OH 45103	1.21 SE	14

***Environmental FirstSearch
Sites Summary Report***

TARGET SITE: BATAVIA OH 45103

JOB: 45103

TOTAL: 22 **GEOCODED:** 21 **NON GEOCODED:** 1 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
20	UST	CLERMONT COUNTY BOARD MR/DD 1-3000574/1 TANK LISTED	PO BX 156 BATAVIA OH 45103	NON GC	

Environmental FirstSearch Database Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA TSD: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA COR: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA GEN: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN – Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

ERNS: *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

STATE SITES: *OH EPA* DIVISION OF EMERGENCY AND REMEDIAL RESPONSE DATABASE (DERR) - database of basic information regarding name and status in the Voluntary Action Program, for potentially contaminated sites that are maintained by district offices in Ohio.

SWL: *OH EPA* WASTE FACILITIES - The Database of all Compost and Demolition Debris, Industrial and Residual Waste, Municipal Solid Waste Landfills and Municipal and Solid Waste Transfer Facilities are maintained by the Division of Solid and Infectious Waste Management.

REG UST/AST: *OH FMO* LIST OF ACTIVE REGISTERED FACILITIES - database of all registered underground storage tanks.

LEAKING UST: *OH FMO* FACILITIES WITH ACTIVE RELEASES FROM REGULATED TANKS - database of leaking underground storage tanks reported to the Ohio Fire Marshal's office.

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

TARGET SITE: BATAVIA OH 45103

JOB: 45103

Street Name	Dist/Dir	Street Name	Dist/Dir
Batavia Rd	0.87 SE	Lakeside Blvd	0.48 SE
Bauer Rd	0.41 NW	Mallard Dr	0.96 SE
Brookside Dr	0.64 SE	Memory Ln	0.79 SW
Brunk Rd	0.72 SW	Mil Haven	0.43 SW
Bulldog Pl	0.92 SE	Minning Rd	0.98 SE
Canvas Back Cir	0.99 SE	Muscovy Ln	0.90 SE
Charm Ct	0.90 SW	Old St Route 32	0.43 SW
Cherry Ln	0.84 SE	Peace Haven	0.75 NE
Chesterfield Dr	0.59 SW	Pleasant Acres Dr	0.53 SW
Clermont Center Dr	0.24 NW	Pleasant Meadow Dr	0.51 SW
Cordial Pl	0.73 SW	Pochard Dr	0.99 SE
Courtesy Ln	0.79 SW	Rapture Dr	0.94 NE
Elizabeth	0.53 SW	Roselawn Ave	0.83 SE
Elmwood Rd	0.47 NW	Seclusion Ct	0.93 SW
Firth St	0.59 SW	Serenity Dr	0.51 SW
Front Wheel Dr	0.93 SE	Shepherds Way	0.45 NW
Gadwell Ln	0.99 SE	Siesta Ct	0.62 SW
Golden Age Dr	0.29 SW	Siesta Dr	0.81 SW
Green Meadows Dr	0.57 NW	State Route 32	0.06 SW
Harmony Ct	0.64 SW	Summit Rd	0.57 SE
Hartman Ln	0.47 NW	Tranquility Ct	0.49 SW
Haven Rd	0.40 SW	Wasserman Way	0.29 SW
Herold Rd	0.27 SE	Winemiller Ln	0.56 NW
Hospital Dr	0.23 SW		
Lakeshore Dr	0.48 SE		

FirstSearch Technology Corporation

Environmental FirstSearch™ Report

TARGET PROPERTY:

WILLIAMSBURG OH 45176

Job Number: 45176

PREPARED FOR:

Balke American

1848 Summit Road

Cincinnati, OH 45237-2804

08-08-06



Tel: (317) 823-3500

Fax: (317) 823-3535

Environmental FirstSearch *Search Summary Report*

Target Site:

WILLIAMSBURG OH 45176

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	06-08-06	1.25	0	0	0	0	0	0	0
CERCLIS	Y	06-08-06	1.25	0	0	0	0	0	0	0
NFRAP	Y	06-08-06	1.25	0	0	0	0	0	0	0
RCRA TSD	Y	04-16-06	1.25	0	0	0	0	0	0	0
RCRA COR	Y	04-16-06	1.25	0	0	0	0	0	0	0
RCRA GEN	Y	04-16-06	1.25	0	0	0	0	6	0	6
ERNS	Y	12-31-05	1.25	0	0	0	0	1	0	1
State Sites	Y	05-15-06	1.25	0	0	0	0	0	0	0
Spills-1990	Y	05-09-06	1.25	0	0	0	0	32	0	32
SWL	Y	02-23-06	1.25	0	0	0	0	0	0	0
REG UST/AST	Y	03-15-06	1.25	0	0	0	0	4	0	4
Leaking UST	Y	03-14-06	1.25	0	0	0	0	16	0	16
- TOTALS -				0	0	0	0	59	0	59

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSearch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

***Environmental FirstSearch
Site Information Report***

Request Date: 08-08-06
Requestor Name: Virginia Lisovicz/Balke/cp
Standard: ASTM

Search Type: COORD
Job Number: 45176
Filtered Report

TARGET ADDRESS:

WILLIAMSBURG OH 45176

Demographics

Sites: 59	Non-Geocoded: 0	Population: NA
Radon: NA		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>	<u>UTMs</u>
Longitude:	-84.040888	-84:2:27	Easting: 756026.365
Latitude:	39.066093	39:3:58	Northing: 4328071.603
			Zone: 16

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)	Services:
--------------------------------------	------------------

<u>ZIP Code</u>	<u>City Name</u>	<u>ST</u>	<u>Dist/Dir</u>	<u>Sel</u>	<u>Requested?</u>	<u>Date</u>
45103	BATAVIA	OH	0.81	NW Y	Sanborns	No
					Aerial Photographs	No
					Historical Topos	No
					City Directories	No
					Title Search	No
					Municipal Reports	No
					Online Topos	No

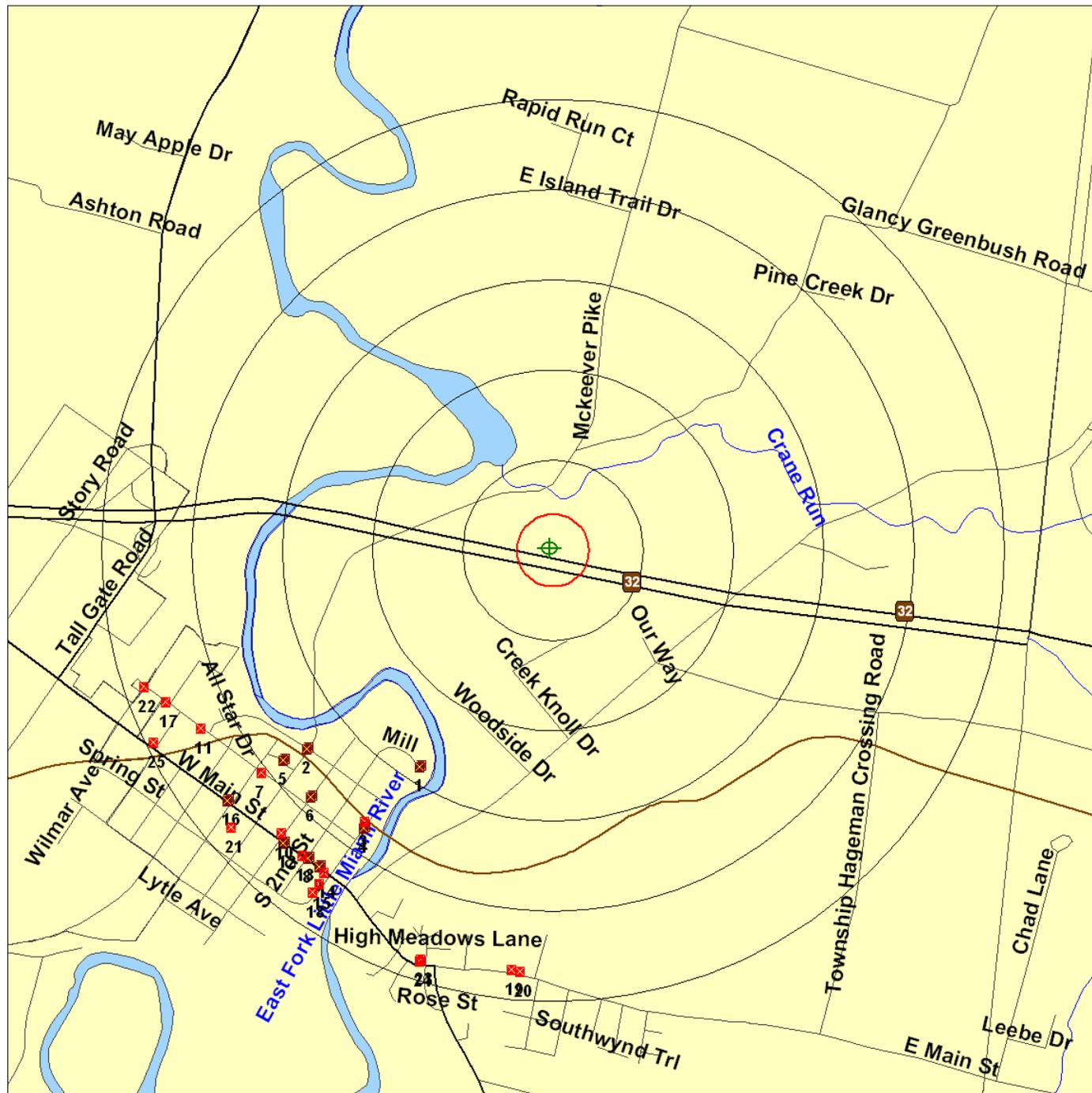


Environmental FirstSearch

1.25 Mile Radius
ASTM: Multiple Databases



, WILLIAMSBURG OH 45176



Source: 2002 U.S. Census TIGER Files

- Target Site (Latitude: 39.066093 Longitude: -84.040888)
- Identified Site, Multiple Sites, Receptor
- NPL, Brownfield, Solid Waste Landfill (SWL) or Hazardous Waste
- Railroads
- Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



Environmental FirstSearch Sites Summary Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

TOTAL: 59 **GEOCODED:** 59 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
3	SPILLS	WILLIAMSBURG WWTP 2002-4661	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
3	SPILLS	2004-3772	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
3	SPILLS	2004-3367	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
3	SPILLS	2004-2873	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
3	SPILLS	2004-2366	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
3	SPILLS	2004-2203	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
5	SPILLS	2004-2155	100 MILL ST UNION TWP OH 45176	0.70 SW	1
5	SPILLS	2004-2029	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
5	SPILLS	2004-4461	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
5	SPILLS	WILLIAMSBURG WWTP 2002-4647	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
6	SPILLS	2004-1726	100 MILL ST WILLIAMSBURG V OH 45176	0.70 SW	1
6	SPILLS	WILLIAMSBURG WWTP 2002-3494	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
7	SPILLS	WILLIAMSBURG WWTP 2002-2605	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
7	SPILLS	WILLIAMSBURG WWTP 2002-1997	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
8	SPILLS	WILLIAMSBURG WWTP 2003-1616	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
8	SPILLS	WILLIAMSBURG WWTP 2003-1722	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
9	SPILLS	WILLIAMSBURG WWTP 2003-4308	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
9	SPILLS	WILLIAMSBURG WWTP 2003-671	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
10	SPILLS	WILLIAMSBURG VILLAGE WWTP 2002-2051	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
10	SPILLS	2004-1296	100 MILL ST WILLIAMSBURG OH 45176	0.70 SW	1
11	LUST	ASHLAND BULK PLANT 580 13010024-N00001/FACILITY INACTIVE	328 N 4TH AVE WILLIAMSBURG OH 45176	0.87 SW	2

Environmental FirstSearch Sites Summary Report

TARGET SITE:
WILLIAMSBURG OH 45176

JOB: 45176

TOTAL: 59 **GEOCODED:** 59 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
11	LUST	LYKINS WILLIAMSBURG 13002534-N00001/FACILITY INACTIVE	824 GAY ST WILLIAMSBURG OH 45176	0.87 SW	2
12	UST	LYKINS WILLIAMSBURG 0-132534	328 N 4TH ST WILLIAMSBURG OH 45176	0.87 SW	2
12	SPILLS	UNK 1997-3340	251 N FRONT ST WILLIAMSBURG OH 45176	0.92 SW	3
13	LUST	WILLIAMSBURG BOX & PARTITION 13000101-N00001/FACILITY INACTIVE	234 N FRONT ST WILLIAMSBURG OH 45176	0.93 SW	4
14	RCRAGN	CINCINNATI BOX AND PARTITION CO OHD004255063/SGN	234 N FRONT ST WILLIAMSBURG OH 45176	0.93 SW	4
15	RCRAGN	DUALITE INC OHD987008315/SGN	1 DUALITE LN WILLIAMSBURG OH 45176	0.94 SW	5
17	SPILLS	DUALITE 1991-327	1 DUALITE LN WILLIAMSBURG OH 45176	0.94 SW	5
18	ERNS	EMERY TRANSPORTATION 207526/FIXED FACILITY	257 N 3RD ST WILLIAMSBURG OH 45176	0.96 SW	6
19	LUST	AGRI URBAN BULK FAC 131067301/INITIAL CORRECTIVE A	257 N 3RD ST WILLIAMSBURG OH 45176	0.96 SW	6
20	LUST	AGRI URBAN BULK FACILITY 13010061-N00001/FACILITY ACTIVE	257 N 3RD ST WILLIAMSBURG OH 45176	0.96 SW	6
21	SPILLS	EMERY TRANSPORTATION AGRI URBAN 1991-983	257 N 3RD ST/AGRIURBAN BULK WILLIAMSBURG OH 45176	0.96 SW	6
22	SPILLS	NO SPILL 2000-2112	487 GAY ST WILLIAMSBURG OH 45176	1.02 SW	7
22	LUST	WACO OIL CO., INC. 13008033-N00001/FACILITY INACTIVE	190 W MAIN ST WILLIAMSBURG OH 45176	1.09 SW	8
23	LUST	WACO OIL #1 137132200/NO FURTHER ACTION	190 W MAIN ST WILLIAMSBURG OH 45176	1.09 SW	8
24	LUST	CROSWELL BUS LINE, INC. 13000055-N00001/FACILITY INACTIVE	138 W MAIN ST WILLIAMSBURG OH 45176	1.09 SW	9
24	LUST	CROSWELL BUS LINE, INC. 13000055-N00002/FACILITY INACTIVE	138 W MAIN ST WILLIAMSBURG OH 45176	1.09 SW	9
25	RCRAGN	WILLIAMSBURG KWIK COIN WASH OHD981779317/SGN	119 N THIRD ST WILLIAMSBURG OH 45176	1.09 SW	10
26	SPILLS	MS DORIS DUFFEY 1994-292	737 GAY STREET WILLIAMSBURG OH 45176	1.09 SW	11
28	LUST	WILLIAMSBURG SUNOCO 13000524-N00001/FACILITY INACTIVE	285 W MAIN WILLIAMSBURG OH 45176	1.10 SW	12
29	RCRAGN	ASHLAND BRANDED MARKETING NO.580-0 OH0000891309/SGN	209 W MAIN ST WILLIAMSBURG OH 45176	1.10 SW	13

Environmental FirstSearch Sites Summary Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

TOTAL: 59 **GEOCODED:** 59 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
30	SPILLS	SUNOCO GAS STATION 1998-1309	285 W MAIN ST WILLIAMSBURG OH 45176	1.10 SW	12
30	SPILLS	WILLIAMSBURGWWTP 2000-4589	107 W MAIN ST WILLIAMSBURG OH 45176	1.10 SW	14
31	SPILLS	OHSP-0506-495	134 S FRONT ST WILLIAMSBURG OH 45176	1.13 SW	15
31	LUST	WILLIAMSBURG BP 13000240-N00003/FACILITY INACTIVE	609 W MAIN WILLIAMSBURG OH 45176	1.14 SW	16
32	LUST	WILLIAMSBURG BP 13000240-N00001/FACILITY INACTIVE	609 W MAIN WILLIAMSBURG OH 45176	1.14 SW	16
33	LUST	NEVILLE CARRYOUT 132206500/REPORTED	609 MAIN ST NEVILLE OH 45176	1.14 SW	16
34	LUST	LARRY S BP 138263500/REPORTED	609 W MAIN ST WILLIAMSBURG OH 45176	1.14 SW	16
35	LUST	WILLIAMSBURG BP 13000240-N00002/FACILITY INACTIVE	609 W MAIN WILLIAMSBURG OH 45176	1.14 SW	16
36	UST	WILLIAMSBURG BP 13000240	609 W MAIN WILLIAMSBURG OH 45176	1.14 SW	16
37	SPILLS	ME RICHARD FORE 2000-3117	847 GAY ST WILLIAMSBURG OH 45176	1.15 SW	17
37	SPILLS	WILLIAMSBURG WWTP 2002-1493	176 S FRONT ST WILLIAMSBURG OH 45176	1.16 SW	18
38	SPILLS	UNK 1992-5199	659 E MAIN ST WILLIAMSBURG OH 45176	1.17 SW	19
38	SPILLS	UNK 1994-1720	685 E. MAIN ST WILLIAMSBURG OH 45176	1.18 SW	20
39	UST	CINCINNATI BELL TELEPHONE CO. 0-130050	178 S MULBERRY ALLEY WILLIAMSBURG OH 45176	1.18 SW	21
40	RCRAGN	DUALITE PLANT # 2 OHR000041632/SGN	231 N 8TH ST WILLIAMSBURG OH 45176	1.19 SW	22
42	LUST	HILLTOP QUICK STOP 13007212-N00001/FACILITY INACTIVE	418 E MAIN WILLIAMSBURG OH 45176	1.20 SW	23
43	UST	HILLTOP QUICK STOP 13007212	418 E MAIN WILLIAMSBURG OH 45176	1.20 SW	24
44	RCRAGN	CROSTOWN CUSTOMS OHD185122009/SGN	806 W MAIN ST WILLIAMSBURG OH 45176	1.23 SW	25

