Categorical Exclusion

Appendix E

Red Flag Investigation & Hazardous Materials

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-ES
Indianapolis, Indiana 46204

PHONE: (855) 463-6848
(855) INDOT4U

Eric Holcomb, Governor
Michael Smith, Commissioner

NOTE: The project area was updated in October 2022 and INDOT SAM was notified. No new resources were identified as a result of the expanded project area. INDOT SAM responded in December 2022 that an RFI addendum is not warranted.

Date: June 2, 2022

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division (ESD)
Indiana Department of Transportation
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Holly Hume
Lochmueller Group, Inc.
6200 Vogel Road
Evansville, Indiana 47715
hhume@lochgroup.com

Re: RED FLAG INVESTIGATION
DES #1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187, State Project
Road Reconstruction, Intersection Improvements, and Bridge Projects
SR 62, from Rosenberger Avenue (4.59 Miles West of S Jct US 41) to 2.72 Miles West of S Jct US 41
Vanderburgh County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with road reconstruction project from Rosenberger Avenue (4.59 Miles West of S Jct US 41) to 2.72 Miles West of S Jct US 41 (DES 1900308); intersection improvement projects at SR 62 and Rosenberger Avenue (DES 1900264), SR 62 and St. Joseph Avenue (DES 1900263), and SR 62 and Wabash Avenue (DES 2000187); and three bridge projects located at SR 62 over Carpentier Creek (DES 1602258), SR 62 over CSX railroad (DES 1500041), and SR 62 over Tekoppel Avenue (DES 1600060). Intersection improvement work at SR 62 and Wabash Avenue (DES 2000187) will extend approximately 100 feet to the east beyond the intersection to tie into the existing pavement. Beyond this, work within the project area will be limited to the pavement for modifications needed to allow traffic to cross over in accordance with the maintenance of traffic (MOT). The proposed construction limits for the project will end approximately 950 feet east of the western terminus of the project area and approximately 900 feet west of the eastern terminus of the project area. The storm sewer work, with a maximum depth of excavation of 10 feet, will occur along the entire length of the project within the proposed construction limits. There will also be road, shoulder, sidewalk, curb, and/or retaining wall work, with a maximum depth of excavation of 5 feet, along the entire length of the project within the proposed construction limits. The remaining 950 feet to the west and 900 feet to the east of the proposed construction limits will be limited to pavement work that will be needed to accommodate MOT.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # 062-82-03957 B, 062-82-02195 B, and 062-82-03965 B

If this is a bridge project, is the bridge Historical? Yes ☐ No ☒ , Select ☐ Non-Select ☐

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Proposed right of way: Temporary ☒ # Acres > 0.5* Permanent ☒ # Acres > 0.5* , Not Applicable ☐

**Exact right-of-way amounts are unknown at this time.*

Type and proposed depth of excavation: Excavation will be necessary for road/shoulder/sidewalk/curb/retaining wall work (maximum depth of 5 feet), storm sewer construction (maximum depth of 10 feet), and construction of bridge pilings at all three bridge replacement locations (maximum depth of 60 feet).
Maintenance of traffic: Proposed maintenance of traffic for the project will be carried out in four main phases with subphases within each phase for intersection and ramp construction. The main maintenance of traffic will involve lane closures with two travel lanes remaining open in each direction. Existing signals will be utilized and adjusted as necessary during the maintenance of traffic phasing. MOT for ramp construction is limited to Barker Avenue.
Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐
State Project: ☒ LPA: ☐
Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	**9**	Recreational Facilities	**11**
Airports[1]	**1**	Pipelines	**1**
Cemeteries	**N/A**	Railroads	**9**
Hospitals	**N/A**	Trails	**5**
Schools	**3***	Managed Lands	**9**

[1]In order to complete the required airport review, a review of public-use airports within 3.8 miles (20,000 feet) is required.

Explanation:

Religious Facilities: Nine (9) religious facilities are located within the 0.5 mile search radius. The nearest facility, First Church of God, is 0.03 mile south of the intersection of Forest Ave and Walker Ave in the central portion of the project area. No impact is expected.

Airports: Although not located within the 0.5 mile search radius, one (1) public-use airport, Skylane Airport, is located within 3.8 miles (20,000 feet) of the project area. The public-use airport is located approximately 2.05 mile north of the eastern terminus of the project area; therefore, early coordination with INDOT Aviation will occur.

Schools*: Three (3) schools, two (2) mapped and one (1) associated with an icon mapped outside the 0.5 mile search radius, are located within the 0.5 mile search radius. The nearest school, Tekoppel Elementary, is located 0.05 mile north of the intersection of Corbierre Ave and Tekoppel Ave in the central portion of the project area. No impact is expected.

Recreational Facilities: Eleven (11) recreational facilities are located within the 0.5 mile search radius. One facility, West Side Nut Club Park, is located adjacent to the project area. Coordination with West Side Nut Club Park will occur.

Pipelines: One (1) pipeline segment is located within the 0.5 mile search radius. One (1) pipeline segment, Southern Indiana Gas & Electric Co., crosses the project area. Coordination with INDOT Utilities and Railroads should occur.

Railroads: Nine (9) railroad segments are located within the 0.5 mile search radius. One (1) railroad segment, Evansville Western Railroad, crosses the project area. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contracts (RFC) date.

Trails: Five (5) trail segments are located within the 0.5 mile search radius. One (1) potential trail segment, Indiana State University Connector, is located in the project area. Coordination with Evansville Parks and Recreation Department will occur.

Managed Lands: Nine (9) managed lands are located within the 0.5 mile search radius. One (1) managed land, Little Westside Library Park (also known as West Side Nut Club Park), is located adjacent to the project area. Coordination with Evansville Parks and Recreation Department will occur.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	**N/A**	Canal Routes - Historic	**1**
Karst Springs	**N/A**	NWI - Wetlands	**17**
Canal Structures – Historic	**2**	Lakes	**8**
NPS NRI Listed	**N/A**	Floodplain - DFIRM	**17**
NWI-Lines	**3**	Cave Entrance Density	**N/A**
IDEM 303d Listed Streams and Lakes (Impaired)	**6**	Sinkhole Areas	**N/A**
Rivers and Streams	**12**	Sinking-Stream Basins	**N/A**

Explanation:

Canal Structures – Historic: Two (2) Canal Structures – Historic are located within the 0.5 mile search radius. The nearest structure is located approximately 0.22 mile east of the eastern terminus of the project area. No impact is expected.

NWI-Lines: Three (3) NWI-Line segments are located within the 0.5 mile search radius. Two (2) NWI-Line segments, associated with Carpentier Creek, are located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

IDEM 303d Listed Streams and Lakes (Impaired): Six (6) IDEM 303d Listed Streams are located within the 0.5 mile search radius. Carpentier Creek is located within the project area. Carpentier Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular handwashing, and limit personal exposure.

Rivers and Streams: Twelve (12) stream segments are located within the 0.5 mile search radius. Two (2) stream segments, associated with Carpentier Creek, are located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Canal Routes - Historic: One (1) historic canal route segment is located within the 0.5 mile search radius. The nearest historic canal route segment, associated with the Wabash-Erie Canal, is located approximately 0.36 mile east of the eastern terminus of the project area. No impact is expected.

NWI - Wetlands: Seventeen (17) wetlands are located within the 0.5 mile search radius. The nearest wetland is located approximately 0.07 mile north of the project area near the SR 62/ Rosenberger Ave intersection. No impact is expected.

Lakes: Eight (8) lakes are located within the 0.5 mile search radius. The nearest lake is located approximately 0.09 mile south of the western terminus of the project area. No impact is expected.

Floodplain - DFIRM: Seventeen (17) floodplain polygons are located within the 0.5 mile search radius. The project is located within two (2) of the floodplain polygons. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	**1**	Mineral Resources	**1**
Mines – Surface	**N/A**	Mines – Underground	**4**

Explanation:
Petroleum Wells: One (1) petroleum well is located within the 0.5 mile search radius. The nearest well is located approximately 0.26 mile west of the western terminus of the project area. No impact is expected.

Mineral Resources: One (1) mineral resource is located within the 0.5 mile search radius. The nearest resource is located approximately 0.31 mile southeast of the eastern terminus of the project area. No impact is expected.

Mines - Underground: Four (4) underground mines are located within the 0.5 mile search radius. One (1) underground mine is located within the project area. Coordination with IDNR Reclamation Division will occur.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	**1***	Manufactured Gas Plant Sites	**1**
RCRA Generator/ TSD	**13**	Open Dump Waste Sites	**N/A**
RCRA Corrective Action Sites	**N/A**	Restricted Waste Sites	**N/A**
State Cleanup Sites	**3**	Waste Transfer Stations	**N/A**
Septage Waste Sites	**N/A**	Tire Waste Sites	**N/A**
Underground Storage Tank (UST) Sites	**30**	Confined Feeding Operations (CFO)	**N/A**
Voluntary Remediation Program	**2**	Brownfields	**7**
Construction Demolition Waste	**N/A**	Institutional Controls	**21***
Solid Waste Landfill	**2**	NPDES Facilities	**13**
Infectious/Medical Waste Sites	**N/A**	NPDES Pipe Locations	**8**
Leaking Underground Storage (LUST) Sites	**26**	Notice of Contamination Sites	**4***

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the

Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation:

Superfund*: Although the Superfund site icon is mapped approximately 1.27 miles northeast of the eastern terminus of the project area, the project area is still located within the sampling boundary of the active Superfund site, Jacobsville Neighborhood Soil Contamination (Agency Interest (AI) ID # 44853). Part of the Jacobsville neighborhood was formerly occupied by several manufacturing companies that date back to the 1880s. Lead has contaminated a wide area of soil. Some soil is also contaminated with arsenic, and site cleanup is ongoing. Coordination with Indiana Department of Environmental Management (IDEM) and U.S. Environmental Protection Agency (EPA) will occur. Work plans and/or soil management plans should be submitted to SAM for review before being sent to regulatory agencies.

RCRA Generator/ TSD: Thirteen (13) RCRA Generator/TSD sites are located within the 0.5 mile search radius. Two (2) RCRA Generator/ TSD sites are located within the project area.

- George Koch Sons Inc Tech Prod Div (10 S Tenth Ave, Evansville; AI ID # 45993) is located adjacent to the project area on the southwest corner of the intersection of SR 62 and Tenth Ave (although the icon is located on the northwest corner of the intersection). According to an IDEM Office of Land Quality (OLQ) Hazardous Waste Handler ID Form dated January 18, 2019, the site is a small quantity generator that produces waste aerosols. No impact is expected.
- Mead Johnson & Company (2400 W Lloyd Expressway, Evansville; AI ID # 12659) is a stationary nutritional product formulation plant located adjacent to the project area on the southwest corner of SR 62 and Saint Joseph Ave. According to the IDEM OLQ Hazardous Waste Handler ID Form dated January 7, 2019, the site is a large quantity generator that produces Dry, Condensed, and Evaporated Dairy Projects. The facility produces ignitable, corrosive, reactive, and lead waste. No impact is expected.

State Cleanup Sites: Three (3) State Cleanup Sites are located within the 0.5 mile search radius. The nearest State Cleanup site, Unique Cleaners (AI ID # 40391), located approximately 0.15 mile north of the project area near the intersection of Tenth Ave and Franklin St, was the site of a chlorinated volatile organic compound (cVOC) release that was reported to IDEM on January 9, 2008. According to the 2nd Half 2021 Groundwater Performance Monitoring Report dated March 23, 2022, groundwater cVOC levels continue to decrease at the site and contamination has been delineated to just south of Illinois Street. No impact is expected.

Underground Storage Tank (UST) Sites: Thirty (30) UST sites are located within the 0.5 mile search radius. Five (5) UST sites are located within or adjacent to the project area.

- George Koch Sons LLC (10 S 11th Ave, Evansville; AI ID # 42465) is located adjacent to the project area on the south side of SR 62, west of the intersection of SR 62 and Tenth Ave. No information regarding USTs at the site could be found in the IDEM VFC. Documents available in the IDEM VFC associated with AI ID # 42465 are associated with air quality and hazardous waste. However, the site appears to be associated with AI ID # 100057 discussed in the LUST section below. Please see the LUST section for additional site details and discussion. No impact is expected.
- Poole's Marine (Ohio St, Evansville; AI ID # 42427) is located adjacent to the project area. According to a UST Closure form dated June 2, 1986, a 1000-gallon steel tank containing diesel was located at the site at the northeast corner of 12th and Ohio. No impact is expected.
- Two (2) icons associated with Mead Johnson & Company (2400 W Lloyd Expressway, Evansville; AI ID # 12659), an operational stationary nutritional product formulation plant, are located within the project area. IDEM conducted an Underground Storage Tank Inspection on November 23, 2021, and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9; however, documentation reviewed does not indicate that a release occurred. No impact is expected.
- Buehler's Buy Low 455 (4851 Pennsylvania St, Evansville; AI ID # 45579) is the site of the former Buehler's Buy Low grocery store that sold gasoline. A UST Closure document dated December 17, 2013, stated that an 8,000-

gallon gasoline UST and a 20,000-gallon UST were removed from the site. According to the No Further Action Approval Determination Pursuant to Remediation Closure Guide issued by IDEM on March 17, 2014, the closure was unconditional for soil, groundwater, and vapor intrusion exposures. No impact is expected.

Voluntary Remediation Program: Two (2) Voluntary Remediation Program sites are located within the 0.5 mile search radius. The nearest Voluntary Remediation Program site, General Waste Products Incorporated (1 N.W. Martin Luther King Blvd, Evansville; AI ID # 43440), is located approximately 0.35 mile east of the eastern terminus of the project area. According to a Site Closure document dated January 22, 2007, the site was used to process scrap metal, and quantities of metal, ceramic, plastic, and liquid materials were released into the ground. Lead and polychlorinated biphenyls (PCBs) in the soil were identified at the site. Groundwater impacts were minimal. The Voluntary Remediation Program was completed, and a Certificate of Completion was issued on April 18, 2007. No impact is expected.

Solid Waste Landfill: Two (2) solid waste landfill sites are located within the 0.5 mile search radius. One (1) solid waste landfill site, Evansville Dump (AI ID # 47573), is adjacent to the eastern terminus of the project area. The site was an active city landfill with unrestricted dumping from at least as early as the 1930s through the 1950s. According to a Screening/Assessment document dated March 9, 1992, analytical results obtained from soil and water sampling indicated that contamination from metals, including cadmium, chromium, lead, and possibly mercury is present in the subsurface materials. Another Screening/Assessment document dated September 1, 1992 stated that groundwater flow from the site is divided with a portion of the site's groundwater flowing south toward the Ohio River and a portion flowing east toward Pigeon Creek, away from the project area. If excavation occurs within or near the mapped landfill boundaries, coordination with INDOT SAM should occur. SAM will assist in preparation, review, and approval of a SOW before the excavation occurs. The plan should include details for the following:

- Performance of initial exploratory test pits to confirm the presence of waste and its extent;
- If waste is excavated, plans to properly handle, remove, transport, and dispose of the waste in a permitted municipal solid waste landfill;
- Leachate control during the excavation activities, including run-on and run-off controls for excavated areas;
- Potential for explosive gas to be present; and
- All exposed waste not removed will need to be re-covered with an appropriate soil cap two (2) feet in depth, graded, and vegetated.

Leaking Underground Storage Tanks (LUST) Sites: Twenty-six (26) LUST sites are located within the 0.5 mile search radius. Ten (10) LUST sites are adjacent to the project area.

- Thornton Oil Corporation #85 (114 S Rosenberger Ave, Evansville; AI ID # 41646), an active gas station, was the site of a petroleum release in January 2007. According to the No Further Action (NFA) Determination Pursuant to Remediation Closure Guide issued by IDEM on April 30, 2019, soil and groundwater contamination remain at the site. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.
- The icon for the Bristol Myers Squibb (2400 West Lloyd Expressway, Evansville; Tanks Facility ID # 6039) LUST site is incorrectly located. The LUST facility is located at the airport hangar facility approximately 5.5 miles northeast of the project area. No impact is expected.
- Amoco Ss 20031 (2329 West Lloyd Expressway, Evansville; AI ID # 42642), located on the northeast corner of SR 62 and Saint Joseph Ave, is the site of a former gas station. A petroleum release was reported in 1990 (LUST Incident # 199004536) with impacts to both soil and groundwater. According to the NFA Determination Pursuant to Risk Integrated System of Closure issued by IDEM on July 8, 2015, contamination remains at the site and within the SR 62 right-of-way (ROW). According to a Notice of Contamination letter sent to INDOT on behalf of BP Products North America, Inc. on May 8, 2015, petroleum hydrocarbon contamination is present in soil and groundwater under the east ROW of North Saint Joseph Ave at a depth of 13 feet and deeper, adjacent to the subject property located at 2329 W Lloyd Expressway. An ERC was placed on the property on April 1, 2015. The ERC prohibits excavation greater than 13 feet within Restricted Area 1. IDEM must be notified 15

days prior to any soil disturbance activities. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.

- The icon for the Mead Johnson & Company (2400 West Lloyd Expressway, Evansville; AI ID # 12659) LUST site is incorrectly located. The LUST incident actually occurred at 7503 Petersburg Rd. No impact is expected.
- Don's West Side Sunoco (2000 Lloyd Expressway, Evansville; AI ID # 42607), located at the southwest corner of the intersection of SR 62 and Wabash Ave, is the site of a former gas station that has been demolished and is now the location of George Koch Sons, LLC manufacturing facility. A release occurred on June 1, 1998, when two 8,000-gallon gasoline USTs were removed from the site. According to the NFA Determination Pursuant to Remediation Closure Guide issued by IDEM on January 20, 2017, contamination remains at the site. Notices of Contamination were sent to the City of Evansville and INDOT on November 10, 2016, stating that contamination is present in the ROW of the Lloyd Expressway (SR 62) near its intersection with Wabash Ave. Two (2) separate ERCs were recorded for the site on November 8, 2016. The ERCs mandate that contaminated soils and groundwater in the Affected Area (northwest corner of the property located on the southwest corner of the intersection SR 62 and Wabash Ave) that are excavated must be managed and disposed of in accordance with all applicable federal and state laws. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.
- Koch Air (1900 Lloyd Expressway, Evansville; AI ID # 100057) is located at the southeast corner of the intersection of SR 62 and Wabash Ave. According to a UST Closure Site Assessment Report dated March 26, 1993, a 1,000-gallon steel diesel UST and a 2,000-gallon steel gasoline UST were removed from the site in February 1993. At the time of removal, the gasoline UST was found to be deeply pitted with several holes. Contamination was found to be present in the soil under and around the UST. The contaminated soil was excavated and removed from the site, and confirmatory soil samples results for Total Petroleum Hydrocarbons were all below detection limits of 20 parts per million. IDEM issued a No Further Action letter for the site on May 20, 1999. No impact is expected.
- Busler Enterprises Inc (2001 W Pennsylvania St, Evansville; AI ID # 43580), located on the northeast corner of the intersection of SR 62 and Wabash Ave, is the site of a former gas station. Five USTs were removed from the site in 1995. Petroleum impacted soil was identified during removal (LUST Incident # 1995-10-535). The impacted soil was excavated and removed from the site. NFA status was granted in an IDEM letter dated March 5, 2003. Three additional USTs were removed from the site in 2009 and additional soil and groundwater contamination was identified (LUST Incident # 2009-08-502). According to the NFA Determination Pursuant to Remediation Closure Guide issued by IDEM on December 8, 2017, residual contamination at the site is at a depth greater than 15 feet. An ERC was recorded for the site on October 18, 2017 restricting the use or extraction of groundwater at the site. A Notice of Contamination dated April 20, 2017, was sent to the City of Evansville and INDOT stating that petroleum impacts in soil and groundwater extend beneath the ROW of SR 62/Lloyd Expressway and the ROW of Wabash Avenue. If excavation greater than 15 feet occurs in the vicinity, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.
- George Koch & Sons Inc (1900 Pennsylvania Ave, Evansville; Tanks Facility (FID) # 9141) is located on the southeast corner of SR 62 and Ninth Ave. No AI ID was identified in the GIS layer; however, the FID # 9141 provided in GIS is connected to AI ID # 100057, associated with Koch Air, and discussed in this section above. See discussion above for details.
- The GIS information for the LUST icon located on the northwest corner of SR 62 and Wabash Ave did not include an AI name or ID; however, the GIS layer gives the same regulatory Program ID, 2713, as Busler Enterprises above. Searching VFC for the regulatory Program ID yields an AI ID of 43580, which is also consistent with the Busler Enterprises site discussed above. See Busler Enterprises discussion above for site details.

Manufactured Gas Plant Sites: One (1) manufactured gas plant site is located within the 0.5 mile search radius. Brake Supply Company (AI ID # 42857), located approximately 0.44 mile east of the eastern terminus of the project area, is associated with Southern Indiana Gas and Electric (1300 Pennsylvania Ave, Evansville). No impact is expected.

Brownfields: Seven (7) Brownfields are located within the 0.5 mile search radius. The nearest Brownfield, Saint Mary's Ambulatory Services West 4150208 (100 N Rosenberger Ave, Evansville; Master AI ID # 109821), is adjacent to the project area. This site was designated a Brownfield due to a gasoline spill that occurred on the adjacent Thornton's gas station property on or around January 3, 2007. According to the No Further Action (NFA) Determination Pursuant to Remediation Closure Guide issued by IDEM on April 30, 2019, soil and groundwater contamination remain at the site. A comfort letter was requested in February 2015 and St. Mary's (now St. Vincent) purchased the property in June 2015; however, no record of a letter from the Brownfields Programs was found in the VFC. The property has since been developed and is now the site of St. Vincent Evansville - Urgent Care Westside. If excavation occurs in the area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Institutional Controls*: Twenty-one (21), twenty (20) mapped and one (1) unmapped, institutional control sites are located within the 0.5 mile search radius. Seven (7) institutional control site icons, associated with three (3) sites, are located within or adjacent to the project area.