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 55

DIST/DIR: 0.93 SW

MAP ID: 4

NAME: WILLIAMSBURG BOX & PARTITION
ADDRESS: 234 N FRONT ST
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13000101-N00001
ID2:
STATUS: FACILITY INACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID: 134134600
OLD FACILITY ID: 130101
LTF STATUS: CLOSURE OF REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED

OWNER: TOM JONES
4927 BEECH ST
CINCINNATI OH 45212

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

STATE SPILLS SITE

SEARCH ID: 8

DIST/DIR: 0.94 SW

MAP ID: 5

NAME: DUALITE
ADDRESS: 1 DUALITE LN
WILLIAMSBURG OH
CLERMONT

REV: 4/22/04
ID1: 1991-327
ID2: 327.00
STATUS:
PHONE:

CONTACT:

SITE INFORMATION

SPILL YEAR: 1991
SPILL NUMBER: 327
REPORT DATE: 2/1/1991
PRODUCT: BENZENE
AMOUNT: 0
SIZE: UNKNOWN
TYPE: WASTE CHEMICAL
WATERWAY: LITTLE MIAMI RIVER
STREAM MILES:

SPILL YEAR: 1991
SPILL NUMBER: 327
REPORT DATE: 2/1/1991
PRODUCT: XYLENE
AMOUNT: 0
SIZE: UNKNOWN
TYPE: WASTE CHEMICAL
WATERWAY: LITTLE MIAMI RIVER
STREAM MILES:

SPILL YEAR: 1991
SPILL NUMBER: 327
REPORT DATE: 2/1/1991
PRODUCT: ALCOHOL
AMOUNT: 0
SIZE: UNKNOWN
TYPE: WASTE CHEMICAL
WATERWAY: LITTLE MIAMI RIVER
STREAM MILES:

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 44

DIST/DIR: 0.96 SW

MAP ID: 6

NAME: AGRI URBAN BULK FAC
ADDRESS: 257 N 3RD ST
WILLIAMSBURG OH 45176
CLERMONT

REV: 08-25-99
ID1: 131067301
ID2: 131067301
STATUS: INITIAL CORRECTIVE ACTION INIT
PHONE:

CONTACT:

REPORT # 1310673 **TRACKING #** 1 **FACILITY ID:** **PRIORITY:** HIGH
INCIDENT: PETROLEUM RELEASE FROM AN UNREGULATED UST
CLASS: KNOWN/SUSPECTED OR CONFIRMED SOURCE AND RESPONSIBLE PERSON IS PROCEEDING VOLUNTARILY
STATUS: INITIAL CORRECTIVE ACTION INITIATED

OPERATOR:
ADDRESS:

OH

OWNER:
ADDRESS:

OH

PHONE:

PHONE:

INSPECTOR:
AUTHORIZED BY: GILL
REVISED: 01/13/92
EMERGENCY RESPONSE:

COORDINATOR: CENTRAL OFFICE CORRECTIVE ACTIONS
AUTH DATE: 03/28/91

REMARKS:

SUMMARY:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 45

DIST/DIR: 0.96 SW

MAP ID: 6

NAME: AGRI URBAN BULK FACILITY
ADDRESS: 257 N 3RD ST
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13010061-N00001
ID2:
STATUS: FACILITY ACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID: 131067302

OLD FACILITY ID:

LTF STATUS:

FR STATUS:

CONFIRMED

SUSPECTED OR CONFIRMED RELEASE FROM REGULATED UST
A RELEASE FROM A UST OR A SPILL/OVERFILL GREATER THAN 25GAL HAS BEEN

OWNER:

AGRI URBAN BULK FACILITY
257 N 3RD ST
WILLIAMSBURG OH 45176

**Environmental FirstSearch
Site Detail Report**

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 53

DIST/DIR: 1.09 SW

MAP ID: 8

NAME: WACO OIL #1
ADDRESS: 190 W MAIN ST
WILLIAMSBURG OH 45176
CLERMONT

REV: 08-25-99
ID1: 137132200
ID2: 137132200
STATUS: NO FURTHER ACTION
PHONE:

CONTACT:

REPORT # 1371322 **TRACKING #** 0 **FACILITY ID:** 138033 **PRIORITY:** LOW
INCIDENT: DESIGNATES THE CLOSURE OF A UST
CLASS: KNOWN/SUSPECTED OR CONFIRMED SOURCE AND RESPONSIBLE PERSON IS PROCEEDING VOLUNTARILY
STATUS: NO FURTHER ACTION

OPERATOR:
ADDRESS:

OH

OWNER:
ADDRESS:

OH

PHONE:

PHONE:

INSPECTOR:

AUTHORIZED BY: GILL

REVISED: 05/04/98

EMERGENCY RESPONSE:

COORDINATOR:

AUTH DATE: 04/27/98

REMARKS: 3-(10-K) GASOLINE AND 6-K KEROSENE USTSREMOVED WITH DISPENSER ISLANDS.

SUMMARY:

**Environmental FirstSearch
Site Detail Report**

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

RCRA GENERATOR SITE

SEARCH ID: 6

DIST/DIR: 1.09 SW

MAP ID: 10

NAME: WILLIAMSBURG KWIK COIN WASH
ADDRESS: 119 N THIRD ST
WILLIAMSBURG OH 45176
CLERMONT
CONTACT: M FAULK

REV: 6/6/06
ID1: OHD981779317
ID2:
STATUS: SGN
PHONE: 5137242291

SITE INFORMATION

CONTACT INFORMATION: M FAULK
119 N THIRD ST
WILLIAMSBURG OH 45176

PHONE: 5137242291

UNIVERSE INFORMATION:

GOVERNMENT PERFORMANCE AND RESULTS ACT (GPRA)

GPRA PERMIT: N - NO
GPRA POST CLOSURE: N - NO
GPRA CA: N - NO
GPRA COMPLIANCE MONITORING & ENFORCEMENT: N - NO

SUBJECT TO CORRECTIVE ACTION (SUBJCA)

SUBJCA: N - NO
SUBJCA TSD 3004: N - NO
SUBJCA NON TSD: N - NO

SIGNIFICANT NON-COMPLIANCE(SNC): N - NO
BEGINNING OF THE YEAR SNC: N - NO
PERMIT WORKLOAD: ----
CLOSURE WORKLOAD: ----
POST CLOSURE WORKLOAD: ----
PERMITTING /CLOSURE/POST-CLOSURE PROGRESS: ----
CORRECTIVE ACTION WORKLOAD: N - NO
GENERATOR STATUS: SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000
KG/MONTH OF HAZARDOUS WASTE

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane

**Environmental FirstSearch
Site Detail Report**

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

STATE SPILLS SITE

SEARCH ID: 11

DIST/DIR: 1.09 SW

MAP ID: 11

NAME: MS DORIS DUFFEY
ADDRESS: 737 GAY STREET
WILLIAMSBURG OH

REV: 4/22/04
ID1: 1994-292
ID2: 292.00
STATUS:
PHONE:

CONTACT:

SITE INFORMATION

SITE INFORMATION

SITE INFORMATION

SITE INFORMATION

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE

- Continued on next page -

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

STATE SPILLS SITE

SEARCH ID: 11

DIST/DIR: 1.09 SW

MAP ID: 11

NAME: MS DORIS DUFFEY
ADDRESS: 737 GAY STREET
WILLIAMSBURG OH

REV: 4/22/04
ID1: 1994-292
ID2: 292.00
STATUS:
PHONE:

CONTACT:

AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

SPILL YEAR: 1994
SPILL NUMBER: 292
REPORT DATE: 1/27/1994
PRODUCT: KEROSENE
AMOUNT: 80
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: DITCH TO PLEASANT RUN
STREAM MILES: 1

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 59

DIST/DIR: 1.10 SW

MAP ID: 12

NAME: WILLIAMSBURG SUNOCO
ADDRESS: 285 W MAIN
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13000524-N00001
ID2:
STATUS: FACILITY INACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID: 137006000
OLD FACILITY ID: 130524
LTF STATUS: SUSPECTED OR CONFIRMED RELEASE FROM REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED

OWNER: MYERS & DUCKWORTH
622 W PLANE ST
BETHEL OH 45106

**Environmental FirstSearch
Site Detail Report**

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

RCRA GENERATOR SITE

SEARCH ID: 1

DIST/DIR: 1.10 SW

MAP ID: 13

NAME: ASHLAND BRANDED MARKETING NO.580-006
ADDRESS: 209 W MAIN ST
WILLIAMSBURG OH 45176
CLERMONT
CONTACT: JEFFREY WOOD

REV: 6/6/06
ID1: OH0000891309
ID2:
STATUS: SGN
PHONE: 6063293125

SITE INFORMATION

CONTACT INFORMATION: JEFFREY WOOD
P O BOX 391
ASHLAND KY 41114

PHONE: 6063293125

UNIVERSE INFORMATION:

GOVERNMENT PERFORMANCE AND RESULTS ACT (GPRA)

GPRA PERMIT: N - NO
GPRA POST CLOSURE: N - NO
GPRA CA: N - NO
GPRA COMPLIANCE MONITORING & ENFORCEMENT: N - NO

SUBJECT TO CORRECTIVE ACTION (SUBJCA)

SUBJCA: N - NO
SUBJCA TSD 3004: N - NO
SUBJCA NON TSD: N - NO

SIGNIFICANT NON-COMPLIANCE(SNC): N - NO
BEGINNING OF THE YEAR SNC: N - NO
PERMIT WORKLOAD: ----
CLOSURE WORKLOAD: ----
POST CLOSURE WORKLOAD: ----
PERMITTING /CLOSURE/POST-CLOSURE PROGRESS: ----
CORRECTIVE ACTION WORKLOAD: N - NO
GENERATOR STATUS: SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000
KG/MONTH OF HAZARDOUS WASTE

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

Benzene
Ignitable waste

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

STATE SPILLS SITE

SEARCH ID: 29

DIST/DIR: 1.13 SW

MAP ID: 15

NAME:
ADDRESS: 134 S FRONT ST
WILLIAMSBURG OH
DARKE
CONTACT:

REV: 05/09/06
ID1: OHSP-0506-495
ID2: 556.00
STATUS:
PHONE:

SITE INFORMATION

SPILL YEAR: 2006
SPILL NUMBER: 556
REPORT DATE: 2/15/2006 00:00:00
PRODUCT: DIESEL FUEL OR FUEL OIL (RED)
REPORTER NAME: PC LAU
SUSPECTED SPILLER: NON-REPORTABLE (SEE REMARKS)

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 58

DIST/DIR: 1.14 SW

MAP ID: 16

NAME: WILLIAMSBURG BP
ADDRESS: 609 W MAIN
WILLIAMSBURG OH 45176
CONTACT:

REV: 03/14/06
ID1: 13000240-N00003
ID2:
STATUS: FACILITY INACTIVE
PHONE:

SITE INFORMATION

FORMER LUST ID:
OLD FACILITY ID: 130240
LTF STATUS: CLOSURE OF REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED
OWNER: Susan Cummins
609 W. MAIN STREET
WILLIAMSBURG OH 45176

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 56

DIST/DIR: 1.14 SW

MAP ID: 16

NAME: WILLIAMSBURG BP
ADDRESS: 609 W MAIN
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13000240-N00001
ID2:
STATUS: FACILITY INACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID: 132070900
OLD FACILITY ID: 130240
LTF STATUS: SUSPECTED OR CONFIRMED RELEASE FROM REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED

OWNER: Susan Cummins
609 W. MAIN STREET
WILLIAMSBURG OH 45176

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 52

DIST/DIR: 1.14 SW

MAP ID: 16

NAME: NEVILLE CARRYOUT
ADDRESS: 609 MAIN ST
NEVILLE OH 45156
CLERMONT

REV: 08-25-99
ID1: 132206500
ID2: 132206500
STATUS: REPORTED
PHONE:

CONTACT:

REPORT # 1322065 **TRACKING #** 0 **FACILITY ID:** 130240 **PRIORITY:** LOW
INCIDENT: DESIGNATES THE CLOSURE OF A UST
CLASS: UNKNOWN SOURCE AND/OR RESPONSIBLE PERSON
STATUS: REPORTED

OPERATOR:
ADDRESS:

OH

OWNER:
ADDRESS:

OH

PHONE:

PHONE:

INSPECTOR: STALDER
AUTHORIZED BY: GILL
REVISED:
EMERGENCY RESPONSE:

COORDINATOR: CENTRAL OFFICE CLOSURE
AUTH DATE: 08/12/92

REMARKS:

SUMMARY:

Environmental FirstSearch
Site Detail Report

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 50

DIST/DIR: 1.14 SW

MAP ID: 16

NAME: LARRY S BP
ADDRESS: 609 W MAIN ST
WILLIAMSBURG OH 45176
CLERMONT

REV: 08-25-99
ID1: 138263500
ID2: 138263500
STATUS: REPORTED
PHONE:

CONTACT:

REPORT # 1382635 **TRACKING #** 0 **FACILITY ID:** 130240 **PRIORITY:** LOW
INCIDENT: DESIGNATES THE CLOSURE OF A UST
CLASS: KNOWN/SUSPECTED OR CONFIRMED SOURCE AND RESPONSIBLE PERSON IS PROCEEDING VOLUNTARILY
STATUS: REPORTED

OPERATOR:
ADDRESS:

OH

OWNER:
ADDRESS:

OH

PHONE:

PHONE:

INSPECTOR:
AUTHORIZED BY: GILL
REVISED:
EMERGENCY RESPONSE:

COORDINATOR: CENTRAL OFFICE CLOSURE
AUTH DATE: 11/13/98

REMARKS: PERMIT# 20485 REMOVE PIPE,INSTALL PIPE UPGRADE

SUMMARY:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 57

DIST/DIR: 1.14 SW

MAP ID: 16

NAME: WILLIAMSBURG BP
ADDRESS: 609 W MAIN
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13000240-N00002
ID2:
STATUS: FACILITY INACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID:
OLD FACILITY ID: 130240
LTF STATUS: SUSPECTED OR CONFIRMED RELEASE FROM REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED

OWNER: Susan Cummins
609 W. MAIN STREET
WILLIAMSBURG OH 45176

**Environmental FirstSearch
Site Detail Report**

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

STATE SPILLS SITE

SEARCH ID: 15

DIST/DIR: 1.17 SW

MAP ID: 19

NAME: UNK
ADDRESS: 659 E MAIN ST
WILLIAMSBURG OH

REV: 4/22/04
ID1: 1992-5199
ID2: 5199.00
STATUS:
PHONE:

CONTACT:

SITE INFORMATION

SPILL YEAR: 1992
SPILL NUMBER: 5199
REPORT DATE: 12/10/1992
PRODUCT: FUEL OIL
AMOUNT: 100
SIZE: SMALL = 0-499 GALLONS OR 0-3,999 LBS
TYPE: HYDROCARBON
WATERWAY: N/A
STREAM MILES:

STATE SPILLS SITE

SEARCH ID: 16

DIST/DIR: 1.18 SW

MAP ID: 20

NAME: UNK
ADDRESS: 685 E. MAIN ST
WILLIAMSBURG OH

REV: 4/22/04
ID1: 1994-1720
ID2: 1720.00
STATUS:
PHONE:

CONTACT:

SITE INFORMATION

SPILL YEAR: 1994
SPILL NUMBER: 1720
REPORT DATE: 4/23/1994
PRODUCT: SWIMMING POOL WATER
AMOUNT: 0
SIZE: UNKNOWN
TYPE: OTHER
WATERWAY: N/A
STREAM MILES:

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 49

DIST/DIR: 1.20 SW

MAP ID: 23

NAME: HILLTOP QUICK STOP
ADDRESS: 418 E MAIN
WILLIAMSBURG OH 45176

REV: 03/14/06
ID1: 13007212-N00001
ID2:
STATUS: FACILITY INACTIVE
PHONE:

CONTACT:

SITE INFORMATION

FORMER LUST ID: 133226200
OLD FACILITY ID: 137212
LTF STATUS: CLOSURE OF REGULATED UST
FR STATUS: A CONFIRMED RELEASE WITH NO FURTHER CORRECTIVE ACTIONS REQUIRED

OWNER: SAMUEL GANINO
418 EAST MAIN STREET
WILLIAMSBURG OH 45176

***Environmental FirstSearch
Site Detail Report***

TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

RCRA GENERATOR SITE

SEARCH ID: 3

DIST/DIR: 1.23 SW

MAP ID: 25

NAME: CROSSTOWN CUSTOMS
ADDRESS: 806 W MAIN ST
WILLIAMSBURG OH 45176
CLERMONT
CONTACT: BOB MILLER

REV: 6/6/06
ID1: OHD185122009
ID2:
STATUS: SGN
PHONE: 5137241127

cyclohexanone, and methanol; all spent solvent mixtures/ blends containing, b
Ignitable waste

Environmental FirstSearch Database Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - Database of confirmed, proposed or deleted Superfund sites.

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM - Database of current and potential Superfund sites currently or previously under investigation.

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

RCRA TSD: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of facilities licensed to store, treat and dispose of hazardous waste materials.

RCRA COR: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of RCRA facilities with reported violations and subject to corrective actions.

RCRA GEN: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of facilities that generate or transport hazardous waste or meet other RCRA requirements. LGN - Large Quantity Generators SGN - Small Quantity Generators VGN - Conditionally Exempt Generator. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

ERNS: *EPA/NRC* EMERGENCY RESPONSE NOTIFICATION SYSTEM - Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

STATE SITES: *OH EPA* DIVISION OF EMERGENCY AND REMEDIAL RESPONSE DATABASE (DERR) - database of basic information regarding name and status in the Voluntary Action Program, for potentially contaminated sites that are maintained by district offices in Ohio.

SPILLS-1990: *OH EPA* SPILL LOCATIONS - database of spills reported to the Ohio Environmental Protection Agency since 1990.

SWL: OH EPA WASTE FACILITIES - The Database of all Compost and Demolition Debris, Industrial and Residual Waste, Municipal Solid Waste Landfills and Municipal and Solid Waste Transfer Facilities are maintained by the Division of Solid and Infectious Waste Management.

REG UST/AST: OH FMO LIST OF ACTIVE REGISTERED FACILITIES - database of all registered underground storage tanks.

LEAKING UST: OH FMO FACILITIES WITH ACTIVE RELEASES FROM REGULATED TANKS - database of leaking underground storage tanks reported to the Ohio Fire Marshal's office.

RADON: NTIS NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch
Street Name Report for Streets within 1 Mile(s) of Target Property

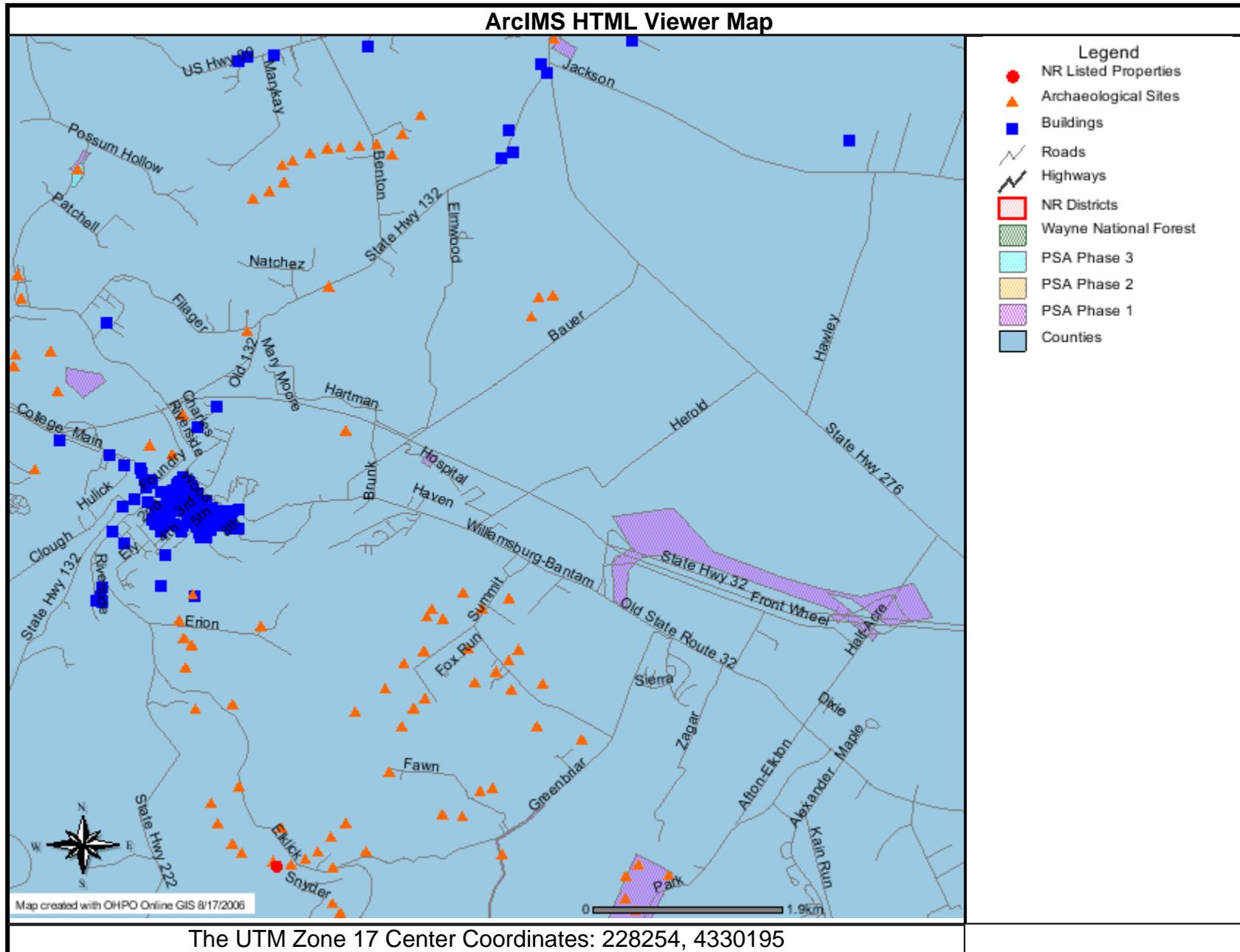
TARGET SITE:

WILLIAMSBURG OH 45176

JOB: 45176

Street Name	Dist/Dir	Street Name	Dist/Dir
Cobb Rd	0.43 SE		
Creek Knoll Dr	0.26 SE		
Dela Palma Rd	0.43 SE		
Gay St	0.97 SW		
Ireton Rd	0.28 NE		
McKeever Rd	0.17 NW		
Mill	0.70 SW		
N 2nd St	0.74 SW		
N 3rd St	0.75 SW		
N 4th St	0.81 SW		
N Broadway St	0.92 SW		
N Front St	0.84 SW		
NORTH 2nd St	0.74 SW		
NORTH 3rd St	0.75 SW		
NORTH 4th St	0.81 SW		
NORTH Broadway St	0.92 SW		
NORTH Front St	0.84 SW		
State Route 32	0.02 SW		
Twilite Ln	0.87 SW		
Walnut St	0.84 SW		
Woodside Dr	0.50 SW		

**Appendix D:
Cultural Resources Database Search –
Ohio Historic Preservation Office**



The UTM Zone 17 Center Coordinates: 228254, 4330195

The Ohio Historic Preservation Office provides online data for preliminary research and data gathering only. No guarantee is made concerning data accuracy, quality or timeliness.

Batavia Archaeological Inventory: Archaeological Sites (2.5 Mile Radius)

REC	OAI_NUMBER	UTM_ZONE	AFFILIATION	QUADRANGLE
1	CT0059	16	Prehistor	Batavia
2	CT0063	16	Prehistor	Batavia
3	CT0064	16	Prehistor	Batavia
4	CT0065	16	Prehistor	Batavia
5	CT0100	16	Prehistor	Batavia
6	CT0106	16	Prehistor	Batavia
7	CT0107	16	Prehistor	Batavia
8	CT0108	16	Prehistor	Batavia
9	CT0144	16	Prehistor	Williamsb
10	CT0171	16	Prehistor	Batavia
11	CT0189	16	Prehistor	Batavia
12	CT0190	16	Prehistor	Batavia
13	CT0192	16	Prehistor	Batavia
14	CT0193	16	Prehistor	Batavia
15	CT0195	16	Prehistor	Batavia
16	CT0196	16	Prehistor	Batavia
17	CT0197	16	Prehistor	Batavia
18	CT0210	16	Prehistor	Batavia
19	CT0214	16	Prehistor	Batavia
20	CT0215	16	Prehistor	Batavia
21	CT0216	16	Prehistor	Batavia
22	CT0217	16	Prehistor	Batavia
23	CT0218	16	Prehistor	Batavia
24	CT0219	16	Prehistor	Batavia
25	CT0223	16	Prehistor	Batavia
26	CT0224	16	Prehistor	Orangevil
27	CT0225	16	Prehistor	Batavia
28	CT0226	16	Prehistor	Batavia
29	CT0227	16	Prehistor	Batavia
30	CT0233	16	Prehistor	Batavia
31	CT0234	16	Prehistor	Batavia
32	CT0235	16	Prehistor	Batavia
33	CT0236	16	Prehistor	Batavia
34	CT0237	16	Prehistor	Batavia
35	CT0238	16	Prehistor	Batavia
36	CT0239	16	Prehistor	Batavia
37	CT0303	16	Prehistor	Batavia
38	CT0304	16	Prehistor	Batavia
39	CT0305	16	Prehistor	Batavia
40	CT0306	16	Prehistor	Batavia
41	CT0307	16	Prehistor	Batavia
42	CT0374	16	Prehistor	Batavia
43	CT0375	16	Prehistor	Batavia
44	CT0376	16	Prehistor	Batavia
45	CT0377	16	Prehistor	Batavia
46	CT0378	16	Prehistor	Batavia
47	CT0379	16	Prehistor	Batavia
48	CT0380	16	Prehistor	Batavia
49	CT0381	16	Prehistor	Batavia
50	CT0382	16	Prehistor	Batavia

51	CT0383	16	Prehistor	Batavia
52	CT0384	16	Prehistor	Batavia
53	CT0385	16	Prehistor	Batavia
54	CT0386	16	Prehistor	Batavia
55	CT0387	16	Prehistor	Batavia
56	CT0388	16	Historic	Batavia
57	CT0389	16	Historic	Batavia

Batavia Historic Inventory: Buildings (2.5 Mile Radius)

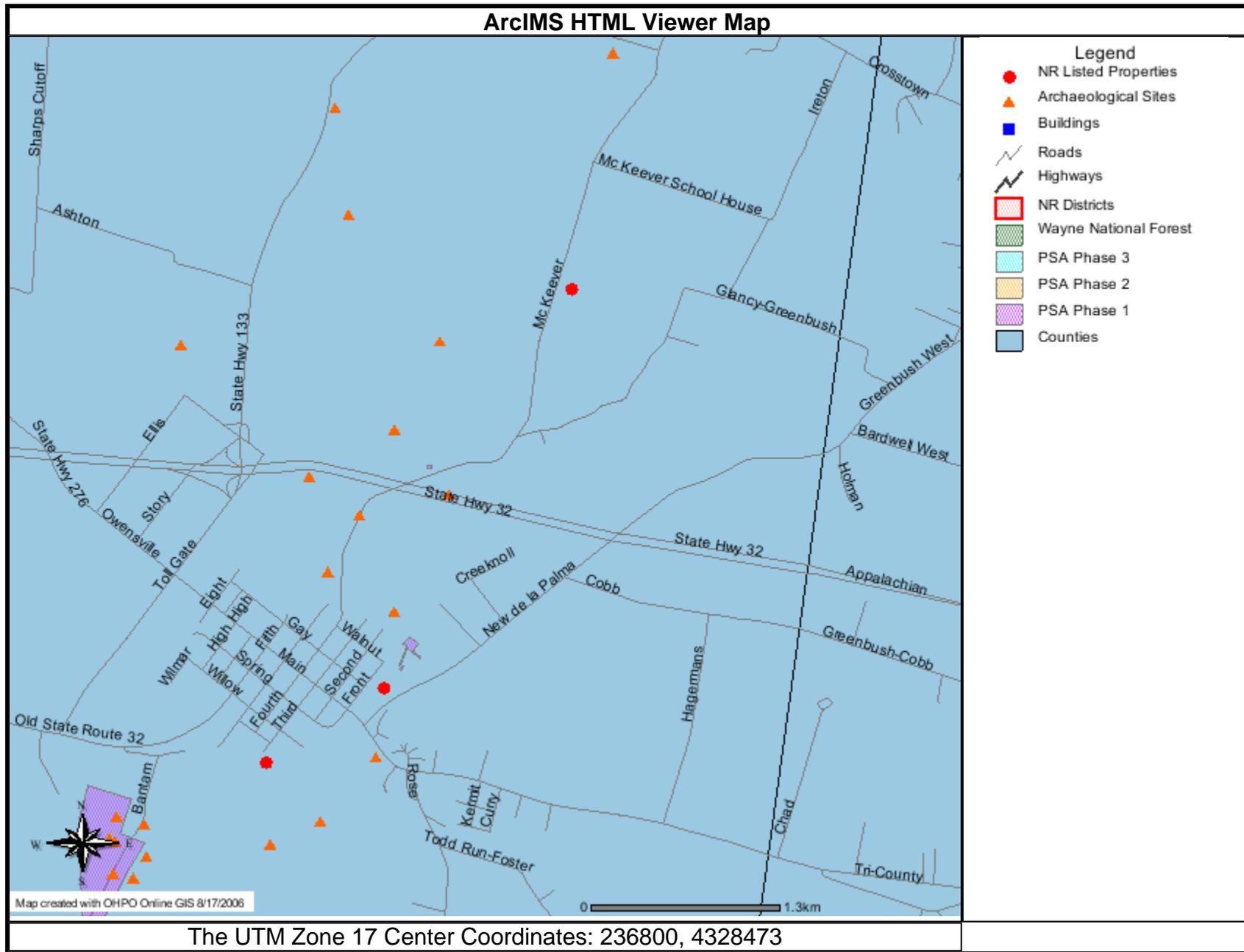
REC	OHI_NUMBER	UTM_ZONE	CLASS	STYLE
1	CLE007407	16	Dominant	Italianat
2	CLE007507	16	Dominant	QueenAnn
3	CLE007607	16	Dominant	Stick
4	CLE007707	16	Dominant	Neo-Class
5	CLE007807	16	Dominant	Eastlake
6	CLE007907	16	Dominant	Stick
7	CLE008007	16	Dominant	Vernacula
8	CLE008107	16	Dominant	Vernacula
9	CLE008207	16	Dominant	Vernacula
10	CLE008307	16	Dominant	Vernacula
11	CLE008607	16	Dominant	
12	CLE021907	16	Dominant	
13	CLE009007	16	Dominant	Vernacula
14	CLE009107	16	Dominant	Italianat
15	CLE009207	16	Dominant	Italianat
16	CLE009307	16	Dominant	Craftsman
17	CLE009407	16	Dominant	Vernacula
18	CLE009507	16	Dominant	GothicRe
19	CLE009607	16	Dominant	Vernacula
20	CLE009707	16	Dominant	GreekRev
21	CLE009807	16	Dominant	GreekRev
22	CLE009907	16	Dominant	GreekRev
23	CLE010007	16	Dominant	GreekRev
24	CLE010107	16	Dominant	Italianat
25	CLE010207	16	Dominant	Italianat
26	CLE010307	16	Dominant	GothicRe
27	CLE010407	16	Dominant	QueenAnn
28	CLE010507	16	Dominant	Mission
29	CLE010607	16	Dominant	Vernacula
30	CLE010707	16	Dominant	Italianat
31	CLE010807	16	Dominant	Vernacula
32	CLE010907	16	Dominant	Italianat
33	CLE011007	16	Dominant	Stick
34	CLE011107	16	Dominant	Craftsman
35	CLE011207	16	Dominant	Vernacula
36	CLE011307	16	Dominant	Vernacula
37	CLE011407	16	Dominant	DutchCol
38	CLE011507	16	Dominant	Vernacula
39	CLE011607	16	Dominant	Vernacula
40	CLE011707	16	Dominant	Vernacula
41	CLE011807	16	Dominant	Vernacula

42	CLE011907	16	Dominant	Bungalow
43	CLE012007	16	Dominant	Vernacula
44	CLE012107	16	Dominant	Colonial
45	CLE012207	16	Dominant	Mediterra
46	CLE012307	16	Dominant	Vernacula
47	CLE012407	16	Dominant	Vernacula
48	CLE012507	16	Dominant	Vernacula
49	CLE012607	16	Dominant	Vernacula
50	CLE012707	16	Dominant	Vernacula
51	CLE012807	16	Dominant	Second
52	CLE012907	16	Dominant	Vernacula
53	CLE013007	16	Dominant	Vernacula
54	CLE013107	16	Dominant	Vernacula
55	CLE013207	16	Dominant	Vernacula
56	CLE013307	16	Dominant	Vernacula
57	CLE013407	16	Dominant	Vernacula
58	CLE013507	16	Dominant	Vernacula
59	CLE013607	16	Dominant	Vernacula
60	CLE013707	16	Dominant	Greek
61	CLE013807	16	Dominant	Vernacula
62	CLE013907	16	Dominant	Vernacula
63	CLE014007	16	Dominant	Gothic
64	CLE014107	16	Dominant	Bungalow
65	CLE014207	16	Dominant	Queen
66	CLE014307	16	Dominant	Italian
67	CLE014407	16	Dominant	Stick
68	CLE014507	16	Dominant	Vernacula
69	CLE014607	16	Dominant	Queen
70	CLE014707	16	Dominant	Italian
71	CLE014807	16	Dominant	Vernacula
72	CLE014907	16	Dominant	
73	CLE015007	16	Dominant	Colonial
74	CLE015107	16	Dominant	Queen
75	CLE015207	16	Dominant	Federal
76	CLE015307	16	Dominant	
77	CLE015407	16	Dominant	Federal
78	CLE015507	16	Dominant	Vernacula
79	CLE015607	16	Dominant	Vernacula
80	CLE015707	16	Dominant	Gothic
81	CLE015807	16	Dominant	Colonial
82	CLE015907	16	Dominant	Italian
83	CLE016007	16	Dominant	Federal
84	CLE016107	16	Dominant	Stick
85	CLE016207	16	Dominant	Vernacula
86	CLE016307	16	Dominant	Vernacula
87	CLE016407	16	Dominant	Vernacula
88	CLE016507	16	Dominant	Vernacula
89	CLE016607	16	Dominant	Vernacula
90	CLE016707	16	Dominant	Vernacula
91	CLE016807	16	Dominant	Vernacula
92	CLE016907	16	Dominant	
93	CLE017007	16	Element	P

94	CLE017107	16	Dominant	Vernacula
95	CLE017207	16	Dominant	Italian
96	CLE017307	16	Dominant	Vernacula
97	CLE017407	16	Dominant	Vernacula

Batavia Previously Surveyed Areas: PSA Phase I (2.5 Mile Radius)

Rec	LOG	ACRES	AREAS	COUNTY	YEAR	PHASE
1	948087	3	1	CT	1995	1



The Ohio Historic Preservation Office provides online data for preliminary research and data gathering only. No guarantee is made concerning data accuracy, quality or timeliness.