- Amoco Service Station 20031 (2329 W Lloyd Expressway, Evansville; Facility ID 20154), located on the northwest corner of SR 62 and Saint Joseph Ave, has two associated icons in the GIS layer. Please see additional details above under LUST Sites.
- Don's West Side Sunoco (2000 W Pennsylvania Ave, Evansville; AI ID #42607), located on the southeast and southwest corners of the intersection of SR 62 and Wabash Ave, has four associated icons in the GIS layer. Please see additional details above under LUST Sites.
- Busler Enterprises Inc (2001 W Pennsylvania St, Evansville; AI ID # 43580), located on the northeast corner of the intersection of SR 62 and Wabash Ave, is the site of a former gas station. See LUST section above for additional details.

NPDES Facilities: Thirteen (13) NPDES facilities are located within the 0.5 mile search radius. Four (4) NPDES facilities are located within or adjacent to the project area.

- Irving Materials Incorporated (1816 W Lloyd Expressway, Evansville; Permit # INRM00188) is located adjacent to the eastern terminus of the project area. The permit expired May 17, 2022. No impact is expected.
- Dennis Owens - Bosse Ave & Cox Ave Property (62 S Bosse Ave, Evansville; Permit # INR10I713) is located east of the intersection of SR 62 and Rosenberger Ave. The Construction Stormwater Authorization for the property expired on July 17, 2019. No impact is expected.
- Saint Mary's Ambulatory Services West 4150208 (1816 West Lloyd Expressway, Evansville; Permit # INR10K324), is located adjacent to the north of the project area east of the intersection of SR 62 and Rosenberger Ave. The permit for the property expired on June 17, 2015. No impact is expected.
- Chick Fil A 4323 (4400 West Lloyd Expressway, Evansville; Permit # INRA04524) is located on the southwest corner intersection of SR 62 and Rosenberger Ave. The site has an active permit that will expire October 31, 2024. Coordination with Chick Fil A 4323 will occur.

NPDES Pipe Locations: Eight (8) NPDES pipe locations are present within the 0.5 mile search radius. The nearest NPDES pipe location is approximately 0.06 mile south of the project area at the intersection of Ohio St and Ninth Ave. No impact is expected.

Notice of Contamination Sites*: Four (4) Notice of Contamination sites, three (3) mapped and one (1) unmapped, are present within the 0.5 mile search radius. All four (4) of the sites are located within the project area.

- Former Busler #03 (2001 West Pennsylvania Street, Evansville; Facility ID (FID) 2713) is located on the northeast corner of SR 62 and Wabash Ave. See LUST section above for details.

- Former Amoco #20031 (2329 West Llyod Expressway, Evansville; AI ID # 42642) is located on the northeast corner of SR 62 and St. Joseph Avenue. Please see additional details above under LUST Sites.
- The GIS layer did not include any identifying information for the Notice of Contamination icon located on the northeast corner of SR 62 and Saint Joseph Ave. This appears to be a duplicate point associated with the Former Amoco #20031 discussed immediately above.
- Don's West Side Sunoco (2000 W Pennsylvania Ave, Evansville; AI ID 42607), located on the southeast and southwest corners of the intersection of SR 62 and Wabash Ave. Please see additional details above under LUST Sites.

ECOLOGICAL INFORMATION SUMMARY

The Vanderburgh County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_vanderburgh.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in an urban area with residential, commercial, with some light industrial. The areas in which the bridges are located include Carpentier Creek and wooded areas. The April 20, 2022 inspection report for Bridge # 062-82-03957 B over Carpentier Creek states that no evidence of bats was seen or heard under the bridge. The April 20, 2022 inspection report for Bridge # 062-82-02195 B over CSX Railroad states that no evidence of bats was seen or heard under the bridge. The April 28, 2022 inspection report for Bridge # 062-82-03965 B over North Tekoppel states that no evidence of bats was seen or heard under the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE:

Airports: One (1) public-use airport, Skylane Airport, is located within 3.8 miles (20,000 feet) of the project area. The public-use airport is located approximately 2.05 miles north of the eastern terminus of the project area; therefore, early coordination with INDOT Aviation will occur.

Recreational Facilities: West Side Nut Club Park is located adjacent to the project area. Coordination with West Side Nut Club Park will occur.

Pipelines: One (1) pipeline segment, Southern Indiana Gas & Electric Co., crosses the project area. Coordination with INDOT Utilities and Railroads should occur.

Railroads: One (1) railroad segment, Evansville Western Railroad, crosses the project area. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contracts (RFC) date.

Trails: One (1) potential trail segment, Indiana State University Connector, is located in the project area. Coordination with Evansville Park and Recreation Department will occur.

Managed Lands: One (1) managed land, Little Westside Library Park (also known as West Side Nut Club Park), is located adjacent to the project area. Coordination with Evansville Park and Recreation Department will occur.

WATER RESOURCES:

The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with INDOT ESD Ecology and Waterway Permitting.

- Two (2) NWI-Line segments are located within the project area.
- Two (2) stream segments, associated with Carpentier Creek, are located within the project area.
- The project is located within two (2) floodplain polygons (coordination only).

IDEM 303d Listed Streams and Lakes (Impaired): Carpentier Creek is located within the project area. Carpentier Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular handwashing, and limit personal exposure.

MINING/MINERAL EXPLORATION:

Mines - Underground: One (1) underground mine is located within the project area. Coordination with IDNR Reclamation Division will occur.

HAZARDOUS MATERIAL CONCERNS:

Superfund: Although the Superfund site icon is mapped approximately 1.27 miles northeast of the eastern terminus of the project area, the project area is still located within the sampling boundary of the active Superfund site, Jacobsville Neighborhood Soil Contamination (AI ID # 44853). Lead has contaminated a wide area of soil. Some soil is also contaminated with arsenic, and site cleanup is ongoing. Coordination with Indiana Department of Environmental Management (IDEM) and U.S. Environmental Protection Agency (EPA) will occur. Work plans and/or soil management plans should be submitted to SAM for review before being sent to regulatory agencies.

Solid Waste Landfill: One (1) solid waste landfill site, Evansville Dump (AI ID # 47573), is adjacent to the eastern terminus of the project area. The site was an active city landfill with unrestricted dumping from at least as early as the 1930s through the 1950s. According to a Screening/Assessment document dated March 29, 1992, analytical results obtained from soil and water sampling indicated that contamination from metals, including cadmium, chromium, lead, and possibly mercury is present in the subsurface materials. Another Screening/Assessment document dated September 1, 1992 stated that groundwater flow from the site is divided with a portion of the site's groundwater flowing south toward the Ohio River and a portion flowing east toward Pigeon Creek, away from the project area. If excavation occurs within or near the mapped landfill boundaries, coordination with INDOT SAM should occur. SAM will assist in preparation, review, and approval of a SOW before the excavation occurs. The plan should include details for the following:

- Performance of initial exploratory test pits to confirm the presence of waste and its extent;
- If waste is excavated, plans to properly handle, remove, transport, and dispose of the waste in a permitted municipal solid waste landfill;
- Leachate control during the excavation activities, including run-on and run-off controls for excavated areas;
- Potential for explosive gas to be present; and
- All exposed waste not removed will need to be re-covered with an appropriate soil cap two (2) feet in depth, graded, and vegetated.

LUST:

- Thornton Oil Corporation #85 (114 S Rosenberger Ave, Evansville; AI ID # 41646), an active gas station, was the site of a petroleum release in January 2007. According to the No Further Action (NFA) Determination Pursuant to Remediation Closure Guide issued by IDEM on April 30, 2019, soil and groundwater contamination remain at the site. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be

necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

LUST/Institutional Control/Notice of Contamination Sites:

- Amoco Ss 20031 (2329 West Lloyd Expressway, Evansville; AI ID # 42642), located on the northeast corner of SR 62 and Saint Joseph Ave, is the site of a former gas station that reported a petroleum release in 1990 (LUST Incident # 199004536) with impacts to both soil and groundwater. According to the NFA Determination Pursuant to Risk Integrated System of Closure issued by IDEM on July 8, 2015 contamination remains at the site and exists in the right-of-way (ROW). According to a Notice of Contamination letter sent to INDOT on behalf of BP Products North America, Inc. on May 8, 2015, petroleum hydrocarbon contamination is present in soil and groundwater under the east ROW of North Saint Joseph Ave at a depth of 13 feet and deeper, adjacent to the subject property located at 2329 W Lloyd Expressway. An ERC was placed on the property on April 1, 2015. The ERC prohibits excavation greater than 13 feet within Restricted Area 1. IDEM must be notified 15 days prior to any soil disturbance activities. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.
- Don's West Side Sunoco (2000 Lloyd Expressway, Evansville; AI ID # 42607), located at the southwest corner of the intersection of SR 62 and Wabash Ave, is the site of a former gas station that is now the location of George Kock Sons, LLC manufacturing facility. A release occurred on June 1, 1998 when two 8,000-gallon gasoline USTs were removed from the site. According to the NFA Determination Pursuant to Remediation Closure Guide issued by IDEM on January 20, 2017, contamination remains at the site. Notices of Contamination were sent to the City of Evansville and INDOT on November 10, 2016 stating that contamination is present in the ROW of the Lloyd Expressway (SR 62) near its intersection with Wabash Ave. Two (2) separate ERCs were recorded for the site on November 8, 2016. The ERCs mandate that contaminated soils and groundwater in the Affected Area (northwest corner of the property located on the southwest corner of the intersection SR 62 and Wabash Ave) that are excavated must be managed and disposed of in accordance with all applicable federal and state laws. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.
- Busler Enterprises Inc (2001 W Pennsylvania St, Evansville; AI ID # 43580), located on the northeast corner of the intersection of SR 62 and Wabash Ave, is the site of a former gas station. Five USTs were removed from the site in 1995. Petroleum impacted soil was identified during removal (LUST Incident # 1995-10-535). The impacted soil was excavated and removed from the site. NFA status was granted in an IDEM letter dated March 5, 2003. Three additional USTs were removed from the site in 2009 and additional soil and groundwater contamination was identified (LUST Incident # 2009-08-502). According to the NFA Determination Pursuant to Remediation Closure Guide issued by IDEM on December 8, 2017, residual contamination at the site is at a depth greater than 15 feet. An ERC was recorded for the site on October 18, 2017 restricting the use or extraction of groundwater at the site. A Notice of Contamination dated April 20, 2017, was sent to the City of Evansville and INDOT stating that petroleum impacts in soil and groundwater extend beneath the ROW of SR 62/Lloyd Expressway and the ROW of Wabash Avenue. If excavation greater than 15 feet occurs in the vicinity, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. Coordination will be conducted with the IDEM Institutional Controls section (institutionalcontrols@idem.IN.gov) before RFC.

Brownfields: Saint Mary's Ambulatory Services West 4150208 (100 N Rosenberger Ave, Evansville; Master AI ID # 109821) is located adjacent to the project area. This site was designated a Brownfield due to a gasoline spill that occurred on the adjacent Thornton's gas station property on or around January 3, 2007. According to the No Further Action (NFA) Determination Pursuant to Remediation Closure Guide issued by IDEM on April 30, 2019, soil and groundwater contamination remain at the site. A comfort letter was requested in February 2015 and St. Mary's (now

St. Vincent) purchased the property in June 2015; however, no record of a letter from the Brownfields Programs was found in the VFC. The property has since been developed and is now the site of St. Vincent Evansville - Urgent Care Westside. If excavation occurs in the area, proper handling, removal, and disposal of soil and/or groundwater may be necessary.

NPDES Facilities:

- Chick Fil A 4323 (4400 West Lloyd Expressway, Evansville; Permit # INRA04524) is located on the southwest corner intersection of SR 62 and Rosenberger Ave. The site has an active permit that will expire October 31, 2024. Coordination with Chick Fil A 4323 will occur.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

INDOT ESD concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2022.07.20 06:02:56 -04'00' (Signature)

Prepared by:
Holly Hume
Environmental Specialist
Lochmueller Group, Inc.

Graphics:

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

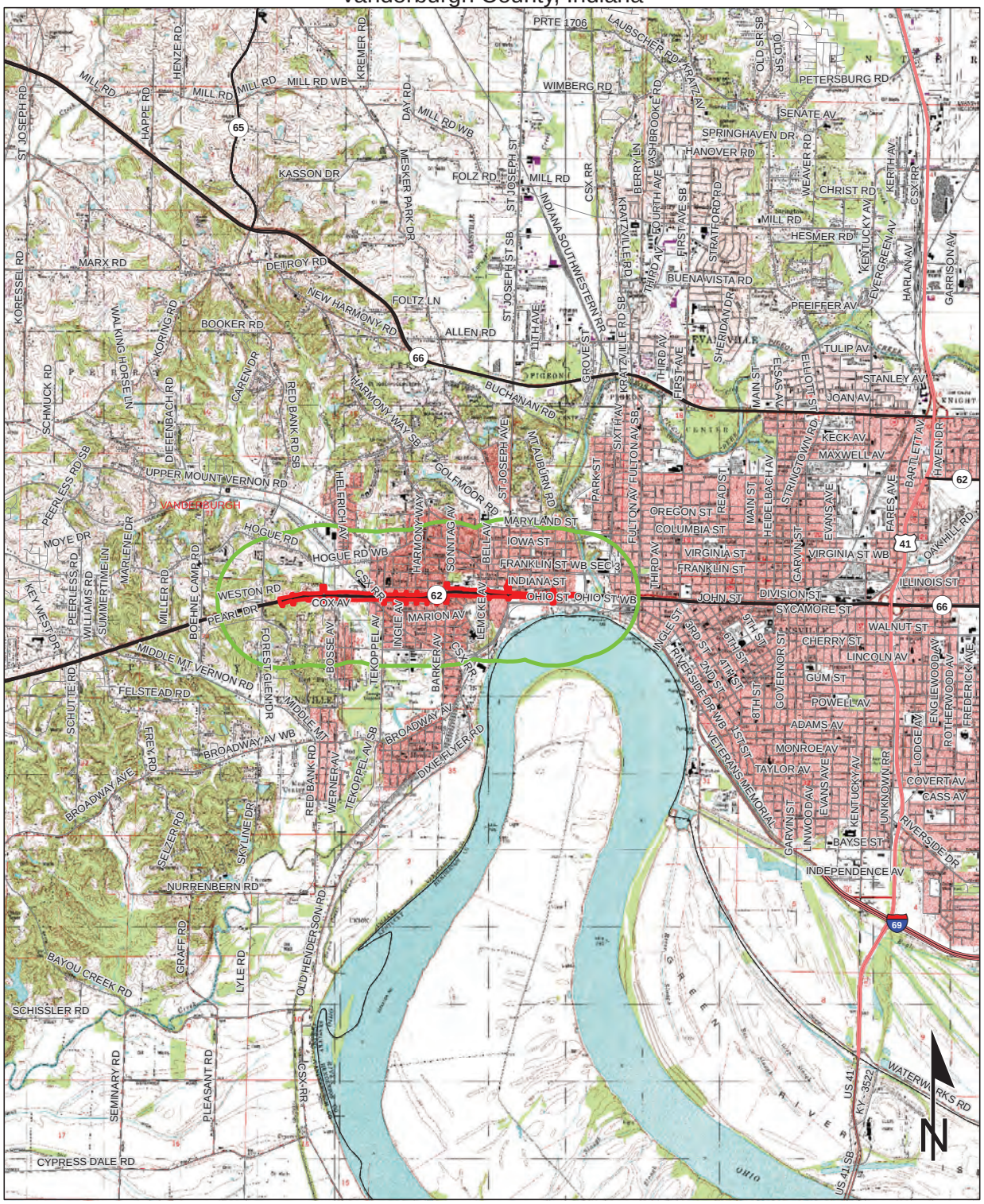
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
SR 62, from Rosenberger Ave (4.59 mi W of S Jct US 41) to 2.72 mi W of S Jct US 41
Des. Nos. 1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187
Road Reconstruction, Intersection Improvements, and Bridge Projects
Vanderburgh County, Indiana



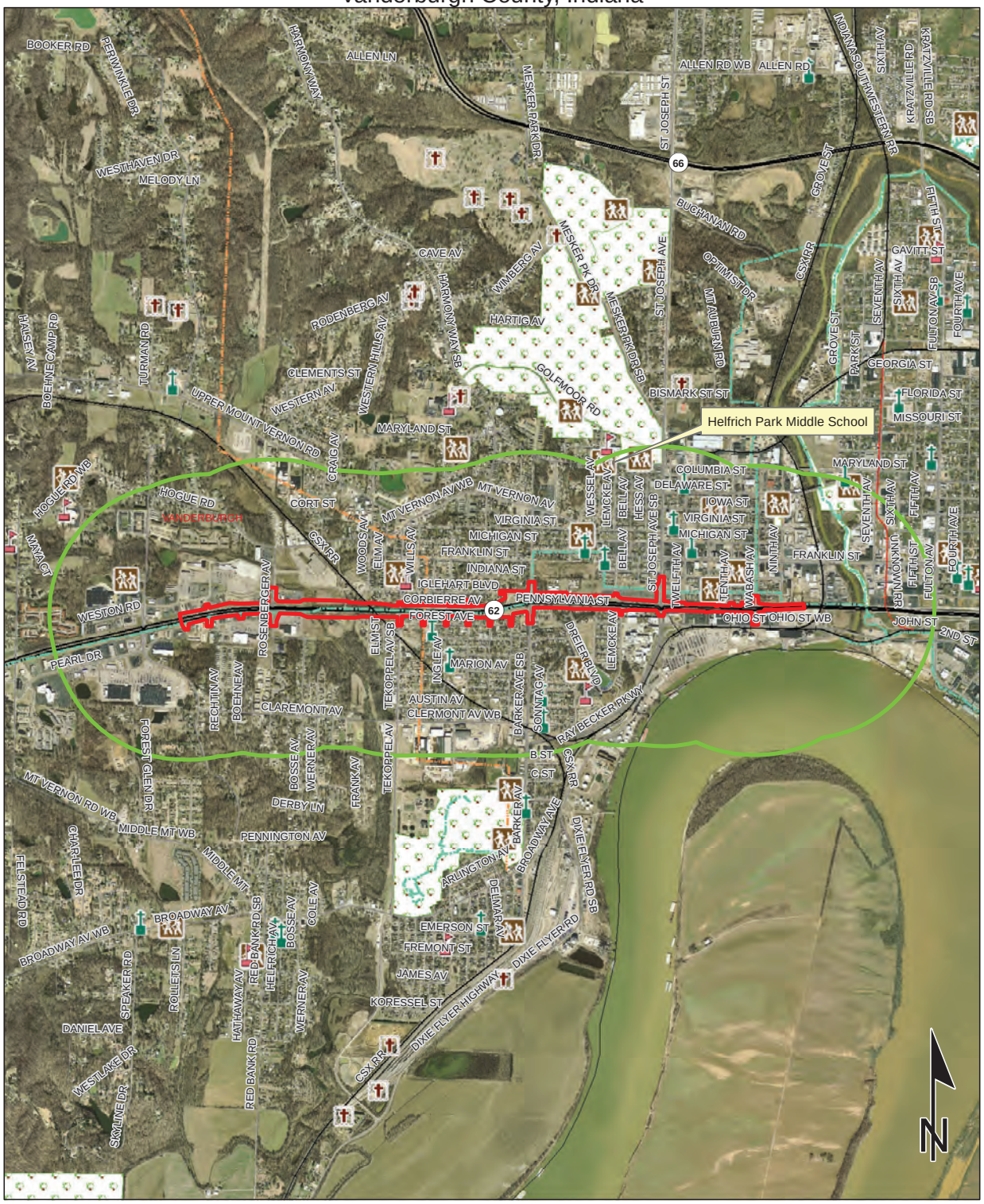
1 0.5 0 1 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

WEST FRANKLIN & EVANSVILLE SOUTH QUADRANGLES
INDIANA
7.5 MINUTE SERIES

Red Flag Investigation - Infrastructure
SR 62, from Rosenberger Ave (4.59 mi W of S Jct US 41) to 2.72 mi W of S Jct US 41
Des. Nos. 1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187
Road Reconstruction, Intersection Improvements, and Bridge Projects
Vanderburgh County, Indiana