Williamsburg Archaeological Inventory: Archaeological Sites (2.5 Mile Radius)

EC	OAI_NUM	UTM_ZONE	AFFILIATION	QUADRANGLE
1	CT0126	16	Prehistoric	Williamsbur
2	CT0186	16	Prehistoric	Williamsbur
3	CT0292	16	Prehistoric	Williamsbur
4	<i>CT0298</i>	<i>16</i>	<i>Prehistoric</i>	<i>Williamsbur</i>
5	CT0301	16	Prehistoric	Williamsbur
6	CT0309	16	Prehistoric	Williamsbur
7	CT0310	16	Prehistoric	Williamsbur
8	CT0311	16	Prehistoric	Williamsbur
9	CT0312	16	Prehistoric	Williamsbur
10	CT0313	16	Prehistoric	Williamsbur
11	CT0314	16	Prehistoric	
12	CT0316	16	Prehistoric	Williamsbur
13	CT0317	16	Prehistoric	Williamsbur
14	CT0318	16	Prehistoric	Williamsbur
15	<i>CT0330</i>	<i>16</i>	<i>Prehistoric</i>	<i>Williamsbur</i>
16	<i>CT0331</i>	<i>16</i>	<i>Prehistoric</i>	<i>Williamsbur</i>
17	CT0332	16	Prehistoric	Williamsbur
18	CT0333	16	Prehistoric	Williamsbur
19	CT0334	16	Prehistoric	Williamsbur
20	CT0335	16	Prehistoric	Williamsbur
21	CT0340	16	Historic	Williamsbur
22	CT0603	16	Prehistoric	Williamsbur
23	CT0608	16	Prehistoric	Williamsbur
24	CT0609	16	Prehistoric	Williamsbur
25	CT0622	16	Prehistoric	Williamsbur

* Sites within the Williamsburg study area are indicated in italics

Williamsburg Historic Inventory: Buildings (2.5 Mile Radius)

REC	OHI_NUM	UTM_ZONE	CLASS	STYLE
1	CLE0005	16	Dominant	Vernacular
2	CLE0671	16	Dominant	Vernacular
3	CLE0672	16	Dominant	Gothic

Williamsburg National Register: NR Listed Properties (2.5 Mile Radius)

REC	REFNUM	UTM_ZONE
1	0	16
2	1000592	16
3	2000704	16

**Appendix E:
Red Flag Checklist
(ODOT format modified)**

RED FLAG SUMMARY

(NOTE: This form is modified from the Ohio Department of Transportation Red Flag Form version April 2005 to include environmental red flag information only [transportation geometrics, hydraulics, pavement, structure, traffic control, right-of-way/survey and miscellaneous issues excluded])

The purpose of this Red Flag Summary is to identify concerns that could cause revisions to the anticipated design and construction scope of work, the proposed project development schedule, the estimated project budget, or the potential impacts of the project on the surrounding area.

Date Red Flag Summary Completed: *September 2006*

District: *8*

Project Name (County, Route and Section):

Red Flag Summary: Phase II - SR 32 Corridor, Clermont County, Ohio – SR 32 Batavia

City, Township or Village Names(s): *Batavia Township*

PID: *NA*

Prepared by: *Balke American*

ODOT Project Manager: *NA*

GENERAL PROJECT PLANNING INFORMATION:

Project Description:
This Red Flag Summary presents a second phase of environmental inventory for various sites along State Route (SR) 32 in central and eastern Clermont County identified for potential future economic development by Clermont County. This red flag checklist summarizes environmental red flag information for the location referred to as SR 32 Batavia.

Project Limits/General Location
The SR 32 Batavia corridor is located in Batavia Township, just east of the Village of Batavia, along SR 32 generally between Bauer and Batavia roads. The study area evaluated for this red flag is about 580 acres in size and encompasses about 62 parcels. The SR 32 Batavia study area is bordered by Bauer Road to the west, Old SR 32 to the south, and Herold Road/Batavia Road to the east. Hospital Drive parallels existing SR 32 on the south side between Bauer Road and Herold Road, and provides local access to existing commercial development and the Clermont Mercy Hospital occurring in this vicinity.

ENVIRONMENTAL ISSUES:

Make a preliminary determination on whether the following resources will be affected by the proposed project.

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Parkland, nature preserves and wildlife areas <i>None</i>	<i>A recently constructed golf driving range occurs along Bauer Road between SR 32 and Old SR 32, however, this is a commercial facility (not public owned).</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Cemetery <i>None</i>	<i>None observed from field surveys or secondary sources</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Scenic River <i>See next column</i>	<i>The project occurs in the Little Miami River watershed – in the headwater portions of tributaries to the East Fork Little Miami River. The Little Miami River is a state scenic river and component of the national scenic river system, however the project is located about 11 miles from the mainstem.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Public Facilities <i>None</i>	<i>The Batavia High School, located at the corner of SR 32 and Batavia Road, is outside the SR 32 Batavia study area.</i>

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Threatened and Endangered Species and/or habitat (e.g., Indiana bat trees, etc.) <i>The project is within the known range of 4 federal species and ODNR reported 4 state-listed species from within 2.5-miles of the project study area.</i>	<i>No species were reported or observed from within the study area boundaries, however, potential summer habitat for the federal-endangered Indiana bat (potential roosting trees) and the federal-endangered running buffalo clover was noted during reconnaissance field surveys.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing cat tails <i>Yes – see next column</i>	<i>An estimated 13 preliminary wetlands, ranging in size from 0.03 to 0.2 acre, were identified within the SR 32 Batavia study area. All are limited quality features (OEPA Category 1) associated with drainage swales or depressional areas in woodlands or fields.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing wet areas <i>Yes – see above</i>	<i>See above</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Streams, rivers and watercourses <i>Eighteen ordinary high water (OHW) features were observed within the project study area, including two USGS perennial streams, two USGS intermittent streams and fourteen other small non-USGS channels and ditches. Preliminary assessment indicates that the smaller USGS intermittent and non-USGS features are likely OEPA Class I or II Primary Headwater streams (limited quality streams); one feature classifies as a Class III Primary Headwater stream (good quality); and one feature classifies as Warmwater Habitat.</i>	<i>The project is located within the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-120). The north half of the SR 32 Batavia study area (north of SR 32) is drained by unnamed USGS headwater tributaries in the Backbone Creek drainage, and the south half of the area (south of SR 32) is drained by unnamed USGS headwater tributaries to the East Fork.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Historic Building(s) <i>See next column</i>	<i>None noted from OHPO database search, however, several old (> 50 years) residences and agricultural outbuildings were noted north of SR 32 along Bauer Road and adjoining roadways during reconnaissance field survey conducted for this red flag study. The historic significance of these structures has not been determined.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Historic Bridge(s) <i>None</i>	<i>Based on review of ODOT historic bridge survey (9-29-05 update).</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Farmland <i>The study area is predominantly agricultural land use (row crop and pastureland).</i>	<i>No Agricultural Districts occur in the study area. About half of the parcels in the SR 32 Batavia study area, however, are included in the CAUV Program.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Landfill(s) <i>None</i>	<i>Based on regulatory database search and reconnaissance field survey.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Total Maximum Daily Load (TDML) Streams <i>See next column</i>	<i>Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	ODOT MS4 Phase 2 Regulated Areas <i>Yes</i>	<i>SR 32 is an ODOT MS4 Phase 2 regulated state route in Clermont County (from Hamilton County to SR 276), and most of the SR 32 Batavia study area occurs within an ODOT MS4 Phase 2 Regulated Area.</i>

Involvement	Environmental Resource	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Evidence of hazardous materials <i>See next column</i>	<p><i>Nine regulatory database records were reported from within or immediately adjacent to the SR 32 Batavia study area, including eight LUST/UST facilities and one RCRA Generator facility. The proximity of structures relative to the study area boundaries has not been determined.</i></p> <p><i>During reconnaissance field survey, small open dump/debris areas were occasionally observed along portions of several headwater ravines, and it is possible that ASTs associated with older farmsteads or other types of development occur in the area.</i></p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sensitive environmental justice areas	<i>None occur in immediate project area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Federal Emergency Management Agency (FEMA) floodplains <i>None</i>	<i>Based on review of FEMA 100-year floodplain mapping</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Lake Erie Coastal Management Area <i>NA</i>	<i>--</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sole Source Aquifers <i>None – see next column</i>	<p><i>The SR 32 Batavia study area does not occur within any USEPA-designated sole source aquifer boundaries, nor are there OEPA public water supply wells located in the immediate vicinity. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork downstream and outside of the project study area.</i></p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Wellhead Protection Areas <i>See next column</i>	<p><i>Boundaries of the Source Water Protection area (SWA) of the Clermont County Public Water System occur about 2 miles east of the SR 32 Batavia study area (see Figure 2-4). This system uses surface water, primarily intakes along East Fork Reservoir, for public drinking water. This SWA should not be affected by proposed activities in the SR 32 Batavia corridor.</i></p>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Does it appear that noise abatement will be an issue for the project? <i>See next column</i>	<p><i>Potential noise receptors in the area include scattered existing residential development and residential subdivisions along Bauer Road and Old SR 32, the Clermont Mercy Hospital, and the Batavia Nursing Care Center. If development in the SR 32 Batavia corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.</i></p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Other environmental issues <i>None noted</i>	<i>--</i>

GEOTECHNICAL ISSUES:

“Geotechnical Red Flag” features may include, but are not limited to, known or suspected geologic hazards (e.g., organic soils, karst, rockfalls, landslides, surface and underground mines, poor subgrade conditions, or difficulty in correcting existing surface or subsurface drainage problems).

GEOLOGY

Provide a brief geologic description of the project area

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is characterized as a rolling glacial till plain, with soils derived from glacial materials. Topography in the vicinity of the SR 32 Batavia study area is nearly level to moderately sloping along drainage features, with elevations generally between 840 and 880 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

Provide a description of the hydrogeologic setting

NA

Describe the characteristics of the soils

Soils in the SR 32 Batavia study area are part of the Rossmoyne-Cincinnati Association (west half) and Avonburg-Clermont Association (east half). The Rossmoyne-Cincinnati soils consist of deep, sloping and well-drained soils along major drainageways (such as the East Fork), and the Avonburg-Clermont Association consists of deep, nearly level, poorly drained soils formed from glacial materials and occurring on broad flats and uplands. Avonburg silt loam, Clermont silt loam and Rossmoyne silt loam are the predominant soils within the study area. Avonburg and Clermont soils occur in flat, upland areas, and Avonburg soils also occur occasionally along small drainage features. Both soils have a clayey subsoil, are poorly drained, and exhibit slow permeability, ponding, and slow runoff. Rossmoyne soils mostly occur in the west half of the study area along the narrow ridgetops of small drainage features tributary to the East Fork.

Minor soils in the project study area include Eden silty clay loam, Edenton loam, and Genesee silt loam, primarily along stream channels (Genesee soils) or on slopes along small drainage features in the east half of the study area. All three are well-drained soils with medium to high available water capacity.

Describe the characteristics of the rock

NA

SUMMARY OF GEOTECHNICAL ISSUES

Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.

	Geotechnical Issue	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)? <i>Yes – see next column</i>	<i>Clermont silt loam, which comprises 16% of the SR 32 Batavia Corridor study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Approximately 13 preliminary wetlands (mostly small features) were observed in the study area during reconnaissance field surveys – see ‘Environmental Issues’ above for further description.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of any landslides?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of active, reclaimed or abandoned surface mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there information pertaining to the existence of underground mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are soil borings needed for pavement design, foundations (bridge, headwall, retaining wall, noise wall) or slopes?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Does an undercut appear to be needed?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Should the Office of Geotechnical Engineering be contacted to evaluate the project site?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other geotechnical issues?	<i>Not known</i>

Provide a list of bulleted items referencing additional areas of concern or special notation.

NA

UTILITY ISSUES:

Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.

	Utility Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do existing utilities need to be relocated?	<i>Public water and sewer lines are located in the area along Bauer Road, SR 32, Batavia Road, Hospital Drive, and adjoining local streets to serve existing residential and commercial / industrial development in the project vicinity. A cell tower is located on the Clermont County Administrative Complex property on the north side of SR 32. Overhead electric power lines were noted along SR 32 and other local roads.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is it impossible to minimize utility conflicts? (e.g., by careful placement of storm sewer and underdrains)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Would the project benefit from subsurface utility engineering (SUE)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there existing utilities on an existing structure that need to be relocated?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any specific utility requirements or concerns?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there facilities that require a large lead time to relocate?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is additional right of way needed to accommodate utility relocations?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there water or sanitary lines that will be relocated as part of the ODOT contract?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other utility issues?	<i>Not known.</i>

PERMIT ISSUES:

Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.

	Permit Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will an individual Corps of Engineers/Environmental Protection Agency 404/401 permit be required?	<i>Site development involving impacts to existing wetlands and/or OHW channels may require a 404 permit from the USACE and/or 401 water quality certification from OEPA.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that the project can be constructed under a nationwide 404/401 permit? If so, which permit and what specific requirements apply?	<i>The type of permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a Coast Guard permit be required?	<i>No navigable waters occur in the area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is review by a local public agency or project sponsor required?	<i>Activities in the study area may involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is Airway/Highway clearance analysis required?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is Federal Emergency Management Agency (FEMA) approval required?	<i>No 100-year FEMA floodplains occur in the study area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is railroad/railway coordination required?	<i>No railroads occur within the study area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?	<i>No known NR or NR eligible properties occur within the SR 32 Batavia corridor, although several potential historic resources were observed during reconnaissance field surveys. Activities in the study area may require detailed cultural studies and coordination with OHPO to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.</i>

	Permit Issue	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?	<i>The project occurs in the Little Miami River watershed – in the headwater portions of tributaries to the East Fork Little Miami River. The Little Miami River is a state scenic river and component of the national scenic river system, however the project is located about 11 miles from the mainstem.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is coordination with any other agency required? (See Location and Design Manual, Figures 1402-2 through Figure 1402-7.)	--

RED FLAG MAPPING:

Is a map showing locations of red flag areas attached? Yes No
 (A map showing locations of red flag areas is mandatory for Major Projects.)

* * *

RED FLAG SUMMARY

(NOTE: This form is modified from the Ohio Department of Transportation Red Flag Form version April 2005 to include environmental red flag information only [transportation geometrics, hydraulics, pavement, structure, traffic control, right-of-way/survey and miscellaneous issues excluded])

The purpose of this Red Flag Summary is to identify concerns that could cause revisions to the anticipated design and construction scope of work, the proposed project development schedule, the estimated project budget, or the potential impacts of the project on the surrounding area.

Date Red Flag Summary Completed: *September 2006*

District: *8*

Project Name (County, Route and Section):

Red Flag Summary: Phase II - SR 32 Corridor, Clermont County, Ohio – SR 32 Williamsburg

City, Township or Village Names(s): *Batavia Township*

PID: *NA*

Prepared by: *Balke American*

ODOT Project Manager: *NA*

GENERAL PROJECT PLANNING INFORMATION:

Project Description:
This Red Flag Summary presents a second phase of environmental inventory for various sites along State Route (SR) 32 in central and eastern Clermont County identified for potential future economic development by Clermont County. This red flag checklist summarizes environmental red flag information for the location referred to as SR 32 Williamsburg.

Project Limits/General Location
The SR 32 Williamsburg study area is located in Williamsburg Township, just north of the Village of Williamsburg, along SR 32 generally between McKeever and Dela Palma roads, and just west of the Clermont County/Brown County line. The study area evaluated for this red flag is about 480 acres in size and encompasses about 24 parcels.

ENVIRONMENTAL ISSUES:

Make a preliminary determination on whether the following resources will be affected by the proposed project.

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Parkland, nature preserves and wildlife areas <i>None</i>	<i>No public-owned parks, recreational areas, greenspaces or LWCF facilities occur in the SR 32 Williamsburg study area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Cemetery <i>None</i>	<i>The Williamsburg Cemetery is located south of SR 32 just west of the study area, but outside the SR 32 Williamsburg study area boundaries.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Scenic River <i>See next column</i>	<i>The project occurs in the East Fork Little Miami River watershed. The Little Miami River mainstem is a state scenic river and component of the national scenic river system, however the project is located about 13 miles from the mainstem.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Public Facilities <i>None</i>	<i>The Williamsburg High School is located along Old SR 32, about one mile southwest of the SR 32 Williamsburg study area.</i>

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Threatened and Endangered Species and/or habitat (e.g., Indiana bat trees, etc.) <i>The project is within the known range of 4 federal species and ODNR reports 2 state-listed mussel species from within 2.5-miles of the project study area.</i>	<i>No species were reported or observed from within the study area boundaries, however, potential summer habitat for the federal-endangered Indiana bat (potential roosting trees) and the federal-endangered running buffalo clover was noted during reconnaissance field surveys.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing cat tails <i>Yes – see next column</i>	<i>An estimated 11 wetlands, each less than 0.1 acre in size, were identified within the SR 32 Williamsburg study area boundaries. Eight are limited quality features (OEPA Category 1) associated with farm ponds, drainage swales or depressional areas in fields. Three of the wetlands are moderate quality features (OEPA Category 2) - one occurs on a sand bar along the East Fork River, one is a depressional area in a woodlot, and one Category 2 feature is an emergent scrub-shrub feature that formed as a result of a breached dam along a former Village of Williamsburg water reservoir.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Existing wet areas <i>Yes – see above</i>	<i>See above</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Streams, rivers and watercourses <i>Based on secondary source mapping and reconnaissance field survey, about 40 OHW features occur in the study area. Only one of these, Crane Run, is a USGS mapped blueline stream, which occurs in the north-central portion of the study area along McKeever Road. The remaining features are non-USGS headwater streams, and preliminary assessment indicates that they features are likely OEPA Modified Class I or II Primary Headwater (limited quality) streams.</i>	<i>The project is located in the Little Miami River watershed, East Fork sub-watershed (Hydrological Unit Code 05090202-110). The East Fork Little Miami Rivers borders the SR 32 Williamsburg study area on the west. The north half of the study area (north of SR 32) is drained by Crane Run mainstem and numerous unnamed USGS headwater tributaries in the Crane Run drainage, and the south half of the area (south of SR 32) is drained by unnamed USGS tributaries to the East Fork.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Historic Building(s) <i>See next column</i>	<i>None noted from OHPO database search, however, several old (> 50 years) farmstead residences and agricultural outbuildings were noted within the study area along McKeever Road. The historic significance of these structures has not been determined.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Historic Bridge(s) <i>None</i>	<i>Based on review of ODOT historic bridge survey (9-29-05 update).</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Farmland <i>The study area is predominantly agricultural land use (row crop and pastureland).</i>	<i>Much of the SR 32 Williamsburg study area is in agricultural land use (row crop). No Agricultural Districts occur in the study area, however, about one-third of the agricultural parcels in the area are included in the CAUV Program.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Landfill(s) <i>None</i>	<i>Based on regulatory database search and reconnaissance field survey.</i>

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Total Maximum Daily Load (TDML) Streams <i>See next column</i>	<i>Clermont County is currently completing Total Maximum Daily Loads (TMDLs) for the East Fork watershed.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	ODOT MS4 Phase 2 Regulated Areas <i>No</i>	<i>There are no ODOT MS4 Phase 2 regulated areas within or adjacent to the SR 32 Williamsburg corridor.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Evidence of hazardous materials <i>See next column</i>	<p><i>Fifty-nine regulatory database records encompassing about 25 sites occur within 1.25 miles of the SR 32 Williamsburg study area, however, none of these records are from within or immediately adjacent to the study area boundaries (most are from the Village of Williamsburg).</i></p> <p><i>During reconnaissance field survey, an open dump/debris area was observed along a portion of a headwater ravine, and it is possible that above-ground fuel storage tanks (AST) associated with older farmsteads occur in the area.</i></p>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sensitive environmental justice areas	<i>None occur in immediate project area.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Federal Emergency Management Agency (FEMA) floodplains <i>See next column</i>	<i>FEMA mapped 100-year floodplains occur along the East Fork, Crane Run and an unnamed East Fork tributary within the SR 32 Williamsburg study area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Lake Erie Coastal Management Area <i>NA</i>	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible	Sole Source Aquifers <i>None – see next column</i>	<i>The SR 32 Williamsburg study area is not located within the boundaries of any USEPA-designated sole source aquifer, nor are there any OEPA public water supply (PWS) wells located in the immediate study area boundaries. Class 2 portions of the Buried Valley Sole Source Aquifer (a USEPA-designated sole source aquifer) occur along mainstem East Fork further downstream and outside of the study area.</i>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Wellhead Protection Areas <i>See next column</i>	<i>The entire SR 32 Williamsburg study area occurs within the boundaries of the Source Water Protection area (SWA) of the Clermont County Public Water System. This system uses surface water, primarily intakes along East Fork Reservoir, for public drinking water.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible	Does it appear that noise abatement will be an issue for the project? <i>See next column</i>	<i>Potential noise receptors in the area include scattered existing residential development along McKeever Road and Dela Palma Road. If development in the SR 32 Williamsburg corridor involves transportation improvements using federal funds, then a noise analysis following FHWA guidelines may be required.</i>

Involvement	Environmental Resource	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible	Other environmental issues <i>None noted</i>	--

GEOTECHNICAL ISSUES:

“Geotechnical Red Flag” features may include, but are not limited to, known or suspected geologic hazards (e.g., organic soils, karst, rockfalls, landslides, surface and underground mines, poor subgrade conditions, or difficulty in correcting existing surface or subsurface drainage problems).

GEOLOGY

Provide a brief geologic description of the project area

The project is located in the Eastern Corn Belt Plains ecoregion as delineated by USEPA, and the Illinoian Till Plain physiographic region as delineated by ODNR. The region is characterized as a rolling glacial till plain, with soils derived from glacial materials. Topography in the vicinity of the SR 32 Williamsburg study area is nearly level to steep sloping along drainage features, with elevations generally between 800 and 900 feet above mean sea level. Geology consists of Ordovician-aged interbedded limestone and shale bedrock overlain by Illinoian-aged glacial drift composed of a mixture of sand, silt, clay and coarse fragments.

Provide a description of the hydrogeologic setting

NA

Describe the characteristics of the soils

Soils in the SR 32 Williamsburg study area are part of the Genesee-Williamsburg Association (western third along the East Fork), the Hickory-Cincinnati-Edenton-Eden (middle third of the study area), and the Avonburg-Clermont Association (east third of the study area).

Genesee-Williamsburg soils consist of deep, nearly level, well-drained soils on floodplains and terraces, and, in the study area, include the Genesee and Ockley silt loams along the East Fork. Hickory-Cincinnati-Edenton soils are deep, steep, well-drained soils on the sides of valleys and on narrow ridgetops, and, in the study area, occur along the narrow steep-sloped, wooded corridors associated with headwater tributaries. Avonburg-Clermont soils are deep, nearly level, poorly drained soils formed from glacial materials and, in the study area, occur on broad flats, dominated by agricultural uses.

Describe the characteristics of the rock

NA

SUMMARY OF GEOTECHNICAL ISSUES

Based on the information compiled during this study indicate whether or not the following geotechnical issues are present or should be further considered during project development. Provide additional comments as needed.

	Geotechnical Issue	Comments
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of soil drainage problems (e.g., wet or pumping subgrade, standing water, the presence of seeps, wetlands, swamps, bogs)? <i>Yes – see next column</i>	<i>Clermont silt loam, which comprises 11% of the SR 32 Williamsburg study area, is listed on the USDA-NRCS National Hydric Soil List as a hydric soil occurring in Clermont County. Approximately 11 preliminary wetlands (mostly small features) were observed in the study area during reconnaissance field surveys – see ‘Environmental Issues’ above for further description.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is there evidence of any embankment or foundation problems (e.g., differential settlement, sag, foundation failures, slope failures, scours, evidence of channel migrations)?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of any landslides?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of unsuitable materials (e.g., presence of debris or man-made fills or waste pits containing these materials, indications from old soil borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of rock strata (e.g., presence of exposed bedrock, rock on the old borings)?	<i>Not known</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there evidence of active, reclaimed or abandoned surface mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is there information pertaining to the existence of underground mines?	<i>No evidence from secondary sources or field survey.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are soil borings needed for pavement design, foundations (bridge, headwall, retaining wall, noise wall) or slopes?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Does an undercut appear to be needed?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Should the Office of Geotechnical Engineering be contacted to evaluate the project site?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other geotechnical issues?	<i>Not known</i>

Provide a list of bulleted items referencing additional areas of concern or special notation.

NA

UTILITY ISSUES:

Indicate if the following utility issues are present or should be considered during project development. Provide additional comments as needed.

	Utility Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Do existing utilities need to be relocated?	<i>Water supply in the SR 32 Williamsburg corridor is provided by Brown County Rural Water. Public water lines are located in the area along McKeever road, Dela Palma Road, SR 32, SR 133, and adjoining local streets to serve existing residential and commercial development in the project vicinity. One cell tower (Global Signal) occurs in the study area long McKeever Road. Overhead electric power lines were noted along SR 32 and other local roads.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is it impossible to minimize utility conflicts? (e.g., by careful placement of storm sewer and underdrains)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Would the project benefit from subsurface utility engineering (SUE)?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there existing utilities on an existing structure that need to be relocated?	--
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any specific utility requirements or concerns?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there facilities that require a large lead time to relocate?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is additional right of way needed to accommodate utility relocations?	<i>Not known</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Are there water or sanitary lines that will be relocated as part of the ODOT contract?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Are there any other utility issues?	<i>Not known.</i>

PERMIT ISSUES:

Indicate if the following permit issues are present or should be considered during project development. Provide additional comments as needed.

	Permit Issue	Comments
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will an individual Corps of Engineers/Environmental Protection Agency 404/401 permit be required?	<i>Site development involving impacts to existing wetlands and/or OHW channels may require a 404 permit from the USACE and/or 401 water quality certification from OEPA.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Does it appear that the project can be constructed under a nationwide 404/401 permit? If so, which permit and what specific requirements apply?	<i>The type of permit needed will depend on the type of activity and size of impacted area (different actions such as linear transportation crossings, utility line activities, and residential, commercial and institutional developments all have different impact thresholds under the 404 Nationwide Permit program).</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Will a Coast Guard permit be required?	<i>No navigable waters occur in the area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is review by a local public agency or project sponsor required?	<i>Activities in the study area may involve permitting issues related to stormwater runoff, point source discharges, and/or compliance with local ordinances pertaining to development, drinking water protection, or other forms of environmental protection.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is Airway/Highway clearance analysis required?	--
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is Federal Emergency Management Agency (FEMA) approval required?	<i>FEMA mapped 100-year floodplains occur along the East Fork, Crane Run and an unnamed East Fork tributary within the SR 32 Williamsburg study area.</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is railroad/railway coordination required?	<i>No railroads occur within the study area.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is State Historic Preservation Office (SHPO) coordination for work involving historic bridges or historic properties required?	<i>No known NR or NR eligible properties occur within the SR 32 Williamsburg corridor, although several potential historic resources were observed during reconnaissance field surveys. Activities in the study area may require detailed cultural studies and coordination with OHPO to determine the presence and extent of NR eligible resources occurring in the area for compliance with Section 106 of the Historic Preservation Act if federal actions are involved.</i>

	Permit Issue	Comments
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Possible <input type="checkbox"/> Not Applicable	Is coordination with ODNR for work involving State Scenic Rivers, State Wildlife Areas or State Recreational Areas required?	<i>The project occurs in the Little Miami River watershed – in the headwater portions of tributaries to the East Fork Little Miami River. The Little Miami River is a state scenic river and component of the national scenic river system, however the project is located about 13 miles from the mainstem.</i>
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Possible <input checked="" type="checkbox"/> Not Applicable	Is coordination with any other agency required? (See Location and Design Manual, Figures 1402-2 through Figure 1402-7.)	--

RED FLAG MAPPING:

Is a map showing locations of red flag areas attached? Yes No
 (A map showing locations of red flag areas is mandatory for Major Projects.)

* * *

**Appendix F:
Project Area Photographs**



Photo 1: Existing businesses along Hospital Dr., east of Bauer Rd., within the SR 32 Batavia Corridor study area, facing west.



Photo 2: Mercy Clermont Hospital, major business use on south side of SR 32, within SR 32 Batavia Corridor study area.



Photo 3: Existing land use within the SR 32 Batavia Corridor study area; new field in foreground, upland woodlot in background, with Clermont County water tower in back.



Photo 4: Existing agricultural field (soybean), a major existing land use within the SR 32 Batavia Corridor study area.



Photo 5: Upland woodlot, a substantial existing land use within the SR 32 Batavia Corridor study area.



Photo 6: Fenced pasture area also substantial existing land use within the SR 32 Batavia Corridor study boundaries.



Photo 7: Typical small emergent wetland in close proximity to existing commercial land use, within SR 32 Batavia Corridor study area, dominated by cattail.



Photo 8: Typical emergent wetland within drainage swale, dominated by rushes, cattail and willow saplings.



Photo 9: Typical emergent wetland within a wooded area, dominated by sedges and bare ground.

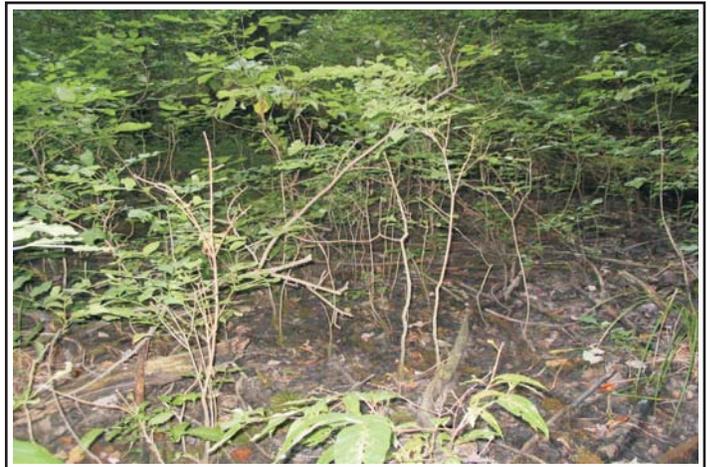


Photo 10: Forested/emergent wetland within SR 32 Batavia Corridor study area, dominated by red maple canopy, with ash and elm saplings.



Photo 11: Typical emergent wetland within study area dominated by the invasive species reed canary-grass and narrow cattail.



Photo 12: Emergent wetland susceptible to regular disturbance (mowing activities by bordering businesses), dominated by cattail and grasses.



Photo 13: USGS intermittent stream within SR 32 Batavia Corridor study area having preservation/restoration potential (Area B1); stream bordered by pasture with cattle activity present in channel.



Photo 14: Same stream feature, further upstream, with no cattle disturbances and improved preservation potential.



Photo 15: Good quality stream section within SR 32 Batavia Corridor study area; USGS perennial stream with preservation potential (Area B1).



Photo 16: Second USGS perennial stream feature within SR 32 Batavia Corridor study area with preservation potential (Area B2).



Photo 17: Non-USGS perennial stream: spring fed stream downstream from recent commercial development area.



Photo 18: Typical ephemeral stream feature within SR 32 Batavia Corridor study area; dry, narrow channel fed primarily from agricultural field runoff.



Photo 19: Typical potential habitat for Federal endangered Indiana bat in SR 32 Batavia Corridor study area - shagbark hickory trees with peeling bark.



Photo 20: Typical potential habitat for Federal endangered Indiana bat, woodland area with scattered shagbark hickory groves.



Photo 21: Typical potential habitat for Federal endangered running buffalo clover in SR 32 Batavia Corridor study area - disturbed grassy area (cattle pasture) under larger tree shade cover.



Photo 22: Potential habitat for Federal endangered running buffalo clover in study area - disturbed edge habitat from agricultural pasture along wooded edge.



Photo 23: Potential historic property noted during reconnaissance field survey - residential home possibly over 50 years old (age and significance not determined).



Photo 24: Potential historic property noted during reconnaissance field survey - residential home possibly over 50 years old (age and significance not determined).



Photo 25: Schumacher Homes; existing business use at northwest corner of SR 32 and McKeever Pike intersection.



Photo 26: More Specialty Plants & Landscaping; existing business use on Fourth St., just north of Village of Williamsburg, within SR 32 Williamsburg Corridor study area.



Photo 27: Dualite company; existing business use within Village of Williamsburg, just south of SR 32 Williamsburg Corridor study area.



Photo 28: Existing farmhouse and farm use buildings, common land use within the SR 32 Williamsburg Corridor study boundaries.



Photo 29: Agricultural rowcrop is the predominant existing land use within the SR 32 Williamsburg Corridor study boundaries.



Photo 30: Fenced pasture area also substantial existing land use within the SR 32 Williamsburg Corridor study boundaries.



Photo 31: Typical small emergent wetland in SR 32 Williamsburg Corridor study area, dominated by cattail.



Photo 32: Typical emergent ring wetland around existing old pond, dominated by rushes, willows and floating plant growth.



Photo 33: Typical emergent/scrub-shrub wetland in roadway drainage ditch, dominated by cattail, willow and young maple trees.



Photo 34: Well developed emergent/scrub-shrub wetland along East Fork Little Miami River floodplain, adjacent to southwest edge of SR 32 Williamsburg Corridor study area boundary.



Photo 35: Forested/emergent wetland within study area, dominated by young maple and ash trees, partially inundated with floating duckweed cover.



Photo 36: Emergent section of forested/emergent wetland within study area, dominated by sedges and sapling trees.



Photo 37: High Quality stream habitat (Crane Run) within SR 32 Wilmington Corridor study area; USGS perennial stream with preservation potential.



Photo 38: Typical ephemeral, non-USGS Ordinary High Water (OHW) channel in steep wooded ravine within SR 32 Williamsburg Corridor study area.



Photo 39: Typical segment of East Fork Little Miami River, another High Quality stream habitat within and adjacent to SR 32 Williamsburg Corridor study area boundaries to the west.