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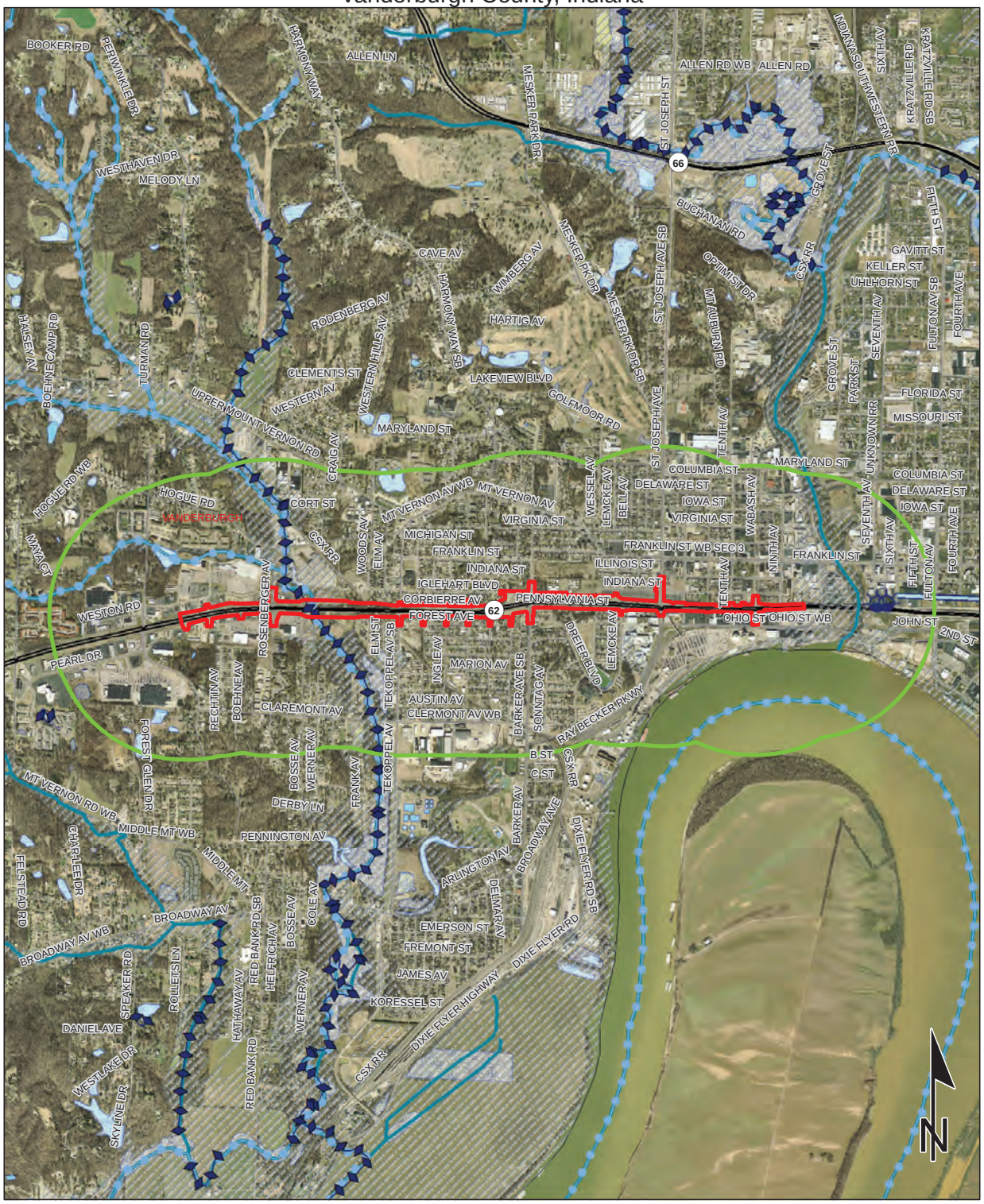
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Religious Facility
- Airport
- Cemeteries
- Hospital
- School
- Recreation Facility
- Pipeline
- Railroad
- Trails
- Managed Lands
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Water Resources
SR 62, from Rosenberger Ave (4.59 mi W of S Jct US 41) to 2.72 mi W of S Jct US 41
Des. Nos. 1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187
Road Reconstruction, Intersection Improvements, and Bridge Projects
Vanderburgh County, Indiana



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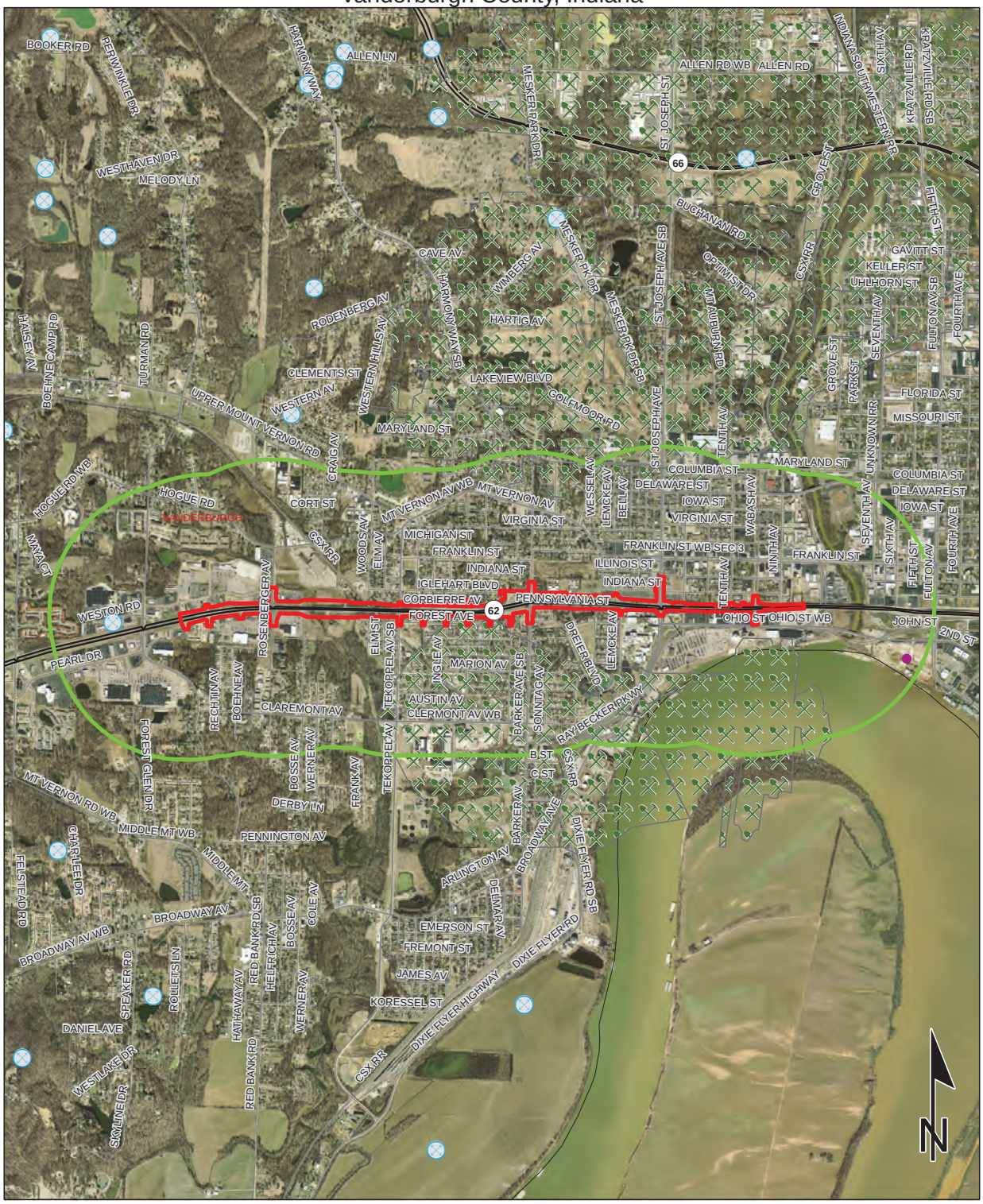
Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Mining and Mineral Exploration
SR 62, from Rosenberger Ave (4.59 mi W of S Jct US 41) to 2.72 mi W of S Jct US 41
Des. Nos. 1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187
Road Reconstruction, Intersection Improvements, and Bridge Projects
Vanderburgh County, Indiana



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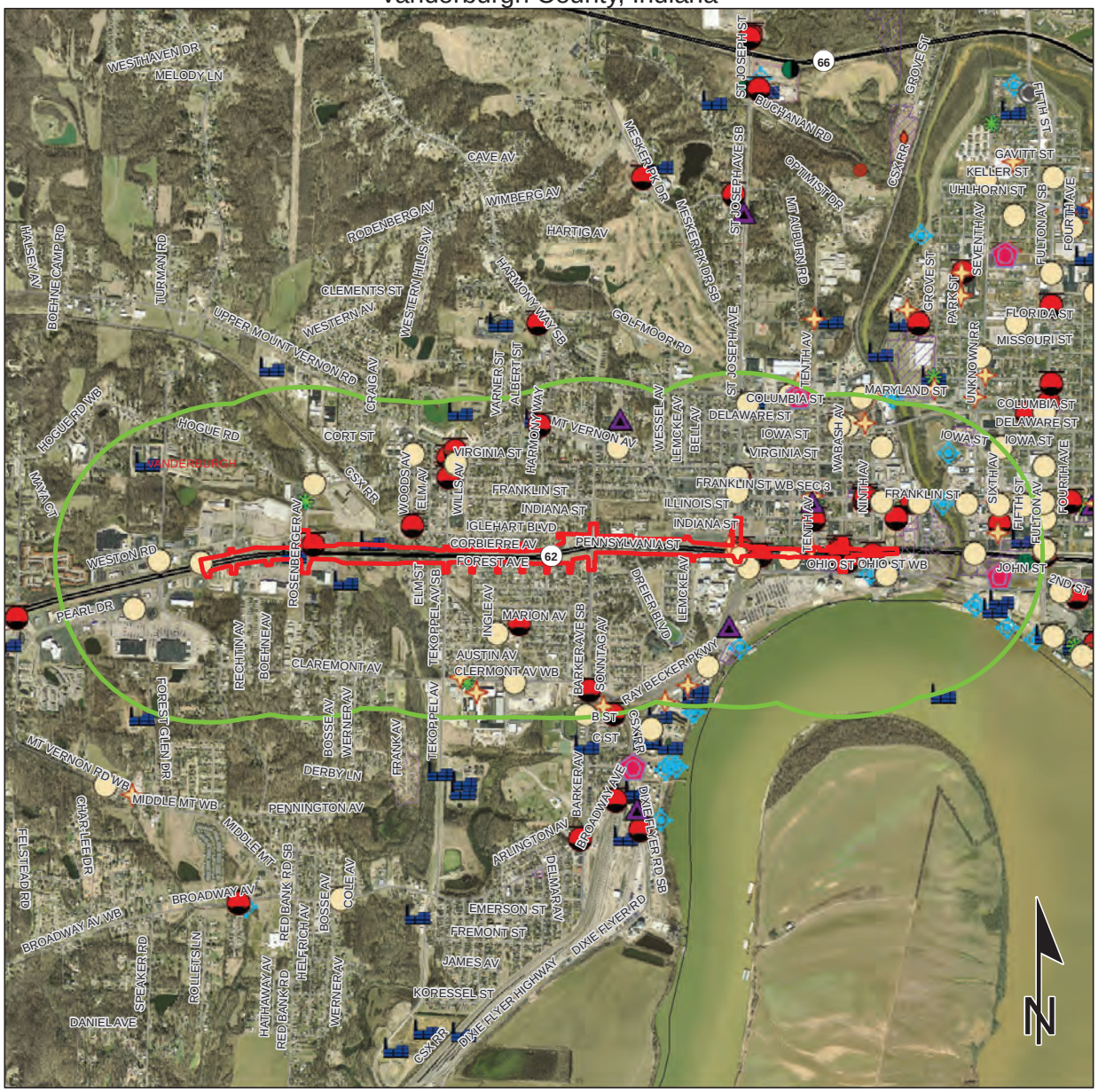
Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- Oil and Gas Wells
- Mineral Resources
- Mine - Surface
- Mine - Underground
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Red Flag Investigation - Hazardous Material Concerns
SR 62, from Rosenberger Ave (4.59 mi W of S Jct US 41) to 2.72 mi W of S Jct US 41
Des. Nos. 1900308, 1900263, 1900264, 1500041, 1600060, 1602258, and 2000187
Road Reconstruction, Intersection Improvements, and Bridge Projects
Vanderburgh County, Indiana



- Brownfield
- RCRA Corrective Action Sites
- Confined Feeding Operation
- Notice_Of_Contamination
- Construction/Demolition Site
- Infectious/Medical Waste Site
- Leaking Underground Storage Tank
- Manufactured Gas Plant
- NPDES Facilites
- NPDES Pipe Locations
- Open Dump Waste Site
- RCRA Generator/TSD
- Restricted Waste Site
- Septage Waste Site
- Solid Waste Landfill
- State Cleanup Site
- Superfund
- Tire Waste Site
- Underground Storage Tank
- Voluntary Remediation Program
- Waste Transfer Station
- Institutional Controls
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

0.45 0.225 0 0.45 Miles

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Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Payton Parke

From: IDEM Institutional Controls <InstitutionalControls@idem.IN.gov>
Sent: Thursday, September 28, 2023 5:36 AM
To: Payton Parke
Cc: Daniel Townsend; Jeff Whitaker
Subject: RE: Lead Des. No. 1900308 SR 62 Lloyd Expressway, Vanderburgh County, IN - IDEM Institutional Controls
Attachments: IDEM_InstitutionalControl_SiteLocationsMap_v03.pdf

EXTERNAL

Good morning, Payton,

Thank you for sharing the below information. IDEM has no concerns, provided that proper handling, removal, and disposal of soil and/or groundwater is conducted in accordance with applicable laws, when and where appropriate.

Please contact me directly if you have any specific questions regarding this matter.

Thank you,
Crystal Haulter

Crystal Haulter
(She/Her/Hers)
Technical Environmental Specialist
Remediation Services Branch

(317) 234-1957 • chaulter@idem.IN.gov

www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!

From: Payton Parke <PParke@lochgroup.com>
Sent: Wednesday, September 27, 2023 4:07 PM
To: IDEM Institutional Controls <InstitutionalControls@idem.IN.gov>
Cc: Daniel Townsend <DTownsend@lochgroup.com>; Jeff Whitaker <jwhitaker@lochgroup.com>
Subject: Lead Des. No. 1900308 SR 62 Lloyd Expressway, Vanderburgh County, IN - IDEM Institutional Controls

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Dear Sir or Madam,

We are working through the environmental process for a road reconstruction, intersection improvements, and bridge replacements project on State Road (SR) 62, from Rosenberger Avenue to Wabash Avenue in Evansville, Indiana (Lead Des. No. 1900308). The following Des. Nos. are included in this project: 1900308, 1900264, 1900263, 2000187, 1602258, 1500041, and 1600060.

Categorical Exclusion

Appendix F

Water Resources

DNR Indiana Floodplain Information Portal 2.0

DNR Division of Water Data Download Overview FEMA Map Service Center

1:18056
-87.577 37.993 Degrees

SR 62 Road Reconstruction, Intersection Improvements, and Bridge Replacements From Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41) Waters of the U.S. Report Vanderburgh County, Indiana

December 21, 2021
Revised February 11, 2022
Revised February 11, 2023
Prepared by: Rusty Yeager

Prepared for:

INDOT Des. No.: 1900308 (Lead)
Contract No.: R-42287

NOTE: The project area was updated in October 2022. The WOTUS report was updated and approved in February 2023. No new water resources were identified as a result of the expanded project area.

new investigation area approved 2/14/2023

Lochmueller Group, Inc.
6200 Vogel Road
Evansville, Indiana 47715
Phone: 812.479.6200

Approved 2.25.2022 by:
Maryssa Engstrom

Table of Contents

NOTE: A portion of the graphics have been removed to avoid duplication and reduce file size

Waters of the U.S. Report
SR 62 in Vanderburgh County
Road Reconstruction, Intersection Improvements, and Bridge Replacements
From Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41)
Des. No. 1900308 (Lead)
Asset ID # 062-82-03957 B (Carpentier Creek)
Asset ID # 062-82-02195 B (Evansville Western RR)
Asset ID # 062-82-03965 B (Tekoppel Avenue)

Prepared by: Rusty Yeager
Ryeager@Lochgroup.com, 812-759-4163
Lochmueller Group
February 11, 2023

1. Project Information

Date(s) of Field Reconnaissance

August 25, 26, and 27, 2021
September 2, 3, 24, and 28, 2021

Project Location

The project is located along SR 62 from 0.36 mile west of Rosenberger Avenue to 0.19 mile east of Wabash Avenue in Evansville, Indiana (Pages A1 through A4).

- Sections 22, 23, 24, 25, 26, and 27, Township 6 South, Range 11 West
- Evansville South and West Franklin 1:24,000 United States Geological Survey (USGS) Quadrangle
- Vanderburgh County, Pigeon and Perry Townships, Indiana
- Latitude: 37.977638° Longitude: -87.612405° (centroid)

Project Description

The SR 62 road improvement project involves road replacement with additional lanes, three intersection improvements (Rosenberger Avenue, St. Joseph Avenue, and Wabash Avenue), and three bridge replacements (CSX Railroad/Evansville Western Railway, Tekoppel Avenue, and Carpentier Creek). No changes at the Barker Avenue Bridge, the pedestrian bridge over SR 62 west of St. Joseph Avenue, or the Ninth Street Bridge are proposed as part of this project.

Des. No.	Location	Activity
1900308	SR 62 (Lloyd) from Rosenberger Avenue to Wabash Avenue	Road Reconstruction
2000187	SR 62 (Lloyd) at Wabash Avenue	Intersection Improvement
1900263	SR 62 (Lloyd) at St. Joseph Avenue	Intersection Improvement
1900264	SR 62 (Lloyd) at Rosenberger Avenue	Intersection Improvements
1500041	SR 62 (Lloyd) over CSX Railroad/Evansville Western Railway	Bridge Replacement
1600060	SR 62 (Lloyd Expressway) over Tekoppel Avenue	Bridge Replacement
1602258	SR 62 (Lloyd Expressway) over Carpentier Creek	Bridge Replacement

2. Background Information

Waters of the U.S. Investigated Area

The Waters of the U.S. (WOTUS) investigated area limits were defined as an area covering approximately 81.1 acres along approximately 2.4 miles of SR 62. The investigated area for identifying wetland and stream resources was developed to include all areas along SR 62, within and beyond the existing right-of-way, where disturbance activities including temporary actions were anticipated for the scope of work proposed. The investigated areas along SR 62 vary from approximately 97 feet east of Wabash Avenue on the bridge over Ninth Avenue to approximately 530 feet west of Barker Avenue. The investigated area extends perpendicular to SR 62 at each of the intersecting roadways and commercial property entrances for varying distances from SR 62. The surrounding landscape of the investigated area is exclusively urban/suburban development consisting of industrial manufacturing (Mead Johnson Nutritional and George Koch), commercial retail and services (west of Carpentier Creek and east of Lemke Avenue), institutional, and residential (CSX Railroad/Evansville Western Railway to Lemke Avenue).

In January 2023, the construction limits for upgrades to the St. Joseph Avenue intersection were expanded to the north and south of that shown in the revised February 2022 version of the WOTUS document. All maps have been updated to show this expansion. These expanded areas are exclusively inner-city landscapes drained via curb-and-gutter and storm water sewer systems. As such, there are no additional streams or wetlands added to this investigation.

USGS Quadrangle Streams

The USGS Evansville South and West Franklin 1:24,000 topographic quadrangles include one blue-line stream feature (Carpentier Creek) within the investigated area limits for the SR 62 road reconstruction project (Pages A2 through A4).

National Hydrology Dataset (NHD)

The NHD GIS dataset includes multiple flow line features within the investigated area (Pages A6 through A21). These include Carpentier Creek and several roadside drainage lines along SR 62 and urban streets (Tekoppel Avenue, Corbierre Avenue, Tunis Avenue, Addison Avenue, Lemke Avenue, St. Joseph Avenue, Ray Becker Parkway, 11th Avenue, and Wabash Avenue). With the exception of Carpentier Creek, all of the NHD features within the investigated area are considered roadside ditches (RSD) or storm water drainages (SWD).

National Wetlands Inventory (NWI)

There are wetlands or linear water features identified in or near the investigated area (Page A6 through A21). There is one U.S. Fish and Wildlife Service (USFWS) mapped NWI feature (R2UBH = Carpentier Creek) within the investigated area limits. The nearest NWI wetland (PUBGx) beyond the investigated area limits is 0.05 mile to the north of the investigated area associated with Carpentier Creek.

USFWS NWI Table

Wetland Type	Description	Location
R2UBH	Riverine, perennial, unconsolidated bottom, permanently flooded	Within investigated area
PUBGx	Palustrine, unconsolidated bottom, intermittently exposed, excavated	0.05 mile north along Carpentier Creek Lat 37.979039°N Long -87.625816°W

Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Vanderburgh County, Indiana, the investigated area does contain soil areas with nationally listed hydric soils (Pages A22 through A39).

USDA-NRCS Soils Table

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	Hydric Range	SSURGO Hydric Rating	Percent of Area of Interest
Alford silt loam, 2 to 5 percent slopes, eroded	AlB2	None	Well Drained	Nonhydric	0% Hydric	24.9%
Alford silt loam, 5 to 10 percent slopes, severely eroded	AlC3	None	Well Drained	Nonhydric	0% Hydric	21.2%
Alford silt loam, 10 to 18 percent slopes, severely eroded	AlD3	None	Well Drained	Nonhydric	0% Hydric	1.9%
Birds silt loam, 0 to 2 percent slopes, frequently flooded	Bd	Frequent	Poorly Drained	Hydric	85-100% Hydric	4.6%
Evansville silt loam	Ev	None	Poorly Drained	Hydric	100% Hydric	0.0%
Hosmer silt loam, 0 to 2 percent slopes	HoA	None	Moderately Well Drained	Nonhydric	0% Hydric	13.1%
Hosmer silt loam, 5 to 10 percent slopes, severely eroded	HoC3	None	Moderately Well Drained	Nonhydric	0% Hydric	1.0%
Iona silt loam, 0 to 2 percent slopes	IoA	None	Moderately Well Drained	Nonhydric	0% Hydric	3.6%
Markland silty clay loam, 6 to 18 percent slopes, severely eroded	MlC3	None	Well Drained	Nonhydric	0% Hydric	1.7%
Sciotoville silt loam, 0 to 2 percent slopes	ScA	None	Moderately Well Drained	Nonhydric	0% Hydric	1.8%
Uniontown silt loam, 2 to 6 percent slopes, eroded	UnB2	None	Moderately Well Drained	Nonhydric	0% Hydric	2.4%
Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wa	Frequent	Somewhat Poorly Drained	Predominantly Nonhydric	0-10% Hydric	4.6%
Weinbach silt loam	Wb	None	Somewhat Poorly Drained	Predominantly Nonhydric	3% Hydric	7.5%
Wellston silt loam, 18 to 25 percent slopes, eroded	WeE2	None	Well Drained	Nonhydric	0% Hydric	0.3%
Wheeling loam, 0 to 2 percent slopes	WhA	None	Well Drained	Nonhydric	0% Hydric	11.3%

12-Digit HUC (Hydrologic Unit Code) Watershed and StreamStats Drainage Areas

The SR 62 road reconstruction, intersection improvement, bridge replacement project is within the East Creek-Ohio River (051402020401 12-Digit Hydrologic Unit Code [HUC]) (Page A2). The USGS StreamStats (U.S. Geological Survey 2016) drainage area for Carpentier Creek at SR 62 is 5.55 square miles (Page A41). The StreamStats drainage area near Walker Avenue at SR 62 is 0.05 square mile (Page A41). The

StreamStats drainage area near Addison Avenue at SR 62 is 0.04 square mile (Page A41). The StreatStats drainage area near St. Joseph Avenue at SR 62 is 0.24 square mile (Page A41). The StreamStats drainage area near 11th Street at SR 62 is 0.05 square mile (Page A41).

FEMA Floodway/Floodplain

The Federal Emergency Management (FEMA) Flood Map Service Center (https://msc.fema.gov/portal/home) and the Indiana Floodplain Information Portal (https://dnrmaps.dnr.in.gov/appsphp/fdms/) Best Available Flood Zones data indicate that SR 62 crosses the Carpentier Creek Indiana Department of Natural Resources (IDNR) Floodway (Pages A42 through A43). The base flood elevation for Carpentier Creek at SR 62 is 375.2 feet (NAVD88) as determined from the IDNR Indiana Floodplain Information Portal. An additional area of the investigated area located south of SR 62 and immediately west of Zieger Avenue is within a FEMA Zone A floodplain. The remainder for the investigated area is not within a mapped floodway/floodplain.

3. Waters of the U.S. Resources

Field Reconnaissance

WETS (NRCS National Water and Climate Center http://agacis.rcc-acis.org/) data for Vanderburgh County was used to determine the growing season based on a 50 percent probability of 28°F or higher air temperatures in spring and fall in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0* (U.S. Army Corps of Engineers 2010). For the period of record from 1990 to 2020, the Vanderburgh County growing season is from March 29 to November 7. This field survey was conducted within the growing season.

Wetland boundaries were mapped using a Trimble R1 receiver and ESRI Arc Collector software and subsequently adjusted using aerial photography and contours generated from DEM coverage. For those linear flow features that displayed a bed and bank, the OHWM width and depth was field measured at the maximum dimension observed beyond the influence of bridge and culvert structures. OHWM measurements were also documented for any stream features observed in the field that were not included as USGS blue-line or NHD features.

Stream Features

Three stream channels that connect into Carpentier Creek, which display bed and bank characteristics have been designated as UNT1 to Carpentier Creek, UNT2 to Carpentier Creek, and UNT3 to Carpentier Creek. Each of these channels exhibit a significant nexus to a traditionally navigable water (TNW) and are therefore considered to be under Section 404 authority of the Clean Water Act. All of the runoff from SR 62 and adjacent properties east of the CSX Railroad/Evansville Western Railway (Page A53 through A59) drains into the Evansville combined sewer system via roadside ditches and storm water conveyance channels. All of these surface water drainage features discharge into the sewer system via drainage grates or storm sewer pipe inlets. The combined sewer system for the west side of Evansville conveys water to the treatment plant on Tekoppel Avenue approximately 0.75 mile south of SR 62. Treated water from the plant is ultimately discharged into the Ohio River. One of these storm water conveyance channels displays bed and bank characteristics and has been designated as UNT1 to Evansville Sewer System. Because the combined sewer system is not regarded as a significant nexus to a

TNW, this channel feature is not considered to be under Section 404 authority of the Clean Water Act. However, INDOT is requesting that the USACE take jurisdiction of this channel.

Carpentier Creek

Carpentier Creek is a perennial blue-line stream feature as it appears on the Evansville South and West Franklin 1:24,000 scale USGS Topographic Maps (Pages A2 and A3). The perennial flow regime determination is based on the persistence of surface water flow observed at nearly all times throughout the year and the large watershed area for Carpentier Creek (approximately 5.55 square miles). The USFWS NWI Map identifies Carpentier Creek as a riverine, lower perennial, unconsolidated bottom, permanently flooded, (R2UBH) system (Page A8). Carpentier Creek is shown as a stream/river in the NHD GIS data layer (Page A8). Carpentier Creek flows north to south under SR 62 through a three-span cast-in-place deck with concrete beams, and confluences with Bayou Creek approximately 2.7 miles downstream to the south of SR 62. Approximately 357 linear feet of Carpentier Creek is within the investigated area with approximately 63 feet encapsulated by the bridge. According to USGS *StreamStats* the drainage area upstream of the SR 62 bridge is approximately 5.55 square miles (Page A41). According to Indiana Floodplain Information Portal, SR 62 crosses the Carpentier Creek floodway where the base flood elevation is 375.2 feet (NAVD88). The project scope includes complete replacement of the bridge over Carpentier Creek including the deck, superstructure, piers, slope wall areas, and bridge approaches.

Immediately north of the SR 62 Bridge a low profile beaver dam influences the hydrologic characteristics of the stream within the investigated area (Photo location 64 Page B28). Downstream of the beaver dam, Carpentier Creek exhibits a somewhat defined riffle/run/pool structure comprised of artificial riprap and gravel in the short riffle immediately downstream of the bridge with silt and sand dominating the run and shallow pool habitat. Upstream of the beaver dam the channel is primarily a continuous shallow pool of varying depths, silt based substrate, and slow flow. Locally, Carpentier Creek exhibits artificial sinuosity consisting of long channelized reaches with abrupt bends. Woody riparian habitat is present on both sides of the stream downstream of the bridge within the floodplain. Upstream of SR 62 the riparian zone has been more affected by land development than downstream, yet retains fragmented woody riparian habitat. Riparian composition is predominantly green ash (*Fraxinus pennsylvanica* - FACW), black walnut (*Juglans nigra* - FACU), hackberry (*Celtis occidentalis* - FAC), ash-leaf maple (*Acer negundo* - FAC), and sycamore (*Platanus occidentalis* - FACW). The OHWM for Carpentier Creek approximately 112 feet downstream of the bridge (Lat 37.977634°N, Long -87.625084°W) measured 25.4 feet wide and 4.0 feet deep. Carpentier Creek displays average quality due to moderate variation in available stream habitat, an intact riparian corridor, and minimal erosion. Photo locations 59 through 70 on Pages B27 through B29 indicate stream and bank conditions for this reach of Carpentier Creek.

Carpentier Creek is considered to be a relatively permanent waterway (RPW) with a connection to the Ohio River, a TNW, via Bayou Creek. Therefore, Carpentier Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. Carpentier Creek is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

UNT1 to Carpentier Creek

UNT1 to Carpentier Creek is an ephemeral stream feature that flows from west to east on the north side of SR 62 (Page A46). The ephemeral flow regime determination is supported by a dry channel (no flow)

observed on August 25, 2021 following a 0.25-inch rain event on August 22, three days prior, and a combined 1-inch on August 10 and 11. Additionally, the channel was observed to be dry on September 28, 2021 following a combined precipitation event of nearly 1-inch on September 21 and 22, six days prior. The ephemeral determination is further supported based on the shallow depth, small drainage area, and elevated position on the landscape well above the influence of local groundwater. UNT 1 to Carpentier Creek originates from the outlet of a 98-foot long, 12-inch CMP under Rosenberger Avenue that receives water from RSD4 west of Rosenberger Avenue. The channel meanders slightly until it enters a wooded floodplain on the west side of Carpentier Creek where it turns to the northeast and ultimately discharges into Carpentier Creek north of the SR 62 Bridge. UNT1 to Carpentier Creek is not included on the Evansville South 1:24,000 scale USGS Topographic Map, the USFWS NWI Map, or the NHD dataset. The entire 775 feet of this reach is within the investigated area. UNT1 to Carpentier Creek is daylighted (no culverts) throughout its entire length. The drainage area for this Carpentier Creek tributary is not available through USGS *StreamStats*, but is estimated at under 0.005 square mile since it only captures runoff from the north side of SR 62 and limited runoff from west of Rosenberger Avenue. Current available design information indicates UNT1 to Carpentier Creek would need to be regraded with a possible horizontal alignment shift.

The upper portion of the channel has a relatively flat bottom with low shallow banks and a gravel/artificial riprap streambed substrate (Photo locations 32 and 38 on Pages B22 and B23). The lower portion of the channel through the woods becomes slightly more incised and narrower forming a U-shaped channel that is largely hardpan and silt based. UNT1 to Carpentier Creek exhibits a bed and bank cross section; however, the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. This roadside channel along the toe of the road fill embankment for SR 62 was constructed solely to convey runoff from SR 62 to Carpentier Creek. The OHWM at the widest point in the middle of the reach (Lat 37.977863°N, Long -87.626432°W) is 3.1 feet wide and 0.4 feet deep. UNT1 to Carpentier Creek is considered to exhibit poor quality due to a lack of pool/riffle habitat structure, heavy disturbance within the riparian zone throughout the majority of its length, and ephemeral flow regime of infrequent and very little duration following precipitation events. Photo locations 29 through 40 on Pages B21 through B23 indicate stream and bank conditions for this reach of UNT1 to Carpentier Creek.

UNT1 of Carpentier Creek is considered to be a non-relatively permanent waterway (non-RPW) with a connection to the Ohio River, a TNW, via Carpentier Creek and Bayou Creek. Therefore, UNT1 to Carpentier Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. UNT1 to Carpentier Creek is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

UNT2 to Carpentier Creek

UNT2 to Carpentier Creek is an ephemeral stream feature (Page A46) that flows from west to east connecting Wetland C to Carpentier Creek. The ephemeral flow regime determination is supported by a dry channel (no flow) observed on August 26, 2021 following a 0.25-inch rain event on August 22, four days prior, and a combined 1-inch on August 10 and 11. This stream channel receives runoff from the north and west, as well as backwater from Carptentier Creek under storm conditions where water levels are increased as little as one to two feet. UNT2 to Carpentier Creek is not included on the Evansville South 1:24,000 scale USGS Topographic Map, the USFWS NWI Map, or the NHD dataset. The entire reach from Wetland C to Carpentier Creek (approximately 69 linear feet) is within the investigated area.

UNT2 to Carpentier Creek is daylighted (no culverts) throughout its entire length. The drainage area for this Carpentier Creek tributary is not available through USGS *StreamStats*, but is estimated at under 0.005 square mile based on local contours and other drainage features in close proximity. Wetland C and UNT2 to Carpentier Creek receive a large portion of up gradient drainage from the St. Vincent medical clinic parking lot via a riprap lined stormwater swale (SWD2). UNT2 to Carpentier Creek is contained within the Carpentier Creek floodplain. Current available design information indicates UNT2 to Carpentier Creek would need not likely need to be regraded or shifted from its present alignment.

This short stream reach consists of an incised U-shaped channel approximately 1.5 to 2.0 feet deep consisting of a hardpan and silt substrate. With the exception of a few young individual trees, this reach lacks a woody riparian zone. Japanese hop (*Humulus japonica*) is very heavy along the upper banks, obscuring sight of the channel and preventing movement through the entire length. UNT2 to Carpentier Creek exhibits a bed and bank cross section. The Soil Survey of Vanderburgh County (Kelly 1976) indicates that historically this is part of a drainage pattern from the northwest. However, extensive modifications to this drainage pattern through land development has realigned the majority of the drainage into an artificial channel that discharges into Carpentier Creek upstream of the current UNT2 to Carpentier Creek confluence. As a result, the drainage area for this remnant stream feature has been drastically reduced. The OHWM at the widest point in the lower half of the reach (Lat 37.978066°N, Long -87.625259°W) is 3.3 feet wide and 0.5 feet deep. UNT2 to Carpentier Creek displays poor stream quality due to its lack of instream habitat, heavy encroachment of Japanese hop, and limited length. Photo locations 71 through 73 on Page B29 indicate stream and bank conditions for this reach of UNT2 to Carpentier Creek.

UNT2 of Carpentier Creek is considered to be a non-RPW with a connection to the Ohio River, a TNW, via Carpentier Creek and Bayou Creek. Therefore, UNT2 to Carpentier Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. UNT2 to Carpentier Creek is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

UNT3 to Carpentier Creek

UNT3 to Carpentier Creek is an ephemeral stream feature on the north side of SR 62 (Pages A15 and A16) that flows from east to west through a wooded portion of right-of-way along Carpentier Creek. The ephemeral flow regime determination is supported by a dry channel (no flow) observed on August 27, 2021 following a 0.25-inch rain event on August 22, five days prior, and a combined 1-inch on August 10 and 11. Additionally, the channel was observed to be dry on September 28, 2021 following a combined precipitation event of nearly 1-inch on September 21 and 22, six days prior. UNT3 to Carpentier Creek originates at the west end of Wetland D and terminates at the confluence with Carpentier Creek. UNT3 to Carpentier Creek receives runoff from SR 62, a 12-inch CMP culvert outlet on the south side of the ditch, and from undeveloped land beyond the right-of-way to the north. UNT3 to Carpentier Creek is daylighted (no culverts) throughout its entire length. UNT3 to Carpentier Creek is not included on the Evansville South 1:24,000 scale USGS Topographic Map, the USFWS NWI Map, or the NHD dataset. The entire reach from Wetland D to Carpentier Creek (approximately 110 linear feet) is within the investigated area. The drainage area for this Carpentier Creek tributary is not available through USGS *StreamStats*, but is estimated at over 0.015 square mile based on local contours and other drainage features in close proximity. Current available design information indicates UNT3 to Carpentier Creek would need to be regraded with a possible horizontal alignment shift.

This short stream reach consists of a U-shaped channel with a hardpan and silt substrate. UNT3 to Carpentier Creek exhibits a bed and bank cross section; however, the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. This roadside channel along the toe of the road fill embankment for SR 62 was constructed solely to convey runoff from SR 62 to Carpentier Creek. The adjacent riparian area on the road embankment slope and the upper floodplain bank consists of ash-leaf maple, green ash, eastern cottonwood (*Populus deltoides* - FAC), sycamore, and elm (*Ulmus sp.*). The OHWM at the widest point in the lower half of the reach (Lat 37.977858°N, Long -87.624863°W) is 2.9 feet wide and 0.5 feet deep. UNT3 to Carpentier Creek displays poor stream quality due to its lack of instream habitat, drainage area disturbance, and limited length. Photo locations 74 through 80 on Pages B29 and B30 indicate stream and bank conditions for this reach of UNT3 to Carpentier Creek.

UNT3 of Carpentier Creek is considered to be a non-RPW with a connection to the Ohio River, a TNW, via Carpentier Creek and Bayou Creek. Therefore, UNT3 to Carpentier Creek is subject to USACE jurisdiction under Section 404 of the Clean Water Act. UNT3 to Carpentier Creek is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

UNT1 to Evansville Sewer System

UNT1 to Evansville Sewer System is an ephemeral stream feature on the north side of SR 62 (Pages A50 through A52) that flows from north to south through a narrow woodland strip between residential properties. The ephemeral flow regime determination is supported by a dry channel (no flow) observed on August 25, 2021 following a 0.25-inch rain event on August 22, three days prior, and a combined 1-inch on August 10 and 11. Additionally, the channel was observed to be dry on September 24, 2021 following a combined precipitation event of nearly 1-inch on September 21 and 22, two days prior. UNT1 to Evansville Sewer System originates from a 36-inch concrete culvert and conveys storm water into another 36-inch concrete culvert that carries water under SR 62. UNT1 to Evansville Sewer System receives runoff from the residential neighborhoods north of Corbierre Avenue. Excluding the north and south 36-inch concrete culverts, UNT1 to Evansville Sewer System is daylighted throughout its entire length. UNT1 to Evansville Sewer System is not included on the Evansville South 1:24,000 scale USGS Topographic Map, the USFWS NWI Map; however, it is shown as a drainageway on the unclassified NHD dataset. The entire daylighted reach from the northern storm culvert outlet to the southern storm culvert inlet (approximately 83 linear feet) is within the investigated area. The drainage area for this channel is not available through USGS *StreamStats*, but is estimated at greater than 0.016 square mile based on local contours. Current available design information indicates UNT1 to Evansville Sewer System may need to be regraded, at least in part at the southern end.

This short stream reach consists of a flat bottom channel with shallow banks and a hardpan substrate. The Soil Survey of Vanderburgh County (Kelly 1976) shows a historic drainage pattern in this area that includes several blocks of residential housing to the north of SR 62 (Page A40). The alignment of this drainage feature on the Vanderburgh County soil survey map is not shown in its current location; therefore, it is presumed that the alignment was shifted to the east when the storm water collection and sewer system was developed. Additionally, the soil survey map shows this drainage feature terminating immediately south of SR 62, and does not connect into any other surface water features draining to Carpentier Creek. This realigned channel was constructed solely to convey residential runoff into the local storm sewer system. The 36-inch culvert under SR 62 to which this feature enters has no

point of surface discharge on the south side of SR 62, and is therefore presumed to remain underground as part of the local storm water drainage system. The adjacent woodland strip along this short reach consists of ash-leaf maple, silver maple (*Acer saccharinum*), black walnut (*Juglans nigra*), white mulberry, elm, hackberry, poison ivy, and grape vine (*Vitis sp*.), with sparse herbaceous vegetation. The OHWM at the widest point in the middle of the reach (Lat 37.977978°N, Long -87.612503°W) is 6 feet wide and 0.2 feet deep. UNT1 to Evansville Sewer System displays poor stream quality due to its lack of instream habitat, infrequent ephemeral flow, extensive watershed disturbance, and limited length. Photo locations 201 through 206 on Pages B52 and B53 indicate stream and bank conditions for this reach of UNT2 to Evansville Sewer System.

UNT1 of Evansville Sewer System is considered to be a non-RPW. However, the local storm sewer system to which this feature drains into is not considered to constitute a significant nexus to a TNW (Ohio River). While, UNT1 to Evansville Sewer System is not likely subject to USACE jurisdiction under Section 404 of the Clean Water Act, INDOT is requesting that the USACE take jurisdiction of UNT 1 to Evansville Sewer System. UNT1 to Evansville Sewer System is not subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act.

Stream Summary Table

Water Feature Name	Photo	Lat/Long	OHWM Width (ft)	OHWM Depth (ft)	USGS Blue-line? Type?	Riffles? Pools?	Quality	Substrate	Likely Waters of U.S.?
Carpentier Creek	59-70	37.977634 -87.625084	25.4	4.0	Yes Perennial	Yes Yes	Average	Silt, Sand, Gravel, Riprap	Yes
UNT1 to Carpentier Creek	29-40	37.977863 -87.626432	3.1	0.4	No Ephemeral	No No	Poor	Sand, Gravel, Riprap, Silt, Hardpan	Yes
UNT2 to Carpentier Creek	71-73	37.978066 -87.625259	3.3	0.5	No ephemeral	No No	Poor	Hardpan, Silt	Yes
UNT3 to Carpentier Creek	74-80	37.977858 -87.624863	2.9	0.5	No ephemeral	No No	Poor	Hardpan, Silt	Yes
UNT1 to Evansville Sewer System	201-206	37.977978 -87.612503	6.0	0.2	No ephemeral	No No	Poor	Hardpan	No[1]

[1] These storm water system features are not considered to be Waters of the U.S., but INDOT has requested that USACE assume jurisdiction for the purposes of Section 404 of the Clean Water Act.

Wetland Features

Six wetland features were identified north and south of SR 62 between Rosenberger Avenue and the CSX Railroad/Evansville Western Railway. Two of these are associated with roadside ditches along SR 62 to the east and west of Carpentier Creek. Two are within the Carpentier Creek floodplain north of SR 62, and the remaining two are within shallow landscape depressions at or near the bottom of the road fill embankment for SR 62.

Wetland A

Wetland A is a palustrine emergent (PEM1) wetland located in the roadside ditch on the south side of SR-62 between Rosenberger Avenue and Carpentier Creek (Page A46). Wetland A is 0.01 acre in size and is entirely within the investigated area. The north and south edge boundary of Wetland A is defined by the base of the fore slope and back slope of the ditch feature between SR 62 and the shopping center parking lot to the south. The western limit is the outlet of the culvert under Rosenberger Avenue, while the eastern limit is the point where the ditch enters woodland habitat and generally losses herbaceous vegetation and becomes RSD6. Wetland A drops in elevation from west to east, but is generally compatible with an elevation of 378 feet generated from the digital elevation model (DEM) data at the west end to an elevation of 371 feet at the east end. Wetland A drains into RSD6, which continues to flow east into a 24-inch concrete culvert. Therefore, Wetland A lacks a direct surface connection to Carpentier Creek, although the 24-inch culvert likely provides a connection to Carpentier Creek. Wetland A is considered to be of poor quality due to dominant presence of common reed (*Phragmites australlis* - FACW), heavily disturbed adjacent land use, and ephemeral hydrology conditions. Wetland A would not likely meet the definition of a Waters of the U.S. because it does not abut a jurisdictional water nor is it inundated by flooding from a jurisdictional water. However, INDOT is requesting that the USACE take jurisdiction of Wetland A. Wetland A has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland A would not likely be impacted by the upgrade to the alignment for SR 62.

Wetland data point (AW1) represents wetland conditions at Wetland A within the center of the ditch (USACE Data Sheet - Pages C1 and C2). Tree, sapling/shrub, and vine strata are lacking within the plot limits. The herb stratum is dominated by common reed (FACW) with Frank's sedge (*Carex frankii* – OBL) as a non-dominant component. Since only OBL and FACW species comprised the dominant cover, hydrophytic vegetation was established through the rapid test for hydrophytic vegetation. Primary indicators of hydrology were lacking. Secondary indicators included FAC-neutral test (D5), crayfish burrows (C8), and drainage patterns (B10). The location of this data point is mapped as Iona silt loam (0 to 2 percent slopes) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches in the ditch consisted of a 10YR 2/1 loamy/clayey matrix (100 percent) from 0 to 3 inches and a 10YR 4/2 loamy/clayey matrix (95 percent) with 7.5YR 5/6 redoximorphic features (5 percent) from 3 to 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 50 through 52 on Page B25 indicate soil and habitat conditions in Wetland A.