Photo 40: Typical non-USGS OHW channel (ephemeral) in moderately sloping wooded ravine with preservation potential (Area W1).



Photo 41: Typical non-USGS OHW channel (intermittent) in moderately steep wooded ravine with preservation potential (Area W2).



Photo 42: View of wooded riparian corridor along Crane Run suitable for preservation, within SR 32 Williamsburg Corridor study area.



Photo 43: Typical potential habitat for Federal endangered Indiana bat in SR 32 Williamsburg Corridor study area - dead tree with snags, cavities and peeling bark.



Photo 44: Close-up of typical potential habitat for Federal endangered Indiana bat, dead tree with cavities just right of center.



Photo 45: Typical potential habitat for Federal endangered running buffalo clover in SR 32 Williamsburg Corridor study area - disturbed grass lawns (residential) under large tree shade cover.



Photo 46: Potential habitat for Federal endangered running buffalo clover in study area - disturbed edge habitat from agricultural pasture (cattle pasture, in background) along wooded edge and stream channel.



Photo 47: Potential historic property noted during reconnaissance field survey - agricultural outbuildings (age and significance not determined).



Photo 48: Previous archeological inventory area within SR 32 Williamsburg Corridor study area - currently More Specialty Plants barn and outbuildings.

**Appendix G:
Wetland and Stream Field Data Forms
(for Mitigation Opportunity Areas)**



Primary Headwater Habitat Evaluation Form

66

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

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Batavia Corridor/U.T. #3 (Preservation Area B1)
 SITE NUMBER #1 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.23
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.088 LONG. 84.153 RIVER CODE _____ RIVER MILE 0.0
 DATE 8/29/06 SCORER Balke American (MDV) COMMENTS _____

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

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

<p>1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY <u>two</u> predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">0</td> <td><input type="checkbox"/> SILT [3 pts]</td> <td style="text-align: center;">10</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td style="text-align: center;">5</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">5</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">0</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">10</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">50</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">20</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> <p style="text-align: center;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>15</u> (A) (B)</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 6</p> <p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input checked="" type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> > 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]</td> </tr> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 31</p> <p>3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td><input type="checkbox"/> > 4.0 meters [30 pts]</td> <td><input type="checkbox"/> > 1.0 - 1.5 m [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]</td> <td></td> </tr> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): 3.8</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	0	<input type="checkbox"/> SILT [3 pts]	10	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	5	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	5	<input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> FINE DETRITUS [3 pts]	0	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	10	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	0	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	50	<input type="checkbox"/> MUCK [0 pts]	0	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	20	<input type="checkbox"/> ARTIFICIAL [3 pts]	0	<input checked="" type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]	<input type="checkbox"/> > 4.0 meters [30 pts]	<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]		<p>HHEI METRIC POINTS</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">21</div> <p>A + B</p> <p>Pool Depth Max = 30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">20</div> <p>Bankfull Width Max = 30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">25</div>
TYPE	PERCENT	TYPE	PERCENT																																						
<input type="checkbox"/> BLDR SLABS [16 pts]	0	<input type="checkbox"/> SILT [3 pts]	10																																						
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<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]																																									

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide > 10m		Mature Forest, Wetland	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Narrow < 5m		Residential, Park, New Field	<input type="checkbox"/>
None		Fenced Pasture	<input type="checkbox"/>
		Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	--	---	---	--

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Backbone Creek Distance from Evaluated Stream 0.62 mile
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Batavia NRCS Soil Map Page: 15 NRCS Soil Map Stream Order 2nd
County: Clermont Township / City Batavia

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/27/06 Quantity: 0.77 inches

Photograph Information: Photo #8 (facing upstream), Photo #9 (facing downstream)

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

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

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

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

Additional comments/description of pollution impacts: cattle activity in stream leading to siltation
activity in stream channel evident

BIOTIC EVALUATION

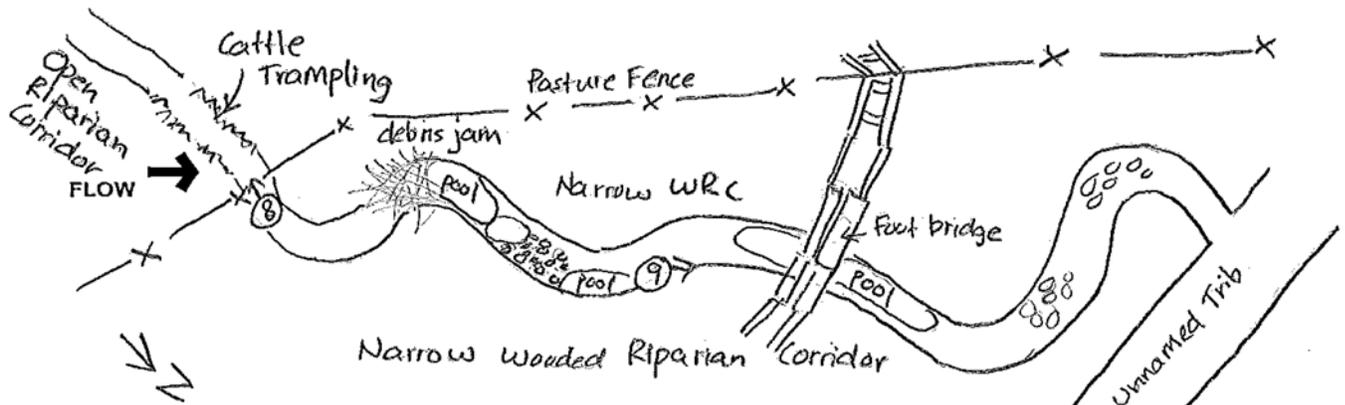
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

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

Comments Regarding Biology: Hemipterans and frogs observed

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

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



OhioEPA Qualitative Habitat Evaluation Index Field Sheet

Warmwater Habitat

QHEI SCORE: 53

Stream: U. T. #1, Site #2 (Preservation Area B1) RM: 0.67 Date: 8/29/06 River Code:
Location: Upstream of confluence with U.T. #3, west of Elmwood Rd. overpass Crew: Balke American (MDV)

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

SUBSTRATE SCORE: 18

Table with columns: TYPE, POOL, RIFFLE, SUBSTRATE QUALITY. Rows include BLDER/SLABS, BOULDER, COBBLE, HARDPAN, MUCK, SILT, GRAVEL, SAND, BEDROCK, TILLS, SANDSTONE, SHALE, COAL FINES, LIMESTONE, RIP/RAP, SILT HEAVY, HARDPAN, SILT MODERATE, WETLANDS, LACUSTRINE, SILT FREE.

Extent of Embeddedness (Check 1 or 2 & Average)
--EXTENSIVE (-2) --NORMAL (0)
--MODERATE (-1) --NONE (1)

TOTAL NUMBER OF SUBSTRATE TYPES: -- 4 or more (2) -- 3 or less (0)
NOTE: (Ignore sludge that originates from point-sources; High Quality Only, score 5 or >)
COMMENTS:

COVER SCORE: 11

2) INSTREAM COVER (See back for instructions for additional cover scoring method)

AMOUNT (Check ONLY 1 or check 2 and AVERAGE) Max 20

Table with columns: TYPE (Check ALL That Apply), AMOUNT. Rows include UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS > 70cm, OXBOWS, BACKWATERS, ROOTWADS, AQUATIC MACROPHYTES, BOULDERS, LOGS OR WOODY DEBRIS, EXTENSIVE >75%, MODERATE 25-75%, SPARSE 5-25%, NEARLY ABSENT <5%.

COMMENTS:

CHANNEL: 10

3) CHANNEL MORPHOLOGY (Check ONLY One PER Category OR check 2 and AVERAGE)

Table with columns: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY, MODIFICATIONS / OTHER. Rows include HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, SNAGGING, IMPOUND, RELOCATION, ISLANDS, CANOPY REMOVAL, LEVEED, DREDGING, BANK SHAPING, ONE SIDE CHANNEL MODIFICATIONS.

COMMENTS: prior channelization for roadway overpass and for residential development along right descending bank

RIPARIAN: 5

4) RIPARIAN ZONE AND BANK EROSION - (Check ONE box per bank or check 2 and AVERAGE per bank)

Table with columns: RIPARIAN WIDTH, EROSION / RUNOFF - FLOODPLAIN QUALITY, BANK EROSION. Rows include WIDE >50m, MODERATE 10-50m, NARROW 5-10m, VERY NARROW <5m, NONE, FOREST, SWAMP, SHRUB OR OLD FIELD, RESID., PARK, NEW FIELD, FENCED PASTURE, CONSERVATION TILLAGE, OPEN PASTURE / ROWCROP, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION, NONE OR LITTLE, MODERATE, HEAVY OR SEVERE.

COMMENTS:

POOL: 5

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Table with columns: MAX. DEPTH, MORPHOLOGY, POOL / RUN / RIFFLE CURRENT VELOCITY. Rows include >1m, 0.7-1m, 0.4-0.7m, 0.2-0.4m, <0.2m (Pool = 0), POOL WIDTH > RIFFLE WIDTH, POOL WIDTH = RIFFLE WIDTH, POOL WIDTH < RIFFLE WIDTH, TORRENTIAL, FAST, MODERATE, SLOW, EDDIES, INTERSTITIAL, INTERMITTENT, VERY FAST, NO POOL.

COMMENTS:

RIFFLE: 0

Table with columns: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Rows include Best Areas > 10cm, Best areas 5-10cm, Best areas < 5cm (Riffle = 0), MAX > 50, MAX < 50, STABLE, MOD. STABLE, UNSTABLE, EXTENSIVE, MODERATE, LOW, NONE, NO RIFFLE.

COMMENTS:
* Best areas must be large enough to support a population of riffle-obligate fish species

GRADIENT: 4

6) GRADIENT (feet / mile) 63 DRAINAGE AREA (sq.mi) 3.87 %POOL: 40 %RIFFLE: 40 %GLIDE: 10 %RUN: 10 (from USGS)

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain: _____

- Major Suspected Sources of Impacts
(Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other _____

Gear: _____ Distance: 150m Water Clarity: Clear Water Stage: Normal Canopy- % Open: 30

First Sampling Pass _____

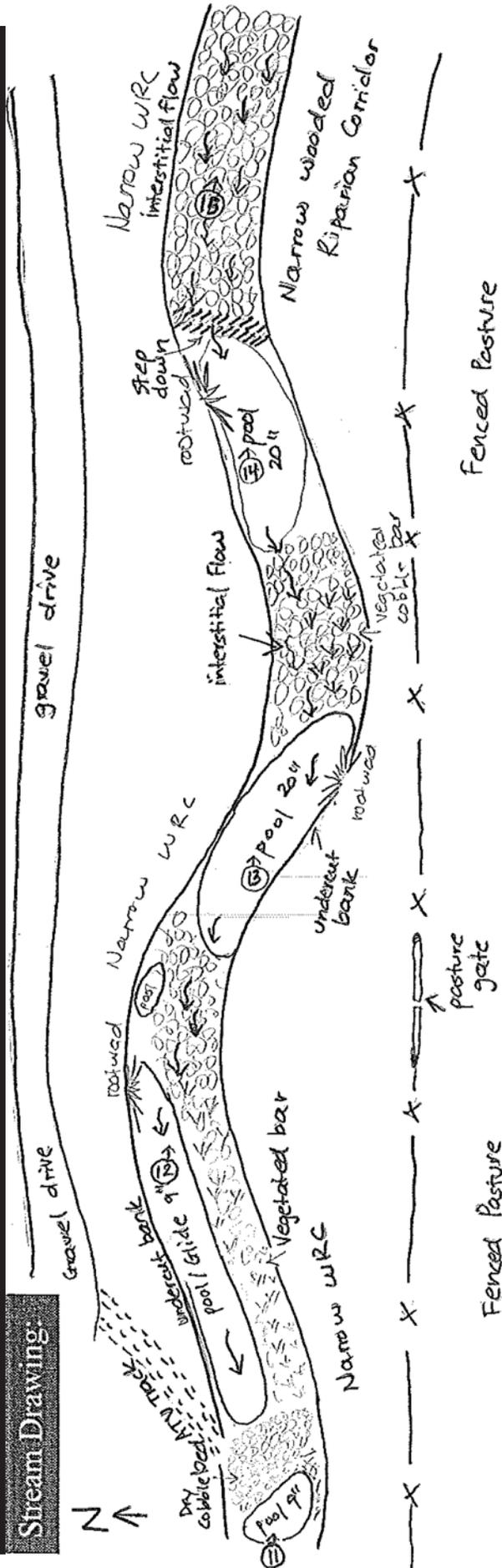
Stream Measurements:

Average Width	Average Depth	Maximum Depth	Avg. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio
15'	10"	20"	25'	N/A	N/A	N/A	N/A	N/A

Subjective Rating (1-10) - Low, - Moderate, - High

Aesthetic Rating (1-10) - Low, - Moderate, - High

Stream Drawing:



- Yes/No
- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
 - Is there water upstream? How far: _____
 - Is there water close downstream? How far: _____
 - Is dry channel mostly natural?

Instructions for Scoring the Alternative Cover Metric: Each cover type should receive a score of between 0 and 3, where:
 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality cover include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.



Primary Headwater Habitat Evaluation Form

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

77

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Batavia Corridor/U.T. #3 (Preservation Area B1)
 SITE NUMBER #3 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.22
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.087 LONG. 84.150 RIVER CODE _____ RIVER MILE 0.19
 DATE 8/29/06 SCORER Balke American (MDV) COMMENTS _____

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

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

<p>1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY <u>two</u> predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> <th style="width: 15%;">TYPE</th> <th style="width: 20%;">PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> BLDR SLABS [16 pts]</td> <td style="text-align: center;">10</td> <td><input type="checkbox"/> SILT [3 pts]</td> <td style="text-align: center;">5</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td style="text-align: center;">0</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td style="text-align: center;">5</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td style="text-align: center;">0</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td style="text-align: center;">50</td> <td><input type="checkbox"/> CLAY or HARDPAN [0 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td style="text-align: center;">20</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td style="text-align: center;">0</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td style="text-align: center;">10</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> <p style="margin-left: 40px;">Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>60</u> (A) (B)</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 6</p> <p>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> > 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 22</p> <p>3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):</p> <table style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters [30 pts]</td> <td><input type="checkbox"/> > 1.0 - 1.5 m [15 pts]</td> </tr> <tr> <td><input checked="" type="checkbox"/> > 3.0 m - 4.0 m [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): 3.9</p>	TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> BLDR SLABS [16 pts]	10	<input type="checkbox"/> SILT [3 pts]	5	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	5	<input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> FINE DETRITUS [3 pts]	0	<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	50	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	0	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> MUCK [0 pts]	0	<input type="checkbox"/> SAND (<2 mm) [6 pts]	10	<input type="checkbox"/> ARTIFICIAL [3 pts]	0	<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]	<input type="checkbox"/> > 4.0 meters [30 pts]	<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]	<input checked="" type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]		<p>HHEI METRIC POINTS</p> <p>Substrate Max = 40</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">27</div> <p>A + B</p> <hr/> <p>Pool Depth Max = 30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">20</div> <hr/> <p>Bankfull Width Max = 30</p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">25</div>
TYPE	PERCENT	TYPE	PERCENT																																						
<input type="checkbox"/> BLDR SLABS [16 pts]	10	<input type="checkbox"/> SILT [3 pts]	5																																						
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	5																																						
<input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> FINE DETRITUS [3 pts]	0																																						
<input checked="" type="checkbox"/> COBBLE (65-256 mm) [12 pts]	50	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	0																																						
<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	20	<input type="checkbox"/> MUCK [0 pts]	0																																						
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<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]																																									

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide > 10m		Mature Forest, Wetland	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow < 5m			
<input type="checkbox"/>	<input type="checkbox"/>		
None			

COMMENTS _____

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

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input checked="" type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
---	--	--	---	--

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Backbone Creek Distance from Evaluated Stream 0.81 mile
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Batavia NRCS Soil Map Page: 15 NRCS Soil Map Stream Order 2nd
County: Clermont Township / City Batavia

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/27/06 Quantity: 0.77 inches

Photograph Information: Photo #16 (facing upstream), Photo #17 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 15

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

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

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

Additional comments/description of pollution impacts: none apparent
activity in stream channel evident

BIOTIC EVALUATION

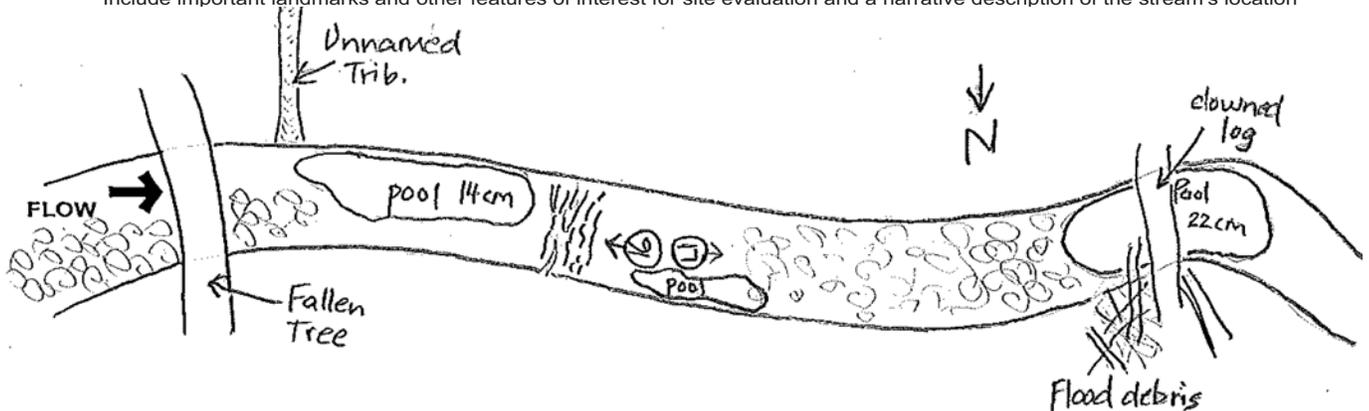
Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

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

Comments Regarding Biology: Hemipterans, leeches, Iirceus, snails, black fly larvae and beetles observed (see HMFEL)

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

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



3. Macroinvertebrate Scoring Sheet:

THE HEADWATER MACROINVERTEBRATE FIELD EVALUATION INDEX (HMFEI) SCORING SHEET

Indicate Abundance of Each Taxa Above each White Box.