Wetland data point (AU1) represents non-wetland conditions along the back slope of the roadside ditch immediately south of the Wetland A boundary (USACE Data Sheet - Pages C3 and C4). Tree, sapling/shrub, and vine strata are lacking within the plot limits. The herb stratum is dominated by common reed (FACW), Johnson grass (*Sorghum halpense* – FACU), and Canadian goldenrod (*Solidago canadensis* – FACU), with late-flowering thoroughwort (*Eupatorium serotinum* – FAC), giant ironweed (*Vernonia gigantea* – FAC), common milkweed (*Asclepias syriaca* – FACU), white mulberry (FAC), Torrey's rush (*Juncus torreyi* – FACW), and Florida crown grass (*Paspalum floridanum* – FACW) as non-dominant components. The percent dominant hydrophytic vegetation is 33 percent; therefore, hydrophytic vegetation is not present. Primary and secondary indicators of hydrology are absent due to

the elevated position of the data point approximately 1.5 feet above the ditch bottom. The location of this data point is mapped as Iona silt loam (0 to 2 percent slopes) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches on the ditch slope consisted of a 10YR 4/3 loamy/clayey matrix (100 percent) from 0 to 7 inches and a 10YR 5/4 loamy/clayey matrix (100 percent) from 7 to 20 inches. This description does not meet the criteria for a depleted matrix or any other hydric soil indicator; therefore, hydric soils are not present. This data point lacks hydrophytic vegetation, hydric soil, and wetland hydrology indicators; therefore, this it is not within a wetland. Photo locations 51 through 53 on Pages B25 and B26 indicate soil and habitat conditions at this location.

Wetland B

Wetland B is a palustrine forest (PFO1) wetland located in a shallow depression of woodland habitat at the base of the SR 62 road fill slope on the south side of SR 62 between Carpentier Creek and a private property entrance off SR 62 to the east (Pages A46 and A47). Wetland B is 0.04 acre in size and is entirely within the investigated area. The north and east boundary of Wetland B is based on the base of the embankment fill slope along SR 62 and the eastern edge of the floodplain for Carpentier Creek. The southern and western boundaries area defined by gradual changes in elevation along the perimeter of this shallow depression. Wetland B is generally compatible with an elevation of 371 feet generated from the digital elevation model (DEM) data. Wetland B receives direct runoff from all directions and periodically receives floodwaters from Carpentier Creek. Wetland B is considered to be of poor quality due to a lack of an herb stratum vegetation component, ephemeral hydrology conditions, and limited wildlife habitat potential. Wetland B would likely meet the definition of a Waters of the U.S. as an adjacent wetland because it is it inundated by flooding from Carpentier Creek in a typical year. INDOT is therefore requesting that the USACE take jurisdiction of Wetland B. Wetland B has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland B would not likely be impacted by the upgrade to the alignment for SR 62.

Wetland data point (BW1) represents wetland conditions at Wetland B approximately in the center of the feature (USACE Data Sheet - Pages C5 and C6). The tree stratum is dominated by green ash (FACW) and black willow (*Salix nigra* – OBL). The sapling/shrub stratum was dominated by ash-leaf maple (FAC) and green ash (FACW), with sweet-gum (FACW) as a non-dominant component. The vine stratum was lacking. The herb stratum within the plot limits was lacking likely due to prolonged inundation in the spring and extent of canopy cover. The percent dominant hydrophytic vegetation was 100 percent; therefore, hydrophytic vegetation is present. Primary indicators of hydrology include inundation visible on aerial imagery (B7). Secondary indicators included FAC-neutral test (D5) and crayfish burrows (C8). The location of this data point is mapped as Wakeland silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA; however, hydric Birds silt loam inclusions are possible (0 to 10 percent) within this series . The soil profile from a pit excavated to a depth of 20 inches at this location consisted of a 10YR 3/1 loamy/clayey matrix (100 percent) from 0 to 2 inches and a 10YR 5/2 loamy/clayey (95 percent) matrix with 10YR 5/6 redoximorphic features (5 percent) from 2 to 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 91 through 93 on Page B33 indicate soil and habitat conditions in Wetland B.

Wetland data point (BU1) represents non-wetland conditions near the base of the SR 62 road fill embankment slope immediately north of the Wetland B boundary (USACE Data Sheet - Pages C7 and C8). The tree stratum is dominated by green ash (FACW) and black walnut (FACU), with white mulberry (FAC) and hackberry (FAC) as non-dominant components. The sapling/shrub stratum was dominated by ash-leaf maple (FAC) and green ash (FACW), with sweet-gum (FACW) as a non-dominant component. The vine stratum was lacking within the plot limits. The herb stratum was dominated by winter creeper (UPL), with Japanese stilt grass (*Microstegium vimineum* – FAC), Virginia creeper (*Parthenocissus quinquefolia* – FACU), Virginia wild rye (*Elymus virginicus* – FACW), Canadian wood-nettle (*Laportea canadensis* – FACW), and wingstem (*Verbesina alternifolia* – FACW) as non-dominant components. The percent dominant hydrophytic vegetation is 67 percent; therefore, hydrophytic vegetation is present. Primary and secondary indicators of hydrology are absent due to the elevated position of the data point approximately 1.5 feet above the base of the adjacent floodplain depression wetland. The location of this data point is mapped as Wakeland silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA; however, hydric Birds silt loam inclusions are possible (0 to 10 percent) within this series . The soil profile from a pit excavated to a depth of 20 inches on the lower portion of the embankment slope consisted of a 10YR 3/3 loamy/clayey matrix (100 percent) throughout the entire 20 inches. While the soils on the embankment represent historic fill material used for the construction of SR 62, this embankment fill material is the defining feature of the wetland boundary to the north. This description does not meet the criteria for a depleted matrix or any other hydric soil indicator; therefore, hydric soils are not present. Although this data point meets the requirements for hydrophytic vegetation, there are no hydric soil or wetland hydrology indicators; therefore, this data point is not within a wetland. Photo locations 88 through 90 on Page B32 indicate soil and habitat conditions at this location.

Wetland C

Wetland C is a palustrine scrub/shrub (PSS1) wetland located at the western edge of the Carpentier Creek floodplain north of SR 62 and immediately east of the St. Vincent medical clinic (Page A46). Wetland C is 0.12 acre in size. The survey limits were expanded to the north in this area to include the entirety of this wetland. The west boundary edge of Wetland C is based on the base of the fill slope for the medical clinic. The southern and eastern boundaries are defined by a gradual change in elevation along the perimeter of this shallow floodplain depression. The southeastern point of Wetland C is determined by the beginning of UNT2 to Carpentier Creek. Wetland C is generally compatible with an elevation of 369 feet generated from the digital elevation model (DEM) data. Wetland C receives direct runoff from all directions and periodically receives floodwaters from Carpentier Creek. Wetland C is considered to be of average quality due to a moderate diversity of herb stratum components, position within the Carpentier Creek floodplain, and moderate potential to support wetland dependent wildlife. Wetland C would likely meet the definition of a Waters of the U.S. because it abuts a jurisdictional Waters of the U.S. (UNT2 to Carpentier Creek) and is inundated by flooding from Carpentier Creek in a typical year. INDOT is therefore requesting that the USACE take jurisdiction of Wetland C. Wetland C has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland C would not be impacted by the upgrade to the alignment for SR 62.

Wetland data point (CW1) represents wetland conditions at Wetland C in the south central portion of the feature (USACE Data Sheet - Pages C9 and C10). The tree and vine strata are lacking within the plot

limits. The sapling/shrub strata was dominated by ash-leaf maple (FAC) and black willow (OBL) with green ash (FACW) as a non-dominant component. The herb stratum was dominated by groundnut (*Apios americana* – FACW), mistflower (*Conoclinium coelestinum* – FACW), and Virginia water-horehound (*Lycopus virginicus* – OBL), with spotted touch-me-not (*Impatiens capensis* – FACW), man-of-the-earth (*Ipomoea pandurata* – FACU), devil's pitchfork (*Bidens frondosa* – FACW), Virginia wild rye (FACW), late-flowering thoroughwort (FAC), sharp-wing monkey-flower (*Mimulus alatus* – OBL), and broad-leaf cat-tail (*Typha latifolia* – OBL) as non-dominant components. The percent dominant hydrophytic vegetation was 100 percent; therefore, hydrophytic vegetation is present. Primary indicators of hydrology were lacking. Secondary indicators included FAC-neutral test (D5) and crayfish burrows (C8). The location of this data point is mapped as Wakeland silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA; however, hydric Birds silt loam inclusions are possible (0 to 10 percent) within this series. The soil profile from a pit excavated to a depth of 20 inches in the ditch consisted of a 10YR 4/2 loamy/clayey matrix (95 percent) with 10YR 4/6 redox features (5 percent) throughout the entire 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 82 through 84 on Page B31 indicate soil and habitat conditions in Wetland C.

Wetland data point (CU1) represents non-wetland conditions near the base of the fill slope east of the St. Vincent medical clinic immediately west of the Wetland C boundary (USACE Data Sheet - Pages C11 and C12). The tree stratum is dominated by ash-leaf maple (FAC), with black willow (OBL) and sycamore (FACW) as non-dominant components. The sapling/shrub stratum was dominated by ash-leaf maple (FAC). The vine stratum was lacking within the plot limits. The herb stratum was dominated by groundivy (*Glechoma hederacea* – FACU) and ash-leaf maple (FAC). The percent dominant hydrophytic vegetation is 75 percent; therefore, hydrophytic vegetation is present. Primary and secondary indicators of hydrology are absent due to the elevated position of the data point approximately 2 feet above the base of the adjacent wetland. The location of this data point is mapped as Wakeland silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA; however, hydric Birds silt loam inclusions are possible (0 to 10 percent) within this series . The soil profile from a pit excavated to a depth of 15 inches on the ditch slope consisted of a 10YR 4/3 loamy/clayey matrix (100 percent) throughout the entire 15 inches. Soils were very dry, friable, and compacted such that deeper penetration could not be easily achieved with hand tools. However, the 13-inch depth with the higher chroma soils and lack of redoximorphic features was sufficient to exclude a depleted matrix (F3), depleted dark surface (F7), or dark surface (S7) as hydric soil indicators; therefore, hydric soils are not present. Although this data point meets the requirements for hydrophytic vegetation due to the dominance of ash-leaf maple, there are no hydric soil or wetland hydrology indicators; therefore, this data point is not within a wetland. Photo locations 85 through 87 on Pages B31 and B32 indicate soil and habitat conditions at this location.

<u>Wetland D</u>

Wetland D is a palustrine emergent (PEM1) wetland located in the roadside ditch on the north side of SR 62 between Dorothy Drive and Carpentier Creek (Pages A46 and A47). Wetland D is 0.07 acre in size and is entirely within the investigated area. The north and south boundary of Wetland D is defined by the base of the fore slope and back slope toe of the ditch feature along SR 62. The eastern limit is the point at which the grade abruptly increases upward to Dorothy Drive and the channel of UNT4 to

Carpentier Creek ends, while the eastern limit is the point where the ditch enters woodland habitat and generally losses herbaceous vegetation and becomes UNT3 to Carpentier Creek. Wetland D drops in elevation from east to west, but is generally compatible with an elevation of 376 feet generated from the digital elevation model (DEM) data at the east end to an elevation of 370 feet at the west end. Wetland D drains into UNT3 to Carpentier Creek which continues to flow east into Carpentier Creek. Wetland D is considered to be of poor quality due to dominant presence of common reed, heavily disturbed adjacent land use, and infrequent ephemeral hydrology conditions. Wetland D would likely meet the definition of a Waters of the U.S. because of its connection to Carpentier Creek via UNT3 to Carpentier Creek. INDOT is therefore requesting that the USACE take jurisdiction of Wetland D. Wetland D has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland D would likely be impacted due to regrading on the north side of SR 62.

Wetland data point (DW1) represents wetland conditions at Wetland D within the center of the ditch (USACE Data Sheet - Pages C13 and C14). The tree, sapling/shrub, and vine stratum are lacking within the plot limits. However, scattered sandbar willow (*Salix interior* – OBL) and sycamore (FACW) occur within the ditch near the western end of the wetland limits. The herb stratum was dominated by common reed (FACW). Recent earthwork grading for commercial development immediately north of the ditch has resulted in complete removal of all vegetation down to the ditch, including common reed that had creeped up the gradual back slope beyond the wetland limits. Since only OBL and FACW species comprised the dominant cover, hydrophytic vegetation was established through the rapid test for hydrophytic vegetation. Primary indicators of hydrology were lacking. Secondary indicators included FAC-neutral test (D5), crayfish burrows (C8), and drainage patterns (B10). The location of this data point is mapped as Birds silt loam (0 to 2 percent slopes, frequently flooded) and is considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches in the ditch consisted of a 10YR 3/3 loamy/clayey matrix (100 percent) from 0 to 5 inches and a 10YR 4/2 loamy/clayey (90 percent) matrix with 7.5YR 5/6 redoximorphic features (5 percent) from 5 to 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 99 through 101 on Pages B34 and B35 indicate soil and habitat conditions in Wetland D.

Wetland data point (DU1) represents non-wetland conditions along the fore slope of the roadside ditch immediately south of the Wetland D boundary and the common reed that has spread along the lower slope of the road fill embankment (USACE Data Sheet - Pages C15 and C16). The tree and vine strata are lacking within the plot limits. The sapling/shrub stratum was dominated by silky dogwood (*Cornus amomum* – FACW), redbud (*Cercis canadensis* – FACU), and black locust (FACU), with bush honeysuckle (*Lonicera sp.* – FACU) and Bradford pear (*Prunus calleryana* – UPL) as non-dominant components. The herb stratum was dominated by Japanese honeysuckle (*Lonicera japonica* – FACU), poison ivy (*Toxicodendron radicans* – FAC), with annual ragweed (*Ambrosia artemisiifolia* – FACU), tapered rosette grass (*Dichanthelium acuminatum* – FAC), rough avens (*Geum laciniatum* – FACW), tall false rye grass (*Schedonorus arundinaceus* – FACU), late-flowering thoroughwort (FAC), tall redtop (*Tridens flavus* – UPL), Canadian goldenrod (FACU), and northern red oak (*Quercus rubra* – FACU) as non-dominant components. The percent dominant hydrophytic vegetation is 40 percent; therefore, hydrophytic vegetation is not present. Primary and secondary indicators of hydrology are absent due to the elevated

position of the data point approximately 6 feet above the ditch bottom. The location of this data point is mapped as Birds silt loam (0 to 2 percent slopes, frequently flooded) and is considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches on the ditch slope consisted of a 10YR 4/6 loamy/clayey matrix (100 percent) throughout the entire 20 inches. While the soils on the embankment represent historic fill material used for the construction of SR 62, this embankment fill material is the defining feature of the wetland boundary to the south and represents the only available location to document non-wetland conditions for the wetland along the southern edge. This description does not meet the criteria for a depleted matrix or any other hydric soil indicator; therefore, hydric soils are not present. This data point lacks hydrophytic vegetation, hydric soil, and wetland hydrology indicators; therefore, this it is not within a wetland. Photo locations 102 through 104 on Page B35 indicate soil and habitat conditions at this location.

Wetland E

Wetland E is a palustrine forest (PFO1) wetland located in a shallow depression of woodland habitat north of SR 62 and UNT4 to Carpentier Creek at the base of the road fill embankment slope, and west of the CSX Railroad/Evansville Western Railway (Pages A47 and A48). Wetland E is 0.12 acre in size. The survey limits were expanded to the north in this area to include the entirety of this wetland. The boundary of Wetland E is determined by a gradual change in elevation around the entire periphery of the feature. Wetland E is generally compatible with an elevation of 384± feet generated from the digital elevation model (DEM) data. Wetland E receives direct sheet flow runoff from all directions. Wetland E is considered to be of average quality due to the presence of three strata of vegetation, moderate potential for wetland dependent wildlife, but lacks a definitive connection with Carpentier Creek. Wetland E would not likely meet the definition of a Waters of the U.S. as an adjacent wetland because it does not abut a jurisdictional water nor is it inundated by flooding from a jurisdictional water. However, INDOT is requesting that the USACE take jurisdiction of Wetland E. Wetland E has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland E may be impacted due to regrading on the north side of SR 62.

Wetland data point (EW1) represents wetland conditions at Wetland E in the south-central portion of the feature (USACE Data Sheet - Pages C17 and C18). The tree stratum is dominated by ash-leaf maple (FAC), green ash (FACW), sycamore (FACW), and black willow (OBL). The sapling/shrub stratum was dominated by ash-leaf maple (FAC). The vine stratum was lacking. The herb stratum was dominated by spotted touch-me-not (FACW), with Canadian goldenrod (FACU) as a non-dominant component. The percent dominant hydrophytic vegetation was 100 percent; therefore, hydrophytic vegetation is present. Primary indicators of hydrology are lacking. Secondary indicators included FAC-neutral test (D5) and crayfish burrows (C8). The location of this data point is mapped as Hosmer silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches consisted of a 10YR 2/1 loamy/clayey matrix (100 percent) from 0 to 2 inches, a 10YR 5/4 loamy/clayey matrix (100 percent) from 2 to 4 inches, and a 10YR 4/1 loamy/clayey matrix (95 percent) with 5YR 5/6 redoximorphic features (5 percent) from 4 to 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 131 through 133 on Pages B40and B41 indicate soil and habitat conditions in Wetland E.

Wetland data point (EU1) represents non-wetland conditions to the northwest of Wetland E (USACE Data Sheet - Pages C19 and C20). The tree stratum is dominated by ash-leaf maple (FAC) with pignut hickory (*Carya glabra* – FACU) and sweet-gum (FACW) as a non-dominant component. The sapling/shrub stratum is dominated by ash-leaf maple (FAC), with redbud (FACU) and green ash (FACW) as non-dominant components. The vine and herb strata were lacking within the plot limits. The percent dominant hydrophytic vegetation is 100 percent due solely to the dominance of ash-leaf maple; therefore, hydrophytic vegetation is present. Primary and secondary indicators of hydrology are absent due to the elevated position of the data point approximately 2 feet above the bottom of the adjacent wetland. The location of this data point is mapped as Hosmer silt loam (0 to 2 percent slopes, frequently flooded) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 13 inches on the ditch slope consisted of a 10YR 3/3 loamy/clayey matrix (100 percent) from 0 to 2 inches and a 10YR 4/6 loamy/clay matrix (100 percent) from 2 to 13 inches. Soils were very dry, friable, and compacted such that deeper penetration could not be easily achieved with hand tools. However, the 15-inch depth with the higher chroma soils and lack of redoximorphic features was sufficient to exclude a depleted matrix (F3), depleted dark surface (F7), or dark surface (S7) as hydric soil indicators; therefore, hydric soils are not present. Although this data point meets the requirements for hydrophytic vegetation, there are no hydric soil or wetland hydrology indicators; therefore, this data point is not within a wetland. Photo locations 128 through 130 on Page B40 indicate soil and habitat conditions at this location.

Wetland F

Wetland F is a palustrine forest (PFO1) wetland located in a depression of woodland habitat south of SR 62 at the base of the road fill embankment slope to the west of an abandoned section of Woods Avenue (Page A47). Wetland F is 0.12 acre in size. The survey limits were expanded to the south in this area to include the entirety of this wetland. The boundary of Wetland F is defined by the base of the road fill embankment slope to the north, abrupt changes in elevation along the southwestern edge resulting from fill material, and gradual changes in elevation along the southeastern edge. Wetland F is generally compatible with an elevation of 382 feet generated from the digital elevation model (DEM) data. Wetland F receives direct sheet flow runoff from SR 62 to the north, a roadside swale emerging from the west and an 18-inch culvert conveying water from RSD7 east of the wetland. The 18-inch culvert is fitted with a flap gate on the west end to prevent backflow of water to the east from the wetland. Although experiences long periodsof inundation based on aerial photographs, Wetland F is considered to be of poor quality due to a lack of vegetation diversity and a herb statum, its location within the right-of-way, and is isolated from a connection with Carpentier Creek. Wetland F would not likely meet the definition of a Waters of the U.S. because it does not abut a jurisdictional water nor is it inundated by flooding from a jurisdictional water. However, INDOT is requesting that the USACE take jurisdiction of Wetland F. Wetland F has therefore been included on the Preliminary Jurisdictional Determination form (Pages D1 through D4). Current available design information indicates Wetland F would not likely be impacted by the upgrade to the alignment for SR 62.

Wetland data point (FW1) represents wetland conditions at Wetland F near the western edge of the feature (USACE Data Sheet - Pages C21 and C22). The tree stratum is dominated by black willow (OBL) with green ash (FACW) as a non-dominant. The sapling/shrub stratum was dominated by black willow (OBL) and green ash (FACW). The vine and herb strata were lacking. The herb stratum within the plot limits was lacking likely due to prolonged inundation in the spring and extent of canopy cover. Since only

OBL and FACW species comprised the dominant cover, hydrophytic vegetation was established through the rapid test for hydrophytic vegetation. Primary indicators of hydrology include inundation visible on aerial imagery (B7). Secondary indicators included FAC-neutral test (D5) and geomorphic position (D2). The location of this data point is mapped as Hosmer silt loam (0 to 2 percent slopes) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches in the wetland consisted of a 10YR 3/2 loamy/clayey matrix (100 percent) from 0 to 3 inches, 10YR 4/3 loamy/clayey (100 percent) matrix from 3 to 8 inches, and a 10YR 4/2 loamy/clayey matrix (98 percent) with 7.5R 4/6 redoximorphic features (5 percent) from 8 to 20 inches. The soil profile examined at this location meets the depleted matrix (F3) indicator. This data point meets the requirements for hydrophytic vegetation, hydric soils, and wetland hydrology; therefore, this data point is within a wetland. Photo locations 111 through 113 on Pages B36 and B37 indicate soil and habitat conditions in Wetland F.

Wetland data point (FU1) represents non-wetland conditions near the base of the SR 62 road fill slope immediately north of the Wetland F boundary (USACE Data Sheet - Pages C23 and C24). The tree stratum is dominated by green ash (FACW) and black walnut (FACU), with hackberry (FAC) as non-dominant components. The sapling/shrub stratum was dominated by green ash (FACW) and coralberry (*Symphoricarpos orbiculatus* – FACU). The vine stratum was lacking within the plot limits. The herb stratum was dominated by English ivy (*Hedera helix* – UPL), with trumpet creeper (FACU) as a non-dominant component. The percent dominant hydrophytic vegetation is 40 percent; therefore, hydrophytic vegetation is not present. Primary and secondary indicators of hydrology are absent due to the elevated position of the data point approximately 5 feet above the low point of the adjacent wetland. The location of this data point is mapped as Hosmer silt loam (0 to 2 percent slopes) and is not considered a hydric soil by the USDA. The soil profile from a pit excavated to a depth of 20 inches on the road embankment slope consisted of a 10YR 3/2 loamy/clayey matrix (100 percent) from 0 to 4 inches and a 10YR 5/6 loamy/clayey matrix (100 percent) from 4 to 20 inches. While the soils on the embankment represent historic fill material used for the construction of SR 62, this embankment fill material is the defining feature of the wetland boundary to the north and represents the only available location to document non-wetland conditions for the wetland along the northern edge. This description does not meet the criteria for a depleted matrix or any other hydric soil indicator; therefore, hydric soils are not present. This data point lacks hydrophytic vegetation, hydric soil, and wetland hydrology indicators; therefore, the data point is not within a wetland. Photo locations 114 through 116 on Pages B37and B38 indicate soil and habitat conditions at this location.

Data Point Summary Table

Data Point	Lat/Long	Vegetation	Soils	Hydrology	Wetland
AW1	37.977456 -87.626184	Yes	Yes	Yes	Yes Wetland A
AU1	37.97742 -87.626189	No	No	No	No Wetland A
BW1	37.977399 -87.624556	Yes	Yes	Yes	Yes Wetland B
BU1	37.977438 -87.624579	Yes	No	No	No Wetland B
CW1	37.978112 -87.625523	Yes	Yes	Yes	Yes Wetland C
CU1	37.978224 -87.625612	Yes	No	No	No Wetland C
DW1	37.977880 -87.623590	Yes	Yes	Yes	Yes Wetland D
DU1	37.977845 -87.623521	No	No	No	No Wetland D
EW1	37.977948 -87.621678	Yes	Yes	Yes	Yes Wetland E
EU1	37.978053 -87.621911	Yes	No	No	No Wetland E
FW1	37.977309 -87.622439	Yes	Yes	Yes	Yes Wetland F
FU1	37.977407 -87.622383	No	No	No	No Wetland F

Wetland Summary Table

Wetland Name	Photo Locations	Lat/Long	Cowardin Class	Total Area (acres)	Quality	Likely Waters of U.S.?
Wetland A	49-56	37.977456 -87.626184	PEM	0.01	Poor	Yes[1]
Wetland B	88-93	37.977399 -87.624556	PFO	0.04	Poor	Yes
Wetland C	82-87	37.978112 -87.625523	PSS	0.12	Average	Yes
Wetland D	99-104	37.977880 -87.623590	PEM	0.07	Poor	Yes
Wetland E	128-133	37.977948 -87.621678	PFO	0.12	Average	Yes[1]
Wetland F	111-116	37.977309 -87.622439	PFO	0.12	Average	Yes[1]

[1] These wetland features are not considered to be Waters of the U.S., but INDOT has requested that USACE assume jurisdiction for the purposes of Section 404 of the Clean Water Act.

Open Water Features

There are no open water features for consideration as WOTUS or non-WOTUS features within the investigated area.

Other Drainage Features

Roadside Ditches
Twenty-one roadside ditch (RSD) features were documented in the investigated area limits. Each of these roadside ditch features are excluded as "waters of the United States" because they lack a bed and bank with an OHWM.

RSD1
RSD1 is a 24-foot long segment of a shallow mowed grass ditch on the north side of SR 62 (Page A44) that flows from west to east (Photo location 1 on Page B17). RSD1 extends further to the west of the investigated area parallel to the highway shoulder. It terminates at the inlet of a 16" concrete storm water culvert immediately west of a shopping center entrance off SR 62. No outlet for the structure was identified within the investigated area (right-of-way). RSD1 is daylighted throughout its entire length within the investigated area. The ditch receives runoff from SR 62. RSD1 is not represented as a flow line feature in the NHD GIS dataset. RSD1 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD1 would not likely need to be regraded or shifted from its present alignment.

RSD2
RSD2 is a 1,375-foot long segment of a shallow mowed grass and concrete lined ditch on the north side of SR 62 (Pages A44 and A45) that flows from west to east parallel to the SR 62 shoulder (Photo locations 2 through 5 on Page B17). RSD2 is encapsulated in an 18-inch CMP for a length of approximately 81 feet under an entrance to a shopping center. RSD2 terminates at a storm water drain at the end of the concrete lined ditch. The ditch receives runoff from SR 62 and adjacent commercial properties to the north. RSD2 is not represented as a flow line feature in the NHD GIS dataset. RSD2 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD2 would not likely need to be regraded or shifted from its present alignment.

RSD3
RSD3 is a 656-foot long shallow grass and riprap lined ditch on the south side of SR 62 (Pages A44 and A45) that flows from west to east (Photo locations 18 through 21 on Pages B19 and B20). RSD3 is encapsulated for a distance of approximately 124 feet in an 18-inch CMP culvert under a shopping center entrance off SR 62. RSD3 terminates at storm water drain northwest of the Taco Bell parking lot. RSD3 is not represented as a flow line feature in the NHD GIS dataset. RSD3 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD3 would not likely need to be regraded or shifted from its present alignment.

RSD4

RSD4 is a 401-foot long ditch on the north side of SR 62 (Pages A45 and A46) that flows from west to east (Photo locations 27 and 28 on Page B21). RSD4 is encapsulated for a distance of approximately 98 feet in a 12-inch CMP under Rosenberger Avenue. The upper portion of the ditch is concrete-lined, while the lower portion immediately west of Rosenberger Avenue is grass-lined with a short erosional gully dropping down to the culvert inlet. RSD4 terminates at UNT1 to Carpentier Creek at the culvert outlet under Rosenberger Avenue. RSD4 is not represented as a flow line feature in the NHD GIS dataset. RSD4 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD4 would likely need to be regraded with a possible horizontal alignment shift.

RSD5

RSD5 is a 412-foot long shallow mowed grass ditch on the south side of SR 62 (Pages A45 and A46) that flows from west to east parallel to the shoulder (Photo location 41 and 42 on Page B23). RSD5 is encapsulated for a distance of 192 feet in a 16" plastic culvert under Rosenberger Avenue. RSD5 originates at a point northwest of the Chick-fil-A parking lot. RSD5 receives runoff from SR 62. RSD5 terminates at the outlet of the culvert at the western end of Wetland A. RSD5 is not represented as a flow line feature in the NHD GIS data. RSD5 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature.

RSD6

RSD6 is a short 70-foot long ditch on the south side of SR 62 (Page A46) that flows from west to east through a wooded portion of the right-of-way east of the transmission line clearing (Photo locations 57 and 58 on Page B26). RSD6 is daylighted throughout its entire length. RSD6 originates at the eastern end of Wetland A and terminates at a 24-inch concrete culvert on the north bank of Carpentier Creek. The outlet of this structure is unknown, but likely ultimately discharges into Carpentier Creek. RSD6 receives runoff from SR 62 and commercial business parking lots to the west via Wetland A. RSD6 is not represented as a flow line feature in the NHD GIS data. RSD6 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD6 would not likely need to be regraded or shifted from its present alignment.

RSD7

RSD7 is a 543-foot long shallow concave ditch on the north side of SR 62 (Pages A47 and A48) that flows from east to west through a wooded portion of the right-of-way (Photo locations 121 through 127 on Pages B38 an B39). The entire reach of RSD7 is within the investigated area. RSD7 is encapsulated in two culverts: a 16-foot long 18-inch concrete culvert from an old abandoned crossing prior to construction of the current highway and a 140-foot long 18-inch concrete culvert under Dorothy Lane. RSD7 originates just west of the CSX Railroad/Evansville Western Railway and terminates at Wetland D to the west of Dorothy Lane. RSD7 receives runoff from SR 62, SWD3 off SR 62, and from developed and undeveloped land beyond the right-of-way to the north. RSD7 is not represented as a flow line feature in the NHD GIS dataset. Although portions of the ditch bottom for RSD7 shows bare ground, it does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that

this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD7 would likely need to be regraded with a possible horizontal alignment shift.

RSD8

RSD8 is a 324-foot long shallow ditch on the south side of SR 62 (Pages A47 and A48) that flows from east to west along the base of the road fill slope through heavy scrub and woodland habitat within the right-of-way (Photo locations 118 through 120 on Page B38). RSD8 is encapsulated for a distance of 20 feet in an 18-inch culvert under the abandoned Woods Avenue roadway. The culvert has a flap gate on the west end of the pipe to prevent backflow of water to the east from Wetland F. RSD8 originates at a point west of the CSX Railroad/Evansville Western Railway and terminates at the culvert outlet, also the east end of Wetland F. RSD8 receives runoff from SR 62 and residential properties beyond the right-of-way to the south. RSD8 is not represented as a flow line feature in the NHD GIS data. RSD8 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD8 would not likely need to be regraded or shifted from its present alignment.

RSD9

RSD9 is a 315-foot long shallow ditch on the south side of SR 62 (Page A48) that flows from west to east along the base of the road fill slope through wooded habitat and mowed grass (Photo locations 144 through 147 on Pages B42 and B43). RSD9 is daylighted throughout its entire length. RSD9 originates east of the CSX Railroad/Evansville Western Railway and terminates at a storm water drain immediately west of Tekoppel Avenue. RSD9 receives runoff from SR 62 and from residential properties beyond the right-of-way to the south. A short (~40 feet) section of this ditch at the west end has a relatively bare soil bottom with scattered herbaceous cover. Elsewhere the ditch has winter-creeper growing throughout the bottom in the woods, and has a mix of fescue and other grasses within the reach between the woods and the storm water drain west of Tekoppel Avenue. RSD9 is not represented as a flow line feature in the NHD dataset. RSD9 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD9 would not likely need to be regraded or shifted from its present alignment.

RSD10

RSD10 is a 452-foot long shallow ditch on the north side of SR 62 (Page A48) that flows from west to east along the base of the road fill slope between Elm Street and Tekoppel Avenue through wooded habitat and mowed grass (Photo locations 140 through 143 on Page B42). RSD10 is daylighted throughout its entire length and terminates at a storm drain grate immediately west of Tekoppel Avenue. RSD10 originates east of the CSX Railroad/Evansville Western Railway and terminates at a storm water drain immediately west of Tekoppel Avenue. RSD10 receives runoff from SR 62 and from developed and undeveloped land beyond the right-of-way to the north. A short section of this ditch near the west end has a relatively bare sand bottom with scattered herbaceous cover. Elsewhere the ditch has winter-creeper (*Euonymous fortunei*) growing throughout the bottom in the woods, and transitions to a mix of fescue and other grasses within the lower portion of the ditch between the woods and the storm water drain at Tekoppel Avenue. RSD10 along the toe of the road fill embankment for SR 62 was constructed

solely to convey runoff from SR 62 into the local storm sewer system. RSD10 is not represented as a flow line feature in the NHD GIS data. RSD10 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD10 would likely need to be regraded with a possible horizontal alignment shift.

RSD11

RSD11 is a 437-foot long ditch between SR 62 and Corbierre Avenue (Pages A48 and A49) that flows from east to west (Photo locations 155 through 159 on Pages B44 and B45). RSD11 is daylighted throughout its entire length. RSD11 originates at the outlet of an 18-inch concrete culvert that extends to the south under SR 62 and terminates at a storm water drain immediately east of Tekoppel Avenue. RSD11 receives sheet flow runoff from SR 62, a riprap lined swale (SWD5) that drains from SR 62, a 12-inch CMP near the Tekoppel Avenue intersection (SWD4), and runoff from Corbierre Avenue to the north. RSD11 is shown as a canal/ditch feature on the NHD classified GIS data. RSD11 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD11 would likely need to be regraded with a possible horizontal alignment shift.

RSD12

RSD12 is a 205-foot long shallow ditch between SR 62 and Corbierre Avenue (Page A49) that flows from east to west (Photo locations 172 through 174 on Page B47). RSD12 is daylighted throughout its entire length. RSD12 originates at a point midway between Walker Avenue and Ingle Avenue, and terminates at the inlet of an 18-inch culvert that extends under SR 62. The culvert under SR 62 is not included as part of RSD12. RSD12 receives sheet flow runoff from SR 62 and from Corbierre Avenue to the north. RSD12 is not represented as a flow line feature in the NHD GIS data. RSD12 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD12 would not likely need to be regraded or shifted from its present alignment.

RSD13

RSD13 is a 248-foot long segment of a ditch on the west side of Walker Avenue (Page A49) that flows from north to south along the edge of a residential property (Photo locations 161 through 163 on Pages B45 and B46). RSD13 extends further to the south along Walker Avenue beyond the investigated area limits. RSD13 is encapsulated at two locations for a distance of 78 feet in 18-inch concrete culvert under a residential property driveway entrance and 45 feet in an 18-inch concrete culvert under Forest Avenue. RSD13 receives runoff from Walker Avenue and adjacent residential properties, as well as from an 18-inch culvert that discharges water from SR 62 into the ditch immediately south of SR 62. The culvert under SR 62 is not included as part of RSD13. RSD13 is not represented as a flow line feature in the NHD GIS data. RSD13 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD13 would likely need to be regraded with a possible horizontal alignment shift.

RSD14

RSD14 is a 90-foot long narrow ditch on the west side of Ingle Avenue (Pages A49 and A50) that flows from south to north toward Corbierre Avenue (Photo locations 175 and 176 on Page B48). RSD14 is daylighted throughout its entire length. RSD14 originates from an 8-inch CMP under an alley and terminates at a storm water drain inlet north of Corbierre Avenue. RSD14 receives sheet flow runoff Ingle Avenue and adjacent residential properties. RSD14 is not represented as a flow line feature in the NHD GIS data. RSD14 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD14 may need to be regraded with a possible horizontal alignment shift.

RSD15

RSD15 is a 386-foot long shallow grassy ditch between SR 62 and an unnamed alley (Pages A49 and A50) that flows from east to west (Photo locations 186 and 187 on Pages B49 and B50). RSD15 is daylighted throughout its entire length. RSD15 originates from the outlet of an 18-inch concrete culvert under SR 62 and terminates at the inlet of a 12-inch steel culvert immediately east of Ingle Avenue. The outlet of the Ingle Avenue culvert is unknown. RSD15 receives sheet flow runoff from SR 62 and residential properties south of the alley. RSD15 is not represented as a flow line feature in the NHD GIS data. RSD15 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD15 would not likely need to be regraded or shifted from its present alignment.

RSD16

RSD16 is a 98-foot long shallow grassy ditch between SR 62 and an unnamed alley (Page A50) that flows from east to west (Photo locations 198 and 199 on Pages B51 and B52). RSD16 is daylighted throughout its entire length. RSD16 originates from a point east of Addison Avenue and terminates at the outlet of an 18-inch concrete culvert under SR 62. Water from this ditch is ultimately discharged into a storm water drain at the northeast end of Addison Avenue. RSD16 receives sheet flow runoff from SR 62. RSD16 is not represented as a flow line feature in the NHD GIS data. RSD16 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD16 would not likely need to be regraded or shifted from its present alignment.

RSD17

RSD17 is a 641-foot long ditch on the south side of the eastbound SR 62 exit ramp to Barker Avenue (Pages A50 through A52) that flows from east to west (Photo locations 217 through 221 on Page B55). RSD17 is encapsulated for a distance of 20 feet in a 12-inch plastic culvert under the terminal end of Leslie Avenue. RSD17 originates from the outlet of a culvert immediately south of the exit ramp at the east end and terminates at the inlet of an 18-inch concrete culvert northeast of the end of Tunis Avenue. RSD17 is a concrete lined channel except for the extreme west end where partial bare ground and grasses line the ditch. RSD17 is not represented as a flow line feature in the NHD GIS data. RSD17 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD17 would not likely need to be regraded or shifted from its present alignment.

RSD18

RSD18 is a 102-foot long shallow ditch on the north side of SR 62 at the beginning of the Corbierre Avenue exit (Pages A50 through A52) that flows from west to east through wooded habitat within the right-of-way along the base of the road fill (Photo locations 207 and 208 on Page B53). RSD18 is daylighted throughout its entire length. RSD18 originates from a point north of Corbierre Avenue and terminates at the inlet of a 36-inch storm water culvert for UNT1 to Evansville Sewer System that extends under SR 62. RSD18 receives sheet flow runoff from SR 62 and Corbierre Avenue, and adjacent residential properties to the north. RSD18 is not represented as a flow line feature in the NHD GIS data. RSD18 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD18 would likely need to be regraded with a possible horizontal alignment shift.

RSD19

RSD19 is a 225-foot long concrete-lined ditch on the north side of SR 62 (Pages A50 through A52) that flows from east to west through wooded habitat within the right-of-way along the base of the road fill (Photo location 209 through 211 on Pages B53 and B54). RSD19 is daylighted throughout its entire length. RSD19 originates from the outlet of a 24-inch concrete culvert under the westbound SR 62 entrance/exit ramps and terminates at the inlet of a 36-inch storm water culvert that extends under SR 62. RSD19 receives sheet flow runoff from SR 62 and Corbierre Avenue, and adjacent residential properties to the north. The culvert under the entrance/exit ramps is not included as part of RSD19. RSD19 is shown as a canal/ditch feature on the NHD classified GIS data. RSD19 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD19 would likely need to be regraded with a possible horizontal alignment shift.

RSD20

RSD20 is a 127-foot long concrete-lined ditch on the south side of the SR 62 westbound exit ramp for Barker Avenue (Pages A51 and A52) that flows from northeast to southwest (Photo locations 231 and 232 on Page B57). RSD20 is daylighted throughout its entire length. RSD20 terminates at a stormwater drain at the southwest edge of the exit ramp loop. RSD20 is not represented as a flow line feature in the NHD GIS data. RSD20 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD20 would need to be relocated.

RSD21

RSD21 is a 307-foot long concrete-lined ditch on the north side of SR 62 and the exit ramp for Barker Avenue (Pages A51 and A52) that flows from east to west (Photo locations 229 and 230 on Page B57). RSD21 is daylighted throughout its entire length. RSD21 terminates at a stormwater drain at the southwest edge of the exit ramp loop. RSD21 is not represented as a flow line feature in the NHD GIS data. RSD21 does not exhibit a bed and bank with an OHWM and the Soil Survey of Vanderburgh County (Kelly 1976) does not indicate that this drainage ditch represents a realigned segment of a natural stream feature. Current available design information indicates RSD21 would need to be relocated.

Storm Water Drainage Channels

In addition to roadside ditches, nine storm water drainage channels were identified within the investigated area limits. These are generally short flow line features that drain surface water directly from SR 62 or via culverts under SR 62 into either unnamed tributaries or roadside ditches along SR 62. In most instances, these are either riprap lined, high-slope, swales or concrete lined gutter features. Each of these roadside ditch features are excluded as "waters of the United States" because they lack a bed and bank with an OHWM and function solely to convey water to streams or roadside ditches along SR 62.

SWD1

SWD1 is a 29-foot long riprap-lined swale feature (Page A46) that conveys storm water from the north side of SR 62 down the road fill embankment and discharges into UNT1 to Carpentier Creek (Photo location 37 on Page B23). SWD1 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD1 would be removed or relocated.

SWD2

SWD2 is a 54-foot long riprap-lined swale feature (Page A46) that conveys storm water from the southeast corner of the St. Vincent medical clinic parking lot down into the Carpentier Creek floodplain and Wetland C (Photo location 81 on Page B30). SWD2 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD2 would not be affected by the project.

SWD3

SWD3 is a short 36-foot riprap-lined swale feature (Page A47) that conveys storm water from the north side of SR 62 down the road fill embankment and discharges into UNT4 to Carpentier Creek. SWD3 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD3 would be removed or relocated.

SWD4

SWD4 is a short 6-foot concrete-lined flow line feature (Pages A48 and A49) that conveys storm water from a 12-inch CMP under SR 62 on the north side of the highway into RSD9 (Photo location 155 on Page B44). SWD4 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD4 would be removed or relocated.

SWD5

SWD5 is an 24-foot long riprap-lined swale feature (Page A49) that conveys storm water from the north side of SR 62 down the road fill embankment and discharges into RSD12 (Photo location 157 on Page B45). SWD5 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD5 would be removed or relocated.

SWD6

SWD6 is a 14-foot long concrete-lined flow line feature (Page A50) that conveys storm water from an 18-inch concrete culvert under SR 62 to a storm water drain at the northwest end of Addison Avenue (Photo location 196 on Page B51). SWD6 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD6 would not likely need to be removed or relocated.

SWD7

SWD7 is a 16-foot long concrete-lined flow line feature (Page A50) that conveys storm water from an 18-inch concrete culvert under SR 62 to a storm water drain at the northeast end of Addison Avenue (Photo location 197 on Page B51). SWD7 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD7 would not likely need to be removed or relocated.

SWD8

SWD8 is an 16-foot long riprap-lined ditch feature (Pages A50 through A52) that conveys storm water from a 12-inch culvert on the south side of the eastbound SR 62 exit ramp for Barker Avenue down the road fill embankment and discharges into RSD15 (Photo location 218 on Page B55). SWD8 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD8 would not likely need to be removed or relocated.

SWD9

SWD9 is a 13-foot long concrete-lined ditch feature (Pages A50 through A52) that conveys storm water from a 12-inch CMP culvert on the south side of the eastbound SR 62 exit ramp for Barker Avenue down the road fill embankment and discharges into RSD15 (Photo location 219 on Page B55). SWD9 is not represented as a flow line feature in the NHD GIS data. Current available design information indicates SWD7 would not likely need to be removed or relocated.

4. Bat Presence and Bird Nest Investigation

Six bridge structures within the investigated area were examined on September 2 and 3, 2021 for the presence of bats. The CSX Railroad/Evansville Western Railway Bridge displayed staining from bats on vertical concrete beam and pier surfaces, guano at multiple locations beneath the bridge on both sides of the railroad, and the presence of roosting bats at multiple locations on both sides of the bridge. The Carpentier Creek Bridge, Tekoppel Avenue Bridge, Barker Avenue Bridge, pedestrian bridge at St. Joseph Avenue, and the Ninth Avenue Bridge did not show any direct or indirect signs of bat occupation. Appendix E includes bat bridge inspection forms, bat guano collection forms, and bat presence photos for the CSX Railroad/Evansville Western Railway Bridge.