Record HMFEI Scoring Value Points Within each Box.

For EPT taxa, also indicate the different taxa present.

Key: **V** = Very Abundant (> 50); **A** = Abundant (10-50); **C** = Common (3 - 9); **R** = Rare (< 3)

Sessile Animals (Porifera , Cnidaria , Bryozoa) (HMFEI pts = 1)	<input type="text"/>	Crayfish (Decapoda) (HMFEI pts = 2)	C <input type="text" value="2"/>	Fishfly Larvae (Corydalidae) (HMFEI pts = 3)	<input type="text"/>
Aquatic Worms (Turbellaria , Oligochaeta , Hirudinea) (HMFEI pts = 1)	A <input type="text" value="1"/>	Dragonfly Nymphs (Anisoptera) (HMFEI pts = 2)	<input type="text"/>	Water Penny Beetles (Psephenidae) (HMFEI pts = 3)	<input type="text"/>
Sow Bugs (Isopoda) (HMFEI pts = 1)	A <input type="text" value="1"/>	Riffle Beetles (Dryopidae , Elimidae , Ptilodactylidae) (HMFEI pts = 2)	<input type="text"/>	Crane-fly Larvae (Tipulidae) (HMFEI pts = 3)	R <input type="text" value="3"/>
Scuds (Amphipoda) (HMFEI pts = 1)	<input type="text"/>	Larvae of other Flies (Diptera) Name: (HMFEI pts = 1)	<input type="text"/>	EPT TAXA* Total No. EPT Taxa = _____	
Water Mites (Hydracarina) (HMFEI pts = 1)	<input type="text"/>	Midges (Chironomidae) (HMFEI pts = 1)	<input type="text"/>	Mayfly Nymphs (Ephemeroptera) Taxa Present: [HMFEI pts = No. Taxa (x) 3]	<input type="text"/>
Damselfly Nymphs (Zygoptera) (HMFEI pts = 1)	<input type="text"/>	Snails (Gastropoda) (HMFEI pts = 1)	A <input type="text" value="1"/>		
Alderfly Larvae (Sialidae) (HMFEI pts = 1)	<input type="text"/>	Clams (Bivalvia) (HMFEI pts = 1)	<input type="text"/>	Stonefly Nymphs (Plecoptera) Taxa Present: [HMFEI pts = No. Taxa (x) 3]	<input type="text"/>
Other Beetles (Coleoptera) (HMFEI pts = 1)	R <input type="text" value="1"/>	Other Taxa:			
Other Taxa: Hemiptera = 16		Other Taxa:		Caddisfly Larvae (Trichoptera) Taxa Present: [HMFEI pts = No. Taxa (x) 3]	<input type="text"/>
Other Taxa:		Other Taxa:			

*Note: EPT identification based upon Family or Genus level of taxonomy

Voucher Sample ID _____

Time Spent (minutes): 20

Notes on Macroinvertebrates: (Predominant Organisms; Other Common Organisms; Diversity Estimate)

Leeches, sow bugs and snails most predominant

Final HMFEI Calculated Score (Sum of All White Box Scores) =

9

IF Final HMFEI Score is > 19, Then CLASS III PHWH STREAM
 IF Final HMFEI Score is 7 to 19, Then CLASS II PHWH STREAM
 IF Final HMFEI Score is < 7, Then CLASS I PHWH STREAM

Class II

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

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Batavia Corridor/U.T. #6 (Preservation Area B2)
 SITE NUMBER #4 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.69
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.088 LONG. 84.147 RIVER CODE _____ RIVER MILE 0.05
 DATE 8/30/06 SCORER Balke American (MDV) COMMENTS _____

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

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

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<u>10</u>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pts]	<u>0</u>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>0</u>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	<u>5</u>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<u>0</u>
<input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>60</u>	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>0</u>
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<u>0</u>
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>5</u>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<u>0</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 75 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21

TOTAL NUMBER OF SUBSTRATE TYPES: 5

HHEI METRIC POINTS

Substrate Max = 40

26

A + B

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

<input type="checkbox"/> > 30 centimeters [20 pts]	<input checked="" type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 9

Pool Depth Max = 30

15

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

<input checked="" type="checkbox"/> > 4.0 meters [30 pts]	<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): 4.1

Bankfull Width Max = 30

30

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY		L	R
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Wide > 10m	<input type="checkbox"/> <input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Narrow < 5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Backbone Creek Distance from Evaluated Stream 0.99 mile
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Batavia NRCS Soil Map Page: 16 NRCS Soil Map Stream Order 2nd
County: Clermont Township / City Batavia

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/29/06 Quantity: 0.01 inches

Photograph Information: Photo #36 (facing upstream), Photo #37 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 40

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

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

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

Additional comments/description of pollution impacts: none apparent

BIOTIC EVALUATION

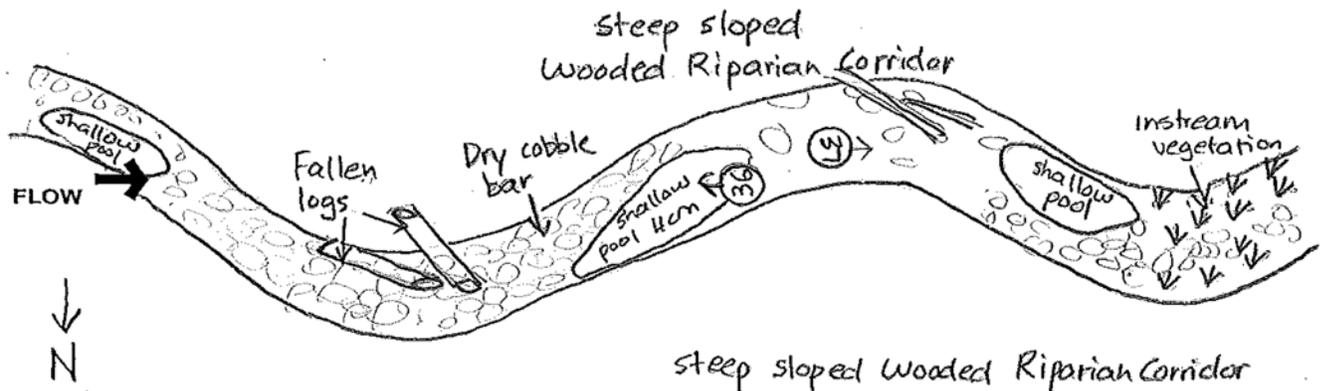
Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

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

Comments Regarding Biology: Leeches, sow bugs, hemipterans, water penny beetles, salamanders, snails, other beetles and crawdad observed (see HMFEI)

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

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



3. Macroinvertebrate Scoring Sheet:

THE HEADWATER MACROINVERTEBRATE FIELD EVALUATION INDEX (HMFEI) SCORING SHEET

Indicate Abundance of Each Taxa Above each White Box.

Record HMFEI Scoring Value Points Within each Box.

For EPT taxa, also indicate the different taxa present.

Key: **V** = Very Abundant (> 50); **A** = Abundant (10-50); **C** = Common (3 - 9); **R** = Rare (< 3)

Sessile Animals (Porifera , Cnidaria , Bryozoa) (HMFEI pts = 1)	<input type="text"/>	Crayfish (Decapoda) (HMFEI pts = 2)	R <input type="text" value="2"/>	Fishfly Larvae (Corydalidae) (HMFEI pts = 3)	<input type="text"/>
Aquatic Worms (Turbellaria , Oligochaeta , Hirudinea) (HMFEI pts = 1)	A <input type="text" value="1"/>	Dragonfly Nymphs (Anisoptera) (HMFEI pts = 2)	<input type="text"/>	Water Penny Beetles (Psephenidae) (HMFEI pts = 3)	C <input type="text" value="3"/>
Sow Bugs (Isopoda) (HMFEI pts = 1)	A <input type="text" value="1"/>	Riffle Beetles (Dryopidae , Elimidae , Ptilodactylidae) (HMFEI pts = 2)	<input type="text"/>	Crane-fly Larvae (Tipulidae) (HMFEI pts = 3)	<input type="text"/>
Scuds (Amphipoda) (HMFEI pts = 1)	<input type="text"/>	Larvae of other Flies (Diptera) Name: (HMFEI pts = 1)	<input type="text"/>	EPT TAXA*	
Water Mites (Hydracarina) (HMFEI pts = 1)	<input type="text"/>	Midges (Chironomidae) (HMFEI pts = 1)	<input type="text"/>	Total No. EPT Taxa = _____	
Damselfly Nymphs (Zygoptera) (HMFEI pts = 1)	<input type="text"/>	Snails (Gastropoda) (HMFEI pts = 1)	A <input type="text" value="1"/>	Mayfly Nymphs (Ephemeroptera) Taxa Present: [HMFEI pts = _____ No. Taxa (x) 3]	<input type="text"/>
Alderfly Larvae (Sialidae) (HMFEI pts = 1)	<input type="text"/>	Clams (Bivalvia) (HMFEI pts = 1)	<input type="text"/>	Stonefly Nymphs (Plecoptera) Taxa Present: [HMFEI pts = _____ No. Taxa (x) 3]	<input type="text"/>
Other Beetles (Coleoptera) (HMFEI pts = 1)	A <input type="text" value="1"/>	Other Taxa:			
Other Taxa: Hemiptera		Other Taxa: southern two-lined salamander (<i>Eurycea bislineata cirrigea</i>) = lots of adults and juvenile		Caddisfly Larvae (Trichoptera) Taxa Present: [HMFEI pts = _____ No. Taxa (x) 3]	<input type="text"/>
Other Taxa:		Other Taxa:			

*Note: EPT identification based upon Family or Genus level of taxonomy

Voucher Sample ID _____

Time Spent (minutes): 20

Notes on Macroinvertebrates: (Predominant Organisms; Other Common Organisms; Diversity Estimate)

Leeches, snails, beetles, hemipterans most predominant. Also several salamanders (photographed for ID)

Presence of southern two-lined salamanders dictates Class III

Final HMFEI Calculated Score (Sum of All White Box Scores) =

9

IF Final HMFEI Score is > 19, Then CLASS III PWHW STREAM
 IF Final HMFEI Score is 7 to 19, Then CLASS II PWHW STREAM
 IF Final HMFEI Score is < 7, Then CLASS I PWHW STREAM

Class III

OhioEPA Qualitative Habitat Evaluation Index Field Sheet

Warmwater Habitat

QHEI SCORE: 66.75

Stream: Crane Run, Site #5 (Preservation Area) RM: 0.20 Date: 8/23/06 River Code:
Location: East of McKeever Pike overpass Crew: Balke American (BL)

1) SUBSTRATE (Check ONLY Two Substrate TYPE BOXES; Estimate % present)

SUBSTRATE SCORE: 18

Table with columns: TYPE, POOL, RIFFLE, POOL, RIFFLE, SUBSTRATE QUALITY. Includes categories like BLDER/SLABS, BOULDER, COBBLE, HARDPAN, MUCK, SILT, GRAVEL, SAND, BEDROCK, LIMESTONE, RIP/RAP, SILT HEAVY, TILLS, HARDPAN, SILT MODERATE, SANDSTONE, WETLANDS, SILT NORMAL, SHALE, LACUSTRINE, SILT FREE, COAL FINES.

Extent of Embeddedness (Check 1 or 2 & Average)
--EXTENSIVE (-2) --NORMAL (0)
--MODERATE (-1) --NONE (1)

TOTAL NUMBER OF SUBSTRATE TYPES: -- 4 or more (2) -- 3 or less (0)
NOTE: (Ignore sludge that originates from point-sources; High Quality Only, score 5 or >)
COMMENTS:

COVER SCORE: 13

2) INSTREAM COVER (See back for instructions for additional cover scoring method)

AMOUNT (Check ONLY 1 or check 2 and AVERAGE) Max 20

Table with columns: TYPE (Check ALL That Apply), POOLS > 70cm (2), OXBOWS, BACKWATERS (1), ROOTWADS (1), AQUATIC MACROPHYTES (1), LOGS OR WOODY DEBRIS (1), EXTENSIVE >75% (1), MODERATE 25-75% (7), SPARSE 5-25% (3), NEARLY ABSENT <5% (1).

COMMENTS:

CHANNEL: 7

3) CHANNEL MORPHOLOGY (Check ONLY One PER Category OR check 2 and AVERAGE)

Table with columns: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY, MODIFICATIONS / OTHER. Includes categories like HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, SNAGGING, IMPOUND, RELOCATION, ISLANDS, CANOPY REMOVAL, LEVEED, DREDGING, BANK SHAPING, ONE SIDE CHANNEL MODIFICATIONS.

COMMENTS: prior channelization for roadway overpass and for residential development along right descending bank

RIPARIAN: 6.75

4) RIPARIAN ZONE AND BANK EROSION - (Check ONE box per bank or check 2 and AVERAGE per bank)

BANK EROSION Max 10

Table with columns: RIPARIAN WIDTH, EROSION / RUNOFF - FLOODPLAIN QUALITY, L R (Per Bank), CONSERVATION TILLAGE (1), OPEN PASTURE / ROWCROP (0), URBAN OR INDUSTRIAL (0), MINING / CONSTRUCTION (0), NONE OR LITTLE (3), MODERATE (2), HEAVY OR SEVERE (1).

COMMENTS:

POOL: 9

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

POOL: Max 12

Table with columns: MAX. DEPTH (Check 1), MORPHOLOGY (Check One or 2 & Average), POOL / RUN / RIFFLE CURRENT VELOCITY (Check ALL That Apply). Includes categories like >1m, 0.7-1m, 0.4-0.7m, 0.2-0.4m, <0.2m, POOL WIDTH > RIFFLE WIDTH, POOL WIDTH = RIFFLE WIDTH, POOL WIDTH < RIFFLE WIDTH, TORRENTIAL, FAST, MODERATE, SLOW, EDDIES, INTERSTITIAL, INTERMITTENT, VERY FAST, NO POOL (0).

COMMENTS:

RIFFLE: 3

Table with columns: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes categories like Best Areas > 10cm, Best areas 5-10cm, Best areas < 5cm, MAX > 50, MAX < 50, STABLE, MOD. STABLE, UNSTABLE, EXTENSIVE, MODERATE, LOW, NONE, NO RIFFLE (0).

COMMENTS: riffle obligate fish species observed

* Best areas must be large enough to support a population of riffle-obligate fish species

GRADIENT: 10

6) GRADIENT (feet / mile) 30 DRAINAGE AREA (sq.mi) 5.0 %POOL: 30 %RIFFLE: 25 %GLIDE: 5 %RUN: 40

Is Sampling Reach Representative of the Stream (Y/N) Y If Not, Explain: _____

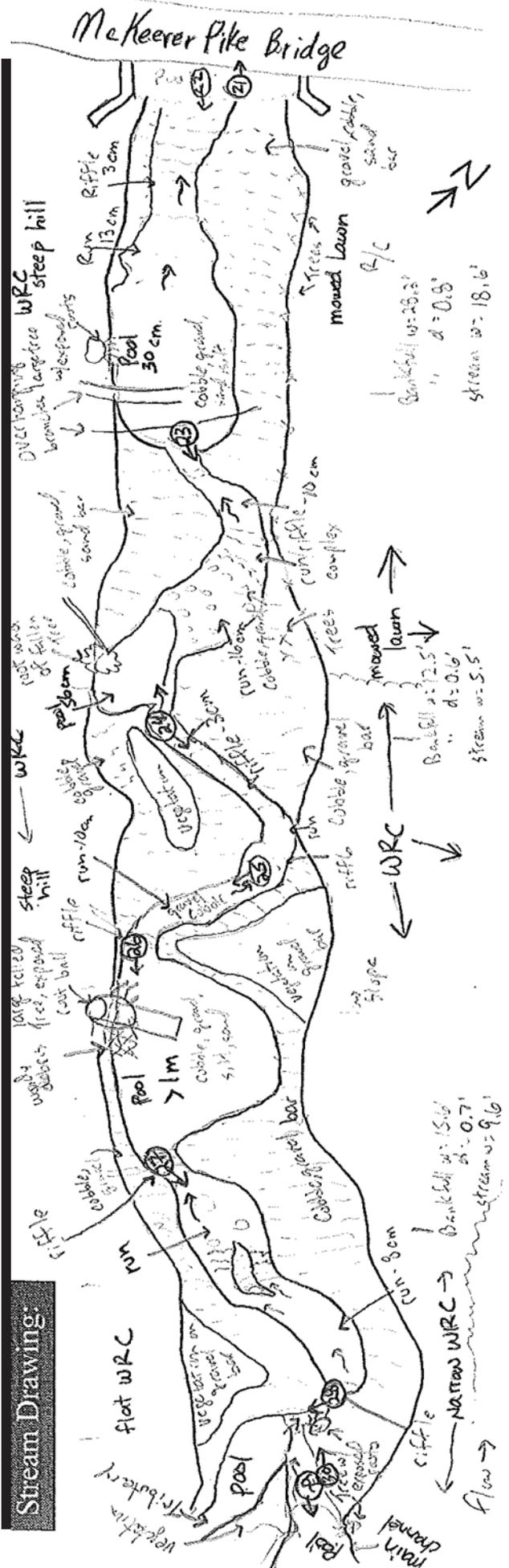
- Major Suspected Sources of Impacts (Check All That Apply):
- None
 - Industrial
 - WWTP
 - Ag
 - Livestock
 - Silviculture
 - Construction
 - Urban Runoff
 - CSOs
 - Suburban Impacts
 - Mining
 - Channelization
 - Riparian Removal
 - Landfills
 - Natural
 - Dams
 - Other Flow Alteration
 - Other _____

First Sampling Pass	Gear: <u>N/A</u>	Distance: <u>150 m</u>	Water Clarity: <u>Clear</u>	Water Stage: <u>Low</u>	Canopy- % Open: <u>70</u>		
Average Width	Maximum Depth	Avg. Bankfull Width	Bankfull Mean Depth	W/D Ratio	Bankfull Max Depth	Floodprone Area Width	Entrench. Ratio
11.2'	3"	18.8'	N/A	N/A	N/A	N/A	N/A

Stream Measurements:

Subjective Rating (1-10) - Low, - Moderate, - High

Stream Drawing:



Instructions for Scoring the Alternative Cover Metric: Each cover type should receive a score of between 0 and 3, where:
 0 - Cover type absent; 1 - Cover type present in very small amounts or if more common of marginal quality; 2 - Cover type present in moderate amounts, but not of highest quality or in small amounts of highest quality; 3 - Cover type of highest quality in moderate or greater amounts. Examples of highest quality cover include very large boulders in deep or fast water, large diameter logs that are stable, well developed rootwads in deep/fast water, or deep, well-defined, functional pools.