Bat Bridge Inspection Summary Table

Bridge	Bridge Type	Staining	Guano	Bats
SR62 over Carpentier Creek	3-span, concrete cast-in-place, continuous, concrete beam	No	No	No
SR62 over CSX Railroad/ Evansville Western Railway	3-span, concrete cast-in-place , steel I-beam and concrete beam	Yes	Yes	Yes
SR62 over Tekoppel Avenue	3-span, concrete cast-in-place, continuous, concrete beam	No	No	No
Barker Avenue over SR62	2-span, concrete cast-in-place, frame	No	No	No
Pedestrian walkway over SR62	Single-span, concrete cast-in-place, steel	No	No	No
Ninth Avenue over SR62	Single-span, concrete cast-in-place, prestressed concrete	No	No	No

Multiple small culverts and stormwater inlets/outlets (8-inch to 36-inch diameter) throughout the investigated area were examined for bat presence on August 25, 26, and 27, 2021. In many instances, it was not possible to visually inspect the structures beyond the first few feet due to obstructions and heavy siltation within the structure or the inability to suitably access the structure. No direct or indirect signs of bats were observed and none of these small structures have the potential to provide suitable bat roost habitat.

Bat Structure Inspection Summary Table

Structure	Description	Length (feet)	Bat Presence
16" concrete in RSD1	culvert inlet south of SR62 west of shopping center entrance	Unknown	No
18" CMP	culvert inlet within SR 62 median	Unknown	No
18" CMP in RSD2	culvert under shopping center entrance	81	No
18" CMP in RSD3	culvert under shopping center entrance	124	No
16" plastic in RSD5	culvert under Rosenberger Avenue south of SR62	192	No
12" CMP in RSD4	culvert under Rosenberger Avenue north of SR62	98	No
24"? Concrete at RSD5	culvert at end of roadside ditch south of SR62 and west of Carpentier Creek	Unknown	Not accessible
12" CMP at RSD7	culvert outlet at roadside ditch north of SR62 and east of Carpentier Creek	Unknown	No
18" concrete in RSD9	culvert inlet under Dorothy Drive	Unknown	No
12" concrete in RSD9	culvert outlet under SR62 into RSD9 east of Dorothy Drive	Unknown	No
18" concrete in RSD9	culvert under old access road	22	Not accessible
18" concrete in RSD8	culvert under old Woods Avenue	21	Not accessible
18" concrete in RSD12	culvert inlet north of SR62 and east of Tekoppel Avenue	Unknown	Not accessible
12" CMP	culvert outlet north of SR62 and east of Tekoppel Avenue	Unknown	No
18" concrete	culvert under SR62 at Walker Avenue	118	No
18" concrete	culvert under SR62 at Walker Avenue	115	No
18" concrete in RSD13	culvert under residence driveway along Walker Avenue	49	Not accessible
18" concrete in RSD13	culvert under Forest Avenue	78	Not accessible
12" CMP in RSD14	culvert outlet between SR62 and Corbierre Avenue east of Walker Avenue	Unknown	Not accessible
8" CMP in RSD15	culvert outlet under alley along Ingle Avenue	Unknown	Not accessible
12" steel in RSD16	culvert inlet for stormwater south or SR62 and east of Ingle Avenue	Unknown	No
18" concrete	culvert outlet for stormwater under SR62 at Addison Avenue	Unknown	No
18" concrete	culvert outlet for stormwater under SR62 at Addison Avenue	Unknown	No
36" concrete in SWD7	culvert outlet for stormwater north of SR62 and Corbierre Avenue	Unknown	No
36" concrete in SWD7	culvert inlet for stormwater under SR62	Unknown	No
18" concrete in RSD18	culvert inlet for stormwater	Unknown	No
12" in SWD8	culvert outlet for stormwater under SR62 at Tunis Avenue	Unknown	No
12" in SWD9	culvert outlet for stormwater under SR62 at Leslie Avenue	Unknown	No
12" plastic in RSD18	culvert under old Leslie Avenue	16	No
12" CMP	culvert outlet from stormwater into RSD20 north of SR62 at Barker Avenue exit ramp	Unknown	Not accessible
24" concrete in RSD20	culvert north of SR62 under Barker Avenue entrance and exit ramps	155	No
12" CMP in RSD21	culvert outlet for stormwater in exit ramp loop for Barker Avenue north of SR62	Unknown	Not accessible
12" concrete in RSD22	culvert outlet for stormwater in exit ramp loop for Barker Avenue north of SR62	Unknown	Not accessible

The bridge inspections did not identify any barn swallow (*Hirundo rustica*) or cliff swallow (*Petrochelidon pyrrhonota*) nests on the structures. Eastern phoebe (*Sayornis phoebe)* nests were observed at the CSX Railroad/Evansville Western Railway Bridge.

5. Conclusions

The Waters of the U.S. investigation conducted for the SR 62 road replacement, intersection improvement, and bridge replacement project concludes that there are five stream features (Carpentier Creek, UNT1 to Carpentier Creek, UNT2 to Carpentier Creek, UNT3 to Carpentier Creek, and UNT1 to Evansville Sewer System) and six wetland features (Wetlands A through F) within the investigated area. There are no open water features within the investigated area. Twenty-one roadside ditches and nine storm water flow line features were identified as non-jurisdictional flow line features within the investigated area limits. Four of the streams and three of the wetlands (Wetlands B, C, and D) are likely to be considered under USACE jurisdiction per Section 404 of the CWA. The remaining three wetlands (Wetlands A, E, and F) and UNT1 to Evansville Sewer System that discharge into the storm sewer system

are not likely to be considered under USACE jurisdiction per Section 404 of the CWA; however, INDOT is requesting the USACE to take jurisdiction of these features. The remaining roadside ditches and the storm water flow line features lack an OHWM are therefore not considered to be under USACE jurisdiction per Section 404 of the CWA. There are no water resources under USACE jurisdiction per Section 10 of the Rivers and Harbors Act within the investigated area limits.

Every effort should be taken to avoid and minimize impacts to the waterway and wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the U.S. Army Corps of Engineers. This report is our best judgment based on the guidelines set forth by the Corps.

6. Acknowledgement

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers 1987), the appropriate regional supplement (U.S. Army Corps of Engineers 2020), the USACE *Jurisdictional Determination Form Instructional Guidebook* (U.S. Army Corps of Engineers 2007), and other appropriate agency guidelines.

7. References

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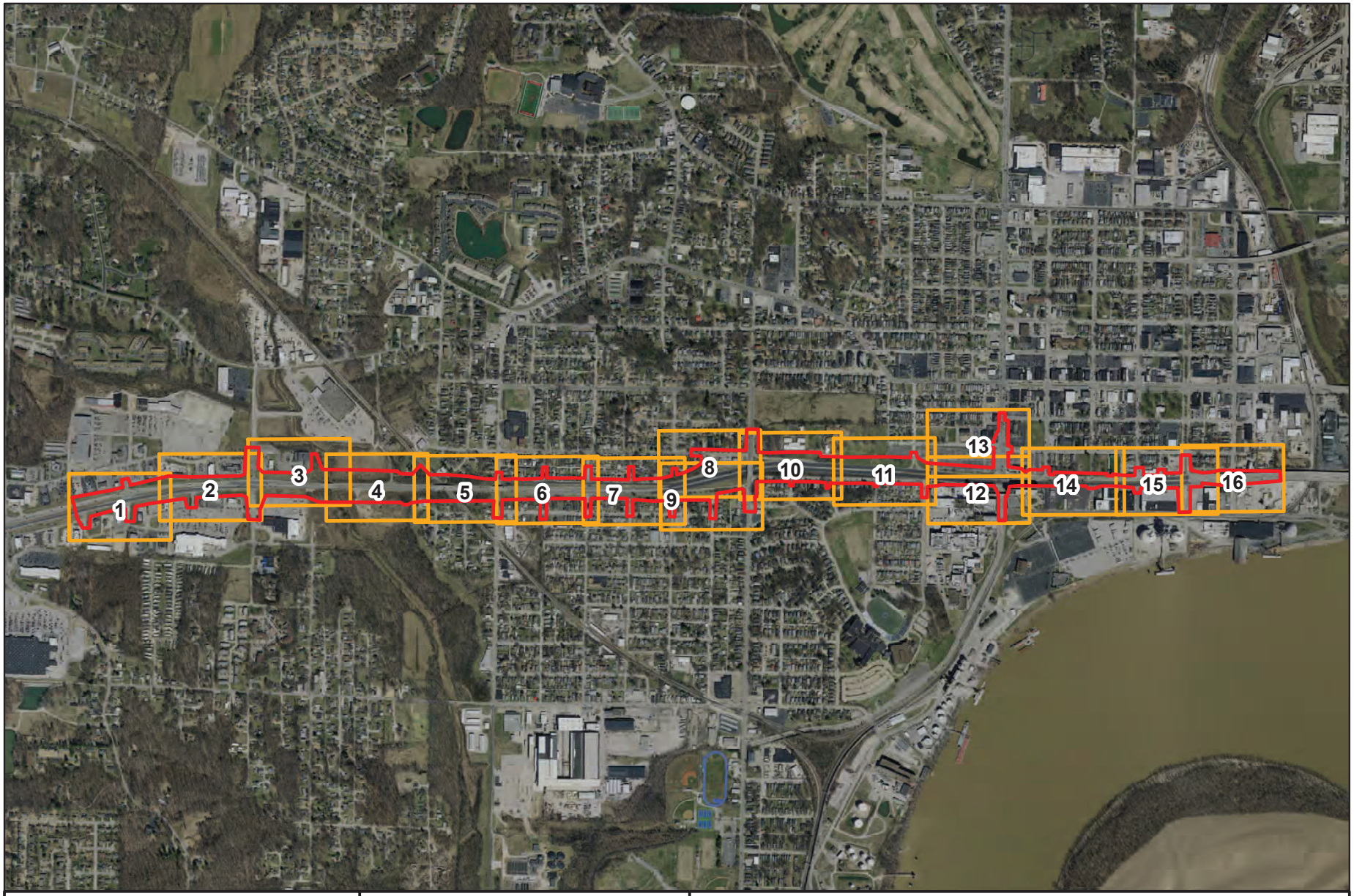
Rusty Yeager

Biologist
Lochmueller Group, Inc.
February 11, 2023

Appendix A
Mapping

~~Location Map~~
~~USGS Topographic Map (1:24,000)~~
~~USGS Topographic Map (1:12,000)~~
NHD/NWI, Soils, and Water Resource Index Map
NHD and NWI Map
Soils Map
Vanderburgh County Soils Map (Historic Drainage)
USGS StreamStats Watershed Map
Floodway/Floodplain Map
Water Resource Map



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Created: 2/11/2023
R. Yeager

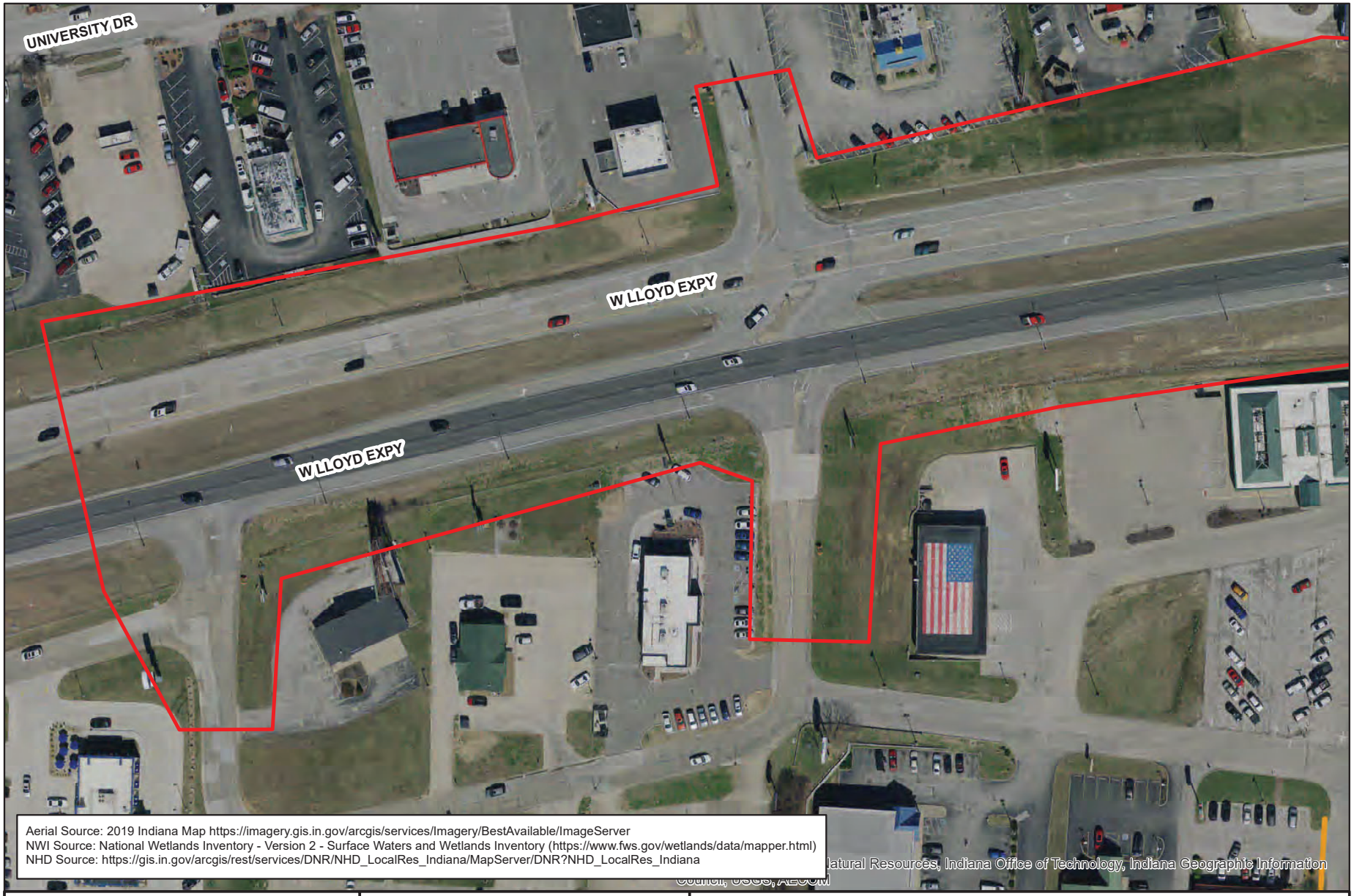
Index Map

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area
NHD/NWI, Water Resource, and Photo Sheets

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Created: 2/11/2023
R. Yeager

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NHD and NWI Map (1 of 16)

Des. No. 1900308 (Lead)

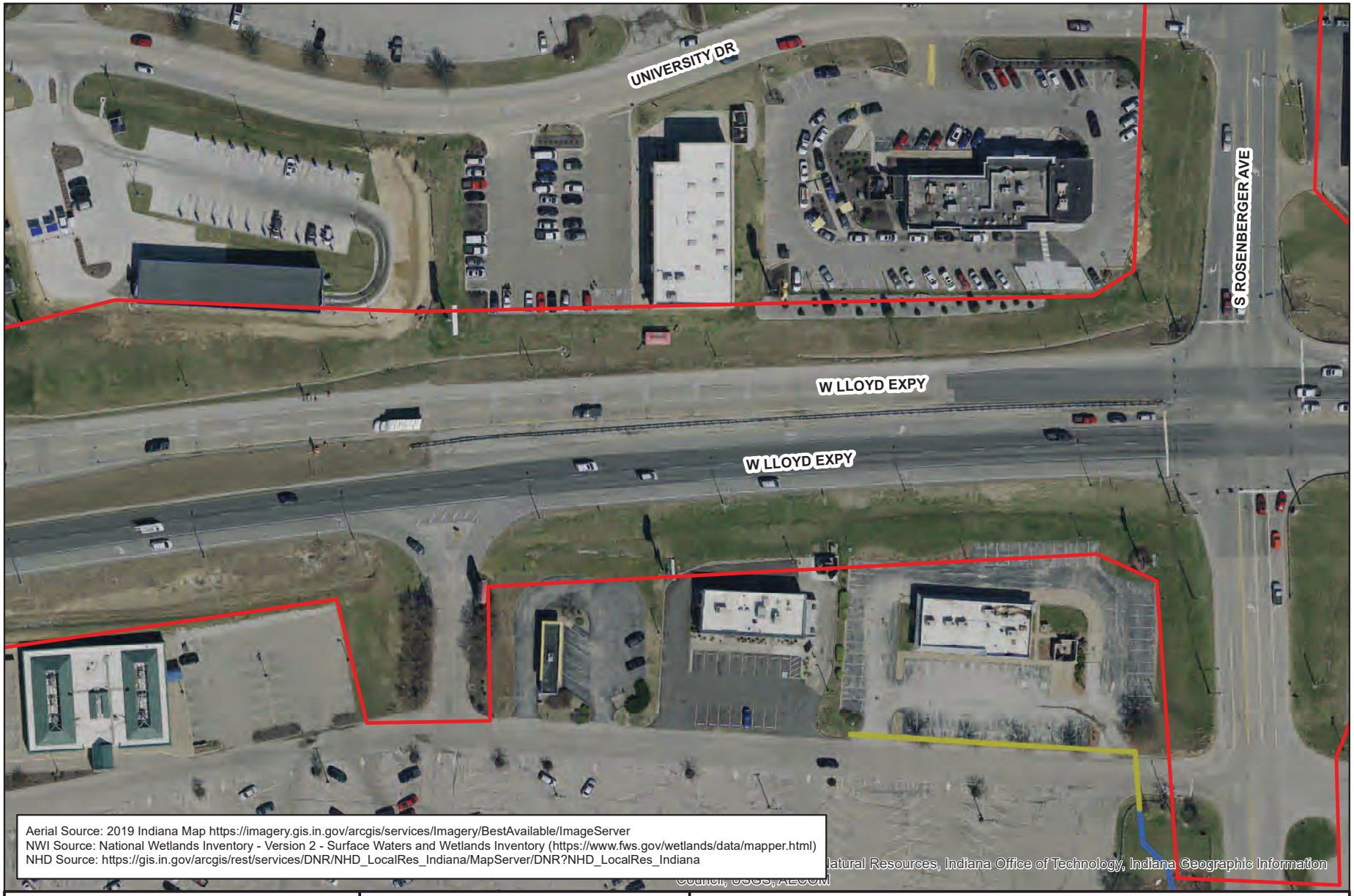
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flowline
- Coastline
- StreamRiver
- ArtificialPath
- Underground Conduit
- Connector
- CanalDitch
- Pipeline

Waterbody
- LakePond
- Reservoir
- SwampMarsh

NWI Wetlands
- PFO wetland
- PSS wetland
- PEM wetland
- PAB wetland
- PUB wetland
- PUS wetland
- Lacustrine
- Riverine



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Created: 2/11/2023
R. Yeager

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NHD and NWI Map (2 of 16)

Des. No. 1900308 (Lead)

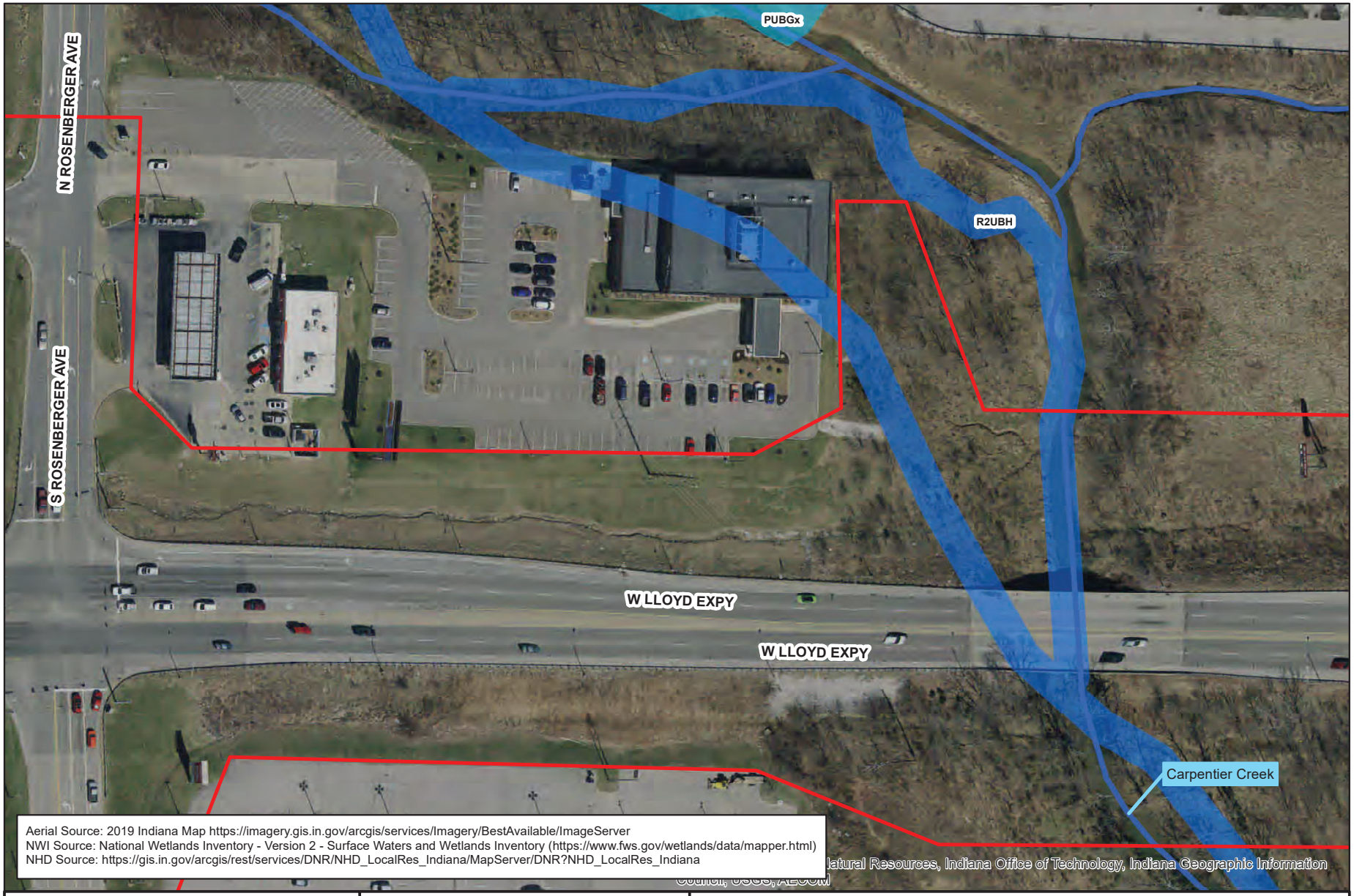
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flowline
- Coastline
- StreamRiver
- ArtificialPath
- Underground Conduit
- Connector
- CanalDitch
- Pipeline