Yes/No

- Is Stream Ephemeral (no pools, totally dry or only damp spots)?
- Is there water upstream? How far: _____
- Is there water close downstream? How far: _____
- Is dry channel mostly natural?



Primary Headwater Habitat Evaluation Form

35

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

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Williamsburg Corridor/U.T. #2 (Preservation Area W1)
 SITE NUMBER #2 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.04
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.067 LONG. 84.037 RIVER CODE _____ RIVER MILE 0.25
 DATE 8/23/06 SCORER Balke American (BL) COMMENTS _____

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

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

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	0	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pts]	5
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	20
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	0
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pts]	0
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	30	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	0
<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	40	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	0

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15

TOTAL NUMBER OF SUBSTRATE TYPES: 5

HHEI METRIC POINTS

Substrate Max = 40

20

A + B

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

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS No water present

MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30

0

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

<input type="checkbox"/> > 4.0 meters [30 pts]	<input checked="" type="checkbox"/> > 1.0 - 1.5 m [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m [20 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): 1.02

Bankfull Width Max = 30

15

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY		L	R
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Wide > 10m	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Narrow < 5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Crane Run Distance from Evaluated Stream 0.25 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Williamsburg NRCS Soil Map Page: 21 NRCS Soil Map Stream Order 1st
County: Clermont Township / City Williamsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/18/06 Quantity: 0.01 inches

Photograph Information: Photo #19 (facing upstream), Photo #20 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 60%

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

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

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

Additional comments/description of pollution impacts: trash dumped into stream channel and one tributary (barrels, wire fence, etc.), large trees cut and felled into channel (forming large log jams); drainage area predominantly agricultural

BIOTIC EVALUATION

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

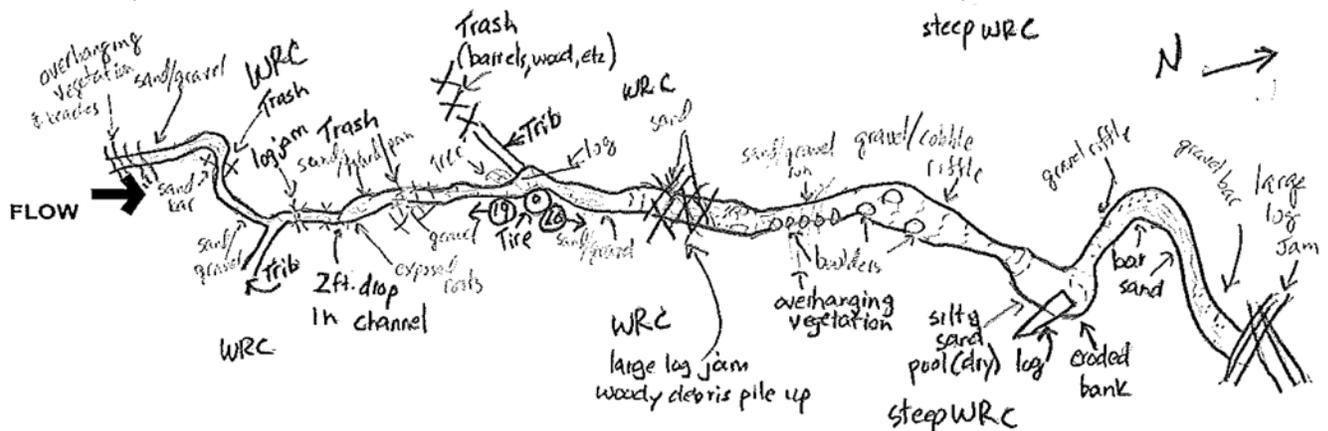
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: Small frogs present in and around stream channel

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

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





Primary Headwater Habitat Evaluation Form

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

42

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Williamsburg Corridor/U.T. #3 (Preservation Area W1)
 SITE NUMBER #3 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.01
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.067 LONG. 84.034 RIVER CODE _____ RIVER MILE 0.02
 DATE 8/23/06 SCORER Balke American (BL) COMMENTS _____

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

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

	SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.					HHEI METRIC POINTS																											
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	COMMENTS _____		AVERAGE BANKFULL WIDTH (meters):	0.8																													

This information must also be completed

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

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

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input checked="" type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input checked="" type="checkbox"/> Moderate to Severe	<input type="checkbox"/> Severe (10 ft/100 ft)
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Crane Run Distance from Evaluated Stream 0.22 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Williamsburg NRCS Soil Map Page: 21 NRCS Soil Map Stream Order 1st
County: Clermont Township / City Williamsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/18/06 Quantity: 0.01 inches

Photograph Information: Photo #17 (facing upstream), Photo #18 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 90%

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

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

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

Additional comments/description of pollution impacts: pond upstream covered with duckweed; drainage area predominantly agricultural

BIOTIC EVALUATION

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

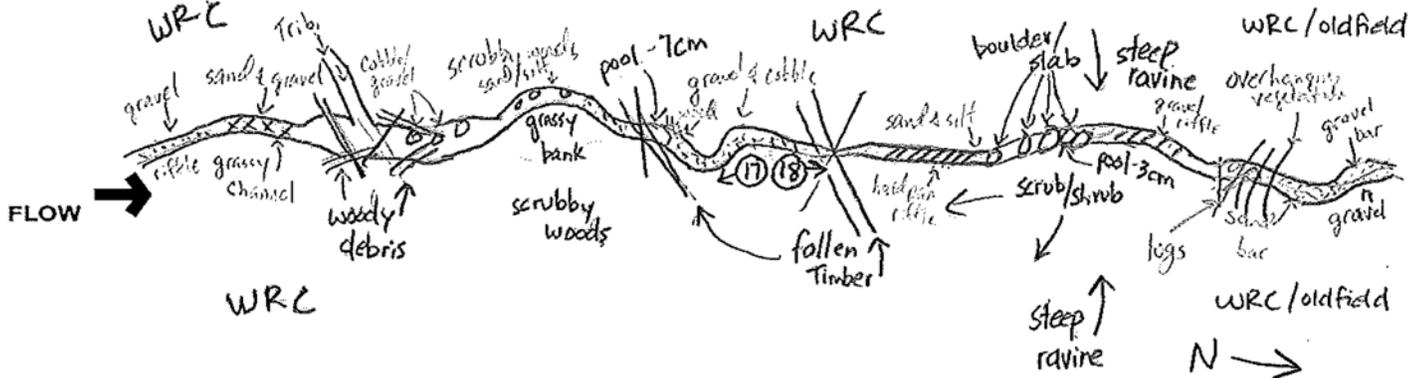
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: Small frogs present in and around stream channel

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

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





Primary Headwater Habitat Evaluation Form

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

65

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Williamsburg Corridor/U.T. #4 (Preservation Area W1)
 SITE NUMBER #4 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.05
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.067 LONG. 84.033 RIVER CODE _____ RIVER MILE 0.06
 DATE 8/23/06 SCORER Balke American (BL) COMMENTS _____

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

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

	TYPE	PERCENT	TYPE	PERCENT	
1.	<input type="checkbox"/> BLDR SLABS [16 pts]	0	<input type="checkbox"/> SILT [3 pts]	10	HHEI METRIC POINTS Substrate Max = 40 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">20</div> A + B
	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	15	
	<input type="checkbox"/> BEDROCK [16 pts]	0	<input type="checkbox"/> FINE DETRITUS [3 pts]	0	
	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	5	<input type="checkbox"/> CLAY or HARDPAN [0 pts]	0	
	<input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	40	<input type="checkbox"/> MUCK [0 pts]	0	
	<input checked="" type="checkbox"/> SAND (<2 mm) [6 pts]	30	<input type="checkbox"/> ARTIFICIAL [3 pts]	0	
	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <u>5</u> (A)		(B)		
	SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15			TOTAL NUMBER OF SUBSTRATE TYPES: 5	
2.	Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box):				
	<input type="checkbox"/> > 30 centimeters [20 pts]		<input type="checkbox"/> > 5 cm - 10 cm [15 pts]		Pool Depth Max = 30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">25</div>
	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]		<input type="checkbox"/> < 5 cm [5 pts]		
	<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]		<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]		
	COMMENTS _____			MAXIMUM POOL DEPTH (centimeters): 13	
3.	BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check <i>ONLY</i> one box):				
	<input type="checkbox"/> > 4.0 meters [30 pts]		<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]		Bankfull Width Max = 30 <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">20</div>
	<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]		<input type="checkbox"/> ≤ 1.0 m [5 pts]		
	<input checked="" type="checkbox"/> > 1.5 m - 3.0 m [20 pts]				
	COMMENTS _____			AVERAGE BANKFULL WIDTH (meters): 1.53	

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input checked="" type="checkbox"/> (Per Bank)	<input type="checkbox"/>	<input type="checkbox"/> (Most Predominant per Bank)
<input checked="" type="checkbox"/>	Wide > 10m	<input type="checkbox"/>	Mature Forest, Wetland
<input checked="" type="checkbox"/>	Moderate 5-10m	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field
<input type="checkbox"/>	Narrow < 5m	<input type="checkbox"/>	Residential, Park, New Field
<input type="checkbox"/>	None	<input type="checkbox"/>	Fenced Pasture

COMMENTS _____

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

Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)

Subsurface flow with isolated pools (Interstitial) Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Crane Run Distance from Evaluated Stream 0.26 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Williamsburg NRCS Soil Map Page: 21 NRCS Soil Map Stream Order 1st
County: Clermont Township / City Williamsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/18/06 Quantity: 0.01 inches

Photograph Information: Photo #15 (facing upstream), Photo #16 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 60

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

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

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

Additional comments/description of pollution impacts: pond upstream covered with watermeal; drainage area predominantly agricultural

BIOTIC EVALUATION

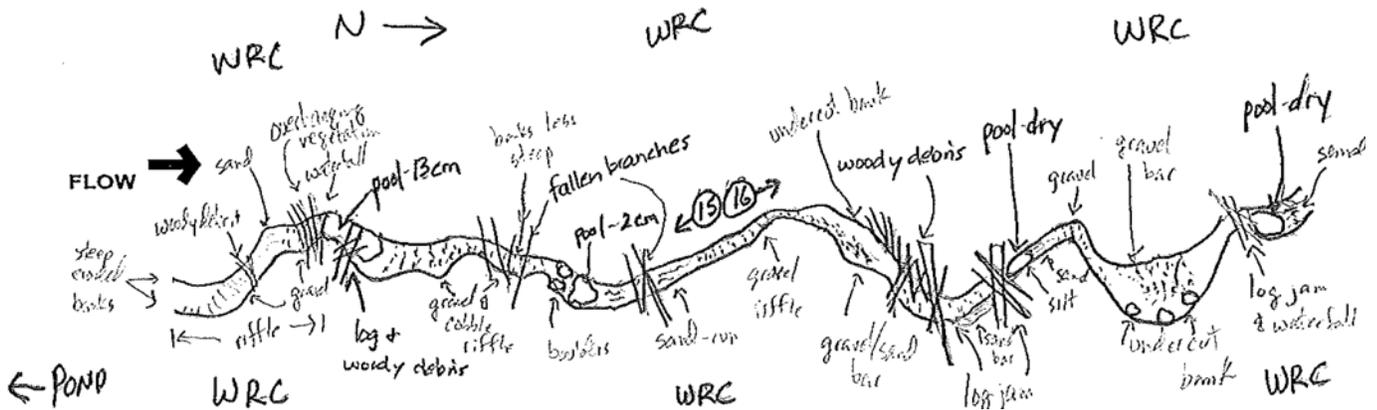
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

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

Comments Regarding Biology: Small frogs present in and around stream channel, evidence of crayfish presence (burrows) observed

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

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



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

SITE NAME/LOCATION Environmental Red Flag Summary Phase II - SR 32 Williamsburg Corridor/U.T. #7 (Preservation Area W2)
 SITE NUMBER #7 RIVER BASIN Little Miami River DRAINAGE AREA (mi²) 0.06
 LENGTH OF STREAM REACH (ft) 200 LAT. 39.061 LONG. 84.045 RIVER CODE _____ RIVER MILE 0.07
 DATE 8/22/06 SCORER Balke American (BL) COMMENTS _____

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

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

1. **SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.)

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pts]	<u>10</u>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<u>0</u>
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>20</u>	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>0</u>
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>35</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<u>0</u>
<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<u>0</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 20 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15

TOTAL NUMBER OF SUBSTRATE TYPES: 5

HHEI METRIC POINTS

Substrate Max = 40

20

A + B

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

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30

0

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

<input type="checkbox"/> > 4.0 meters [30 pts]	<input type="checkbox"/> > 1.0 - 1.5 m [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m [25 pts]	<input type="checkbox"/> ≤ 1.0 m [5 pts]
<input checked="" type="checkbox"/> > 1.5 m - 3.0 m [20 pts]	

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): 3.0

Bankfull Width Max = 30

20

This information must also be completed

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

RIPARIAN WIDTH		FLOODPLAIN QUALITY		L	R
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Wide > 10m	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/> <input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	Narrow < 5m	<input type="checkbox"/> <input type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/>	None	<input type="checkbox"/> <input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry Channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input checked="" type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: East Fork Little Miami River Distance from Evaluated Stream 0.07 miles
 CWH Name: _____ Distance from Evaluated Stream _____
 EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangel Name: Williamsburg NRCS Soil Map Page: 21 NRCS Soil Map Stream Order 1st
County: Clermont Township / City Williamsburg

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/18/06 Quantity: 0.01 inches

Photograph Information: Photo #9 (facing upstream), Photo #10 (facing downstream)

Elevated Turbidity? (Y/N): N Canopy (% open): 0

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

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

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

Additional comments/description of pollution impacts: scrubby woods riparian corridor; agriculture and fenced pasture in watershed

BIOTIC EVALUATION

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

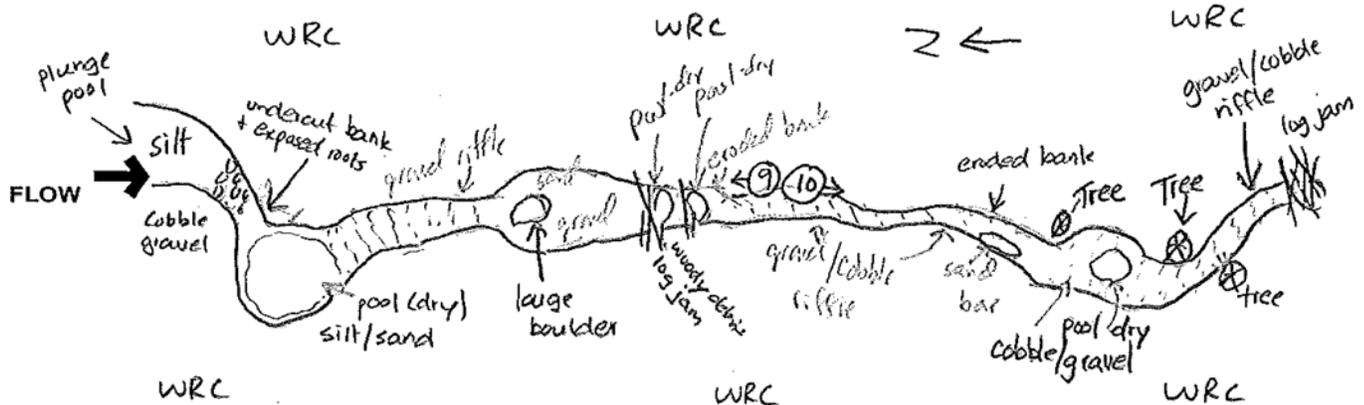
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: No organisms observed

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

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



**Appendix H:
GIS Files**

(separate DVD)