Waterbody
- LakePond
- Reservoir
- SwampMarsh

NWI Wetlands
- PFO wetland
- PSS wetland
- PEM wetland
- PAB wetland
- PUB wetland
- PUS wetland
- Lacustrine
- Riverine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N ROSENBERGER AVE
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W LLOYD EXPY
W LLOYD EXPY
Carpentier Creek
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer
NWI Source: National Wetlands Inventory - Version 2 - Surface Waters and Wetlands Inventory (https://www.fws.gov/wetlands/data/mapper.html)
NHD Source: https://gis.in.gov/arcgis/rest/services/DNR/NHD_LocalRes_Indiana/MapServer/DNR?NHD_LocalRes_Indiana
Natural Resources, Indiana Office of Technology, Indiana Geographic Information
Council, USGS, AECOM
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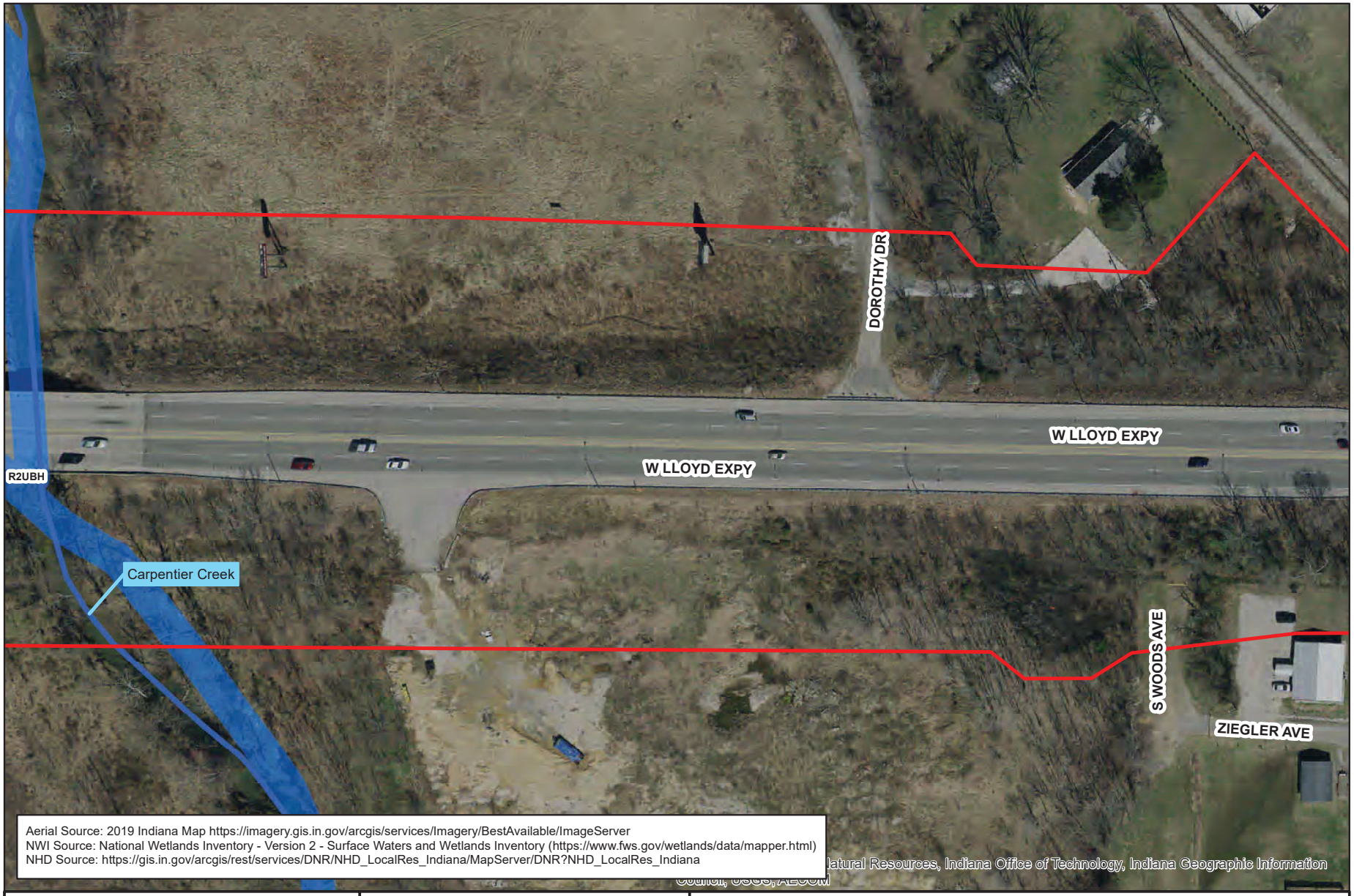
NWI Wetlands
PFO wetland
PSS wetland
PEM wetland
PAB wetland
PUB wetland
PUS wetland
Lacustrine
Riverine



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NHD and NWI Map (4 of 16)

Des. No. 1900308 (Lead)

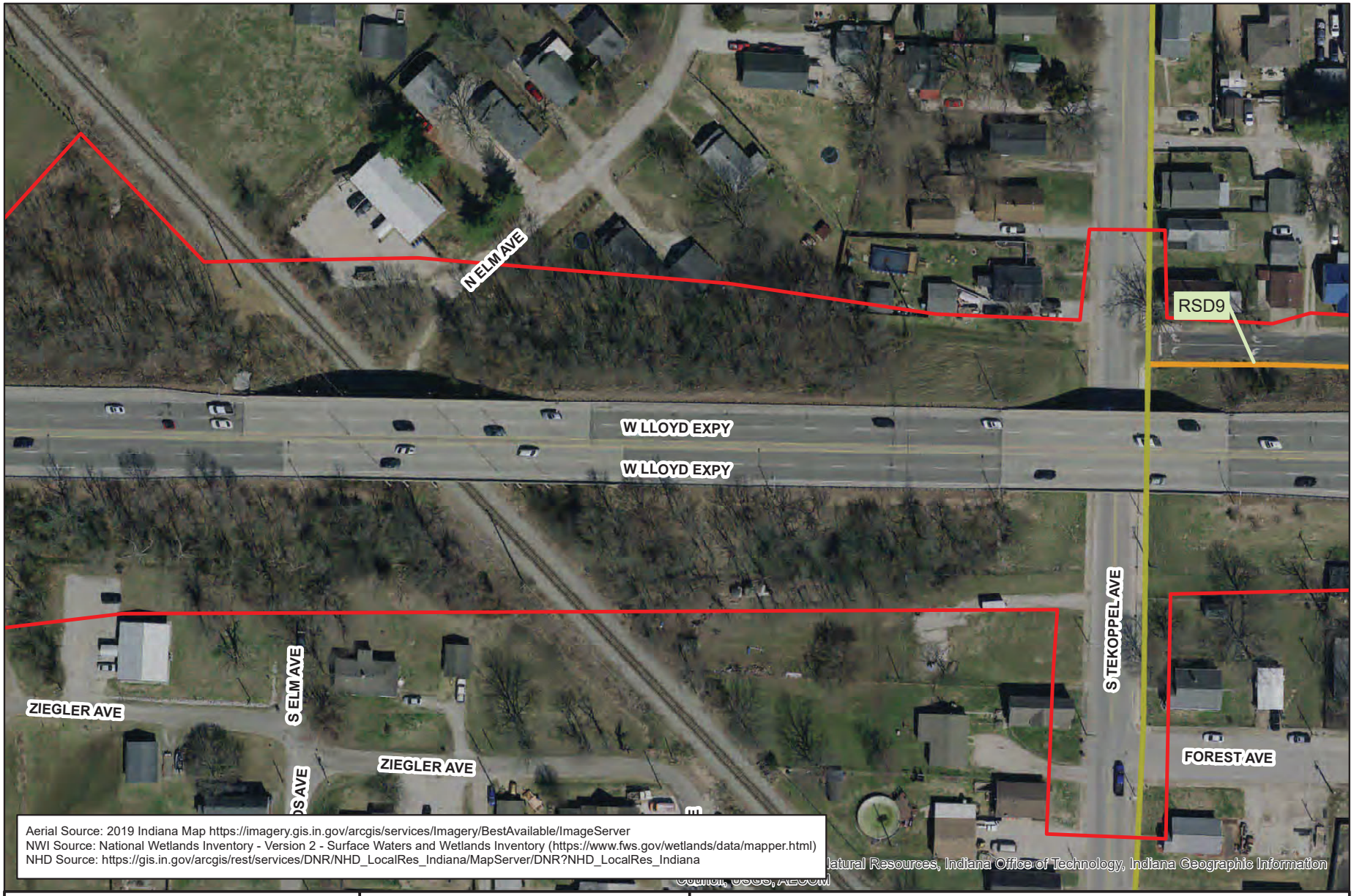
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flowline
- Coastline
- StreamRiver
- ArtificialPath
- Underground Conduit
- Connector
- CanalDitch
- Pipeline

Waterbody
- LakePond
- Reservoir
- SwampMarsh

NWI Wetlands
- PFO wetland
- PSS wetland
- PEM wetland
- PAB wetland
- PUB wetland
- PUS wetland
- Lacustrine
- Riverine



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NHD and NWI Map (5 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

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- PUB wetland
- PUS wetland
- Lacustrine
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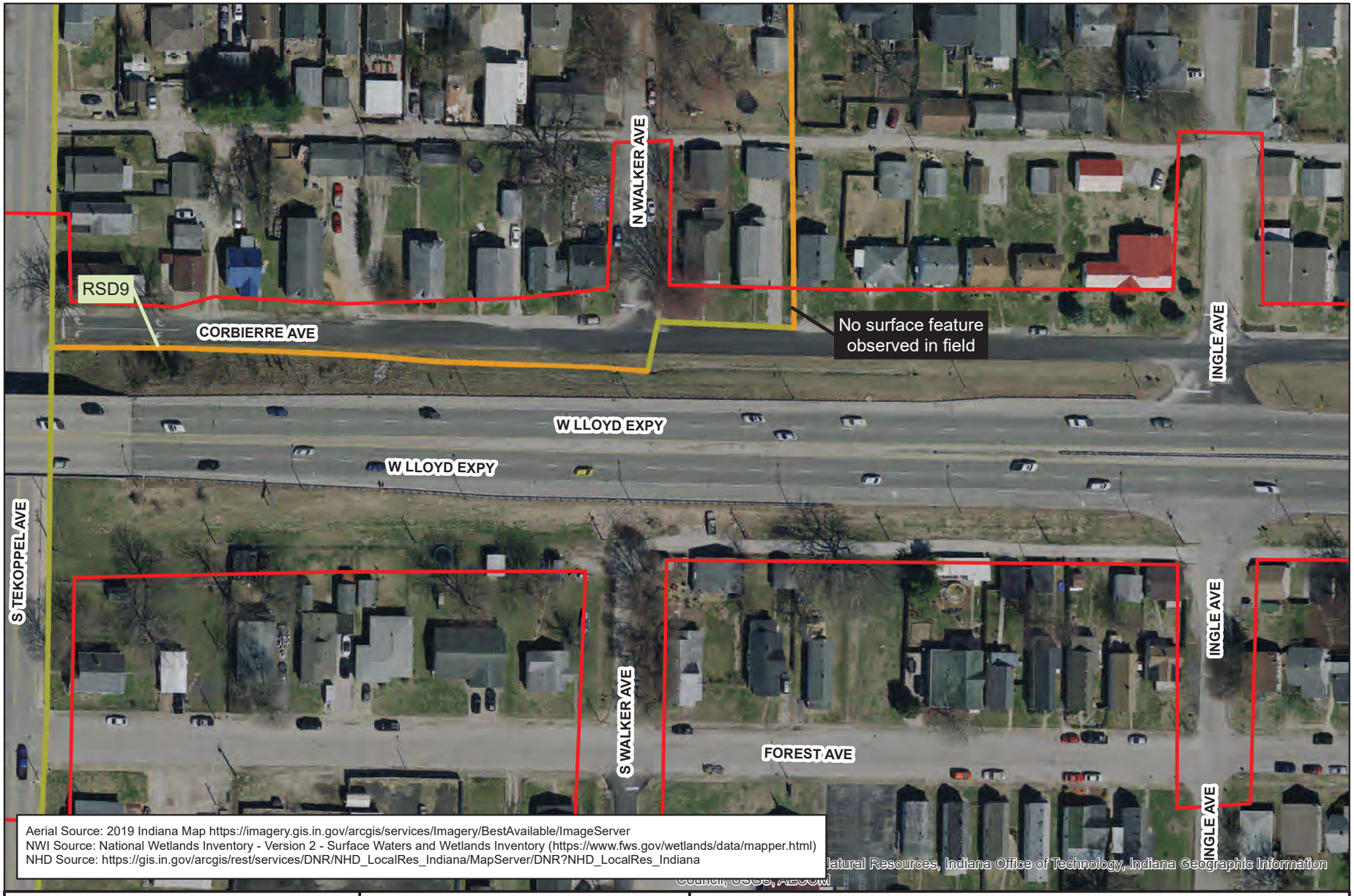

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NHD and NWI Map (6 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
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NWI Wetlands
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- PUB wetland
- PUS wetland
- Lacustrine
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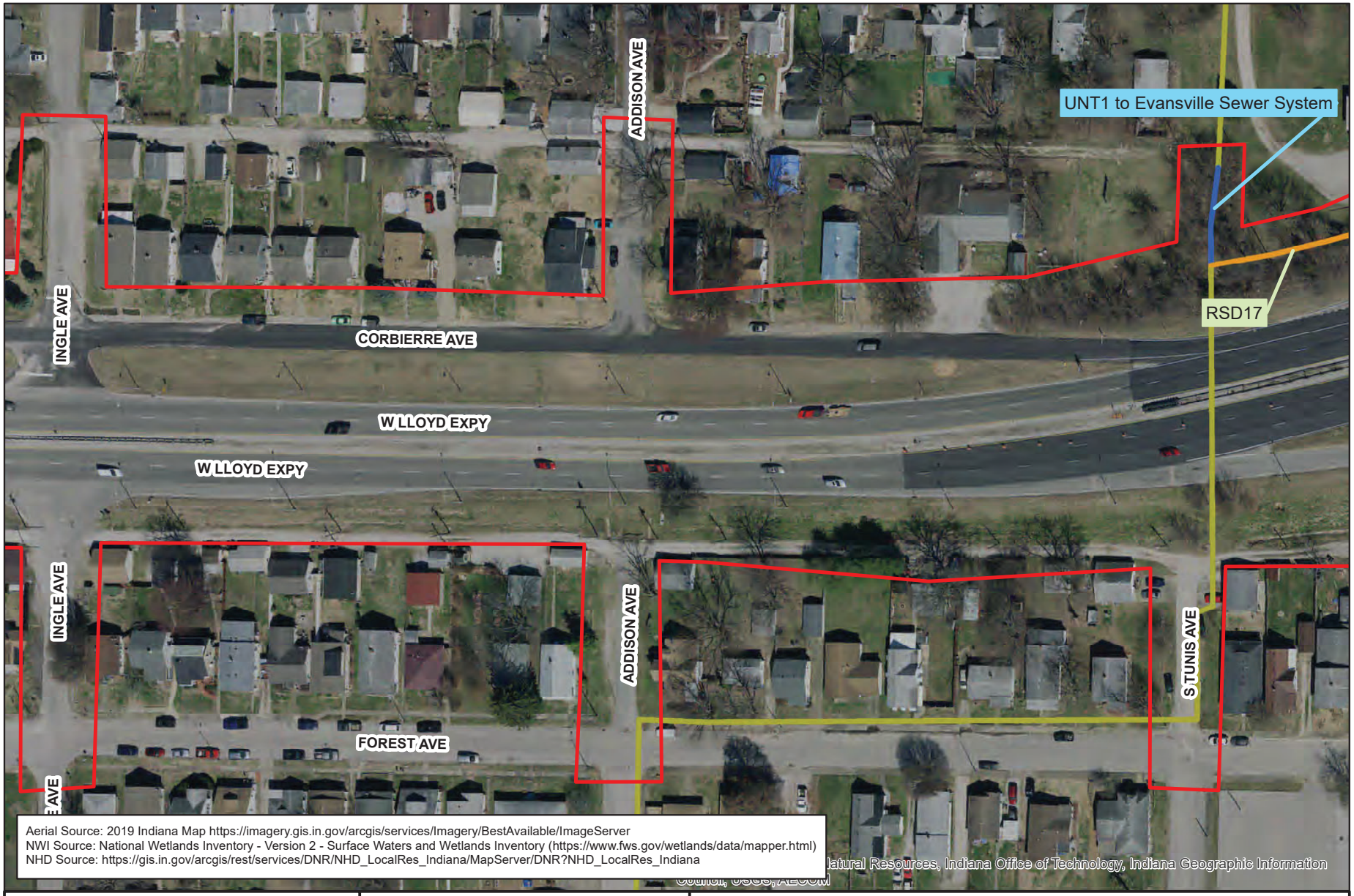

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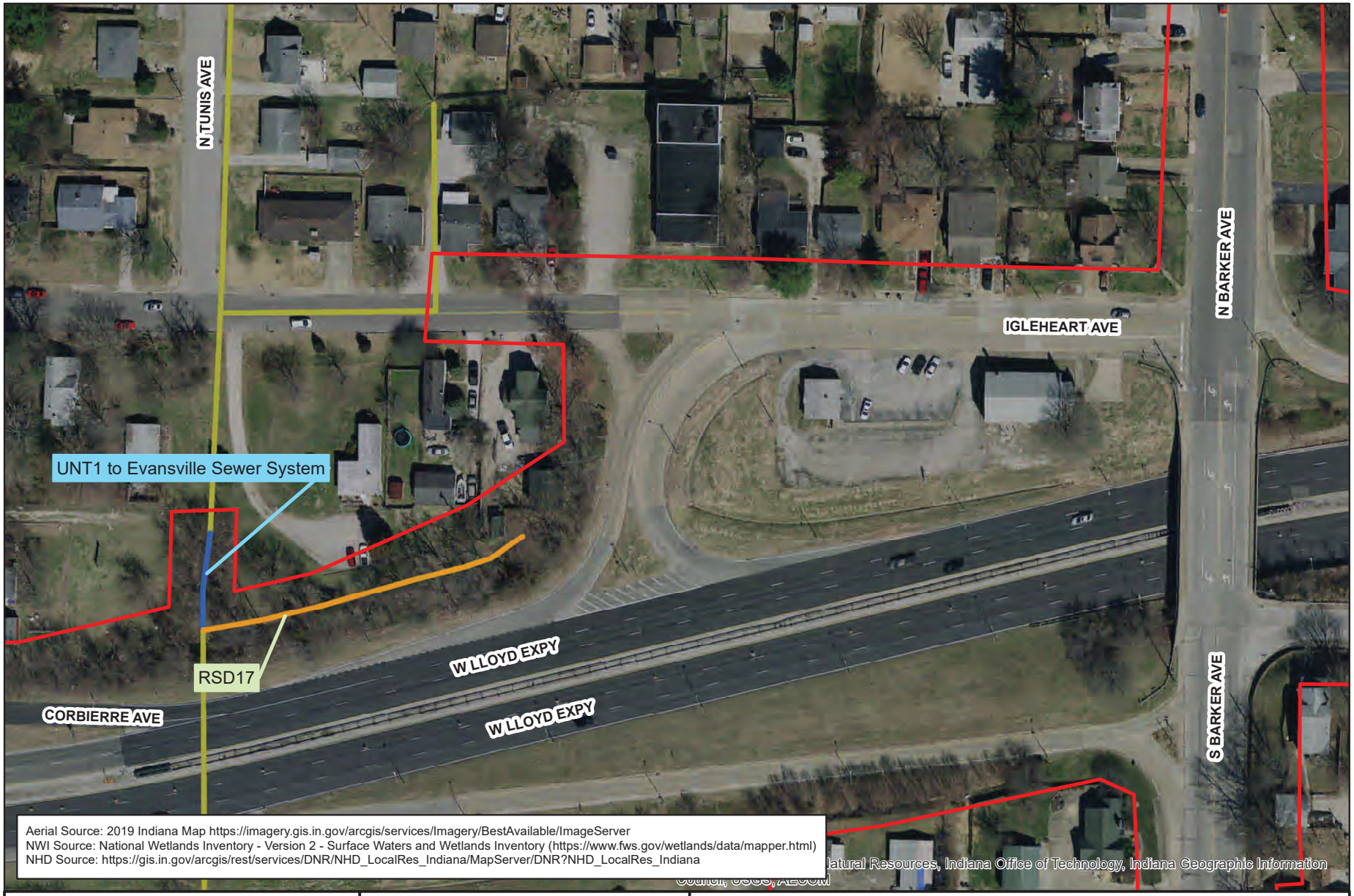
NHD and NWI Map (7 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)



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NHD and NWI Map (8 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flowline
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Waterbody
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NWI Wetlands
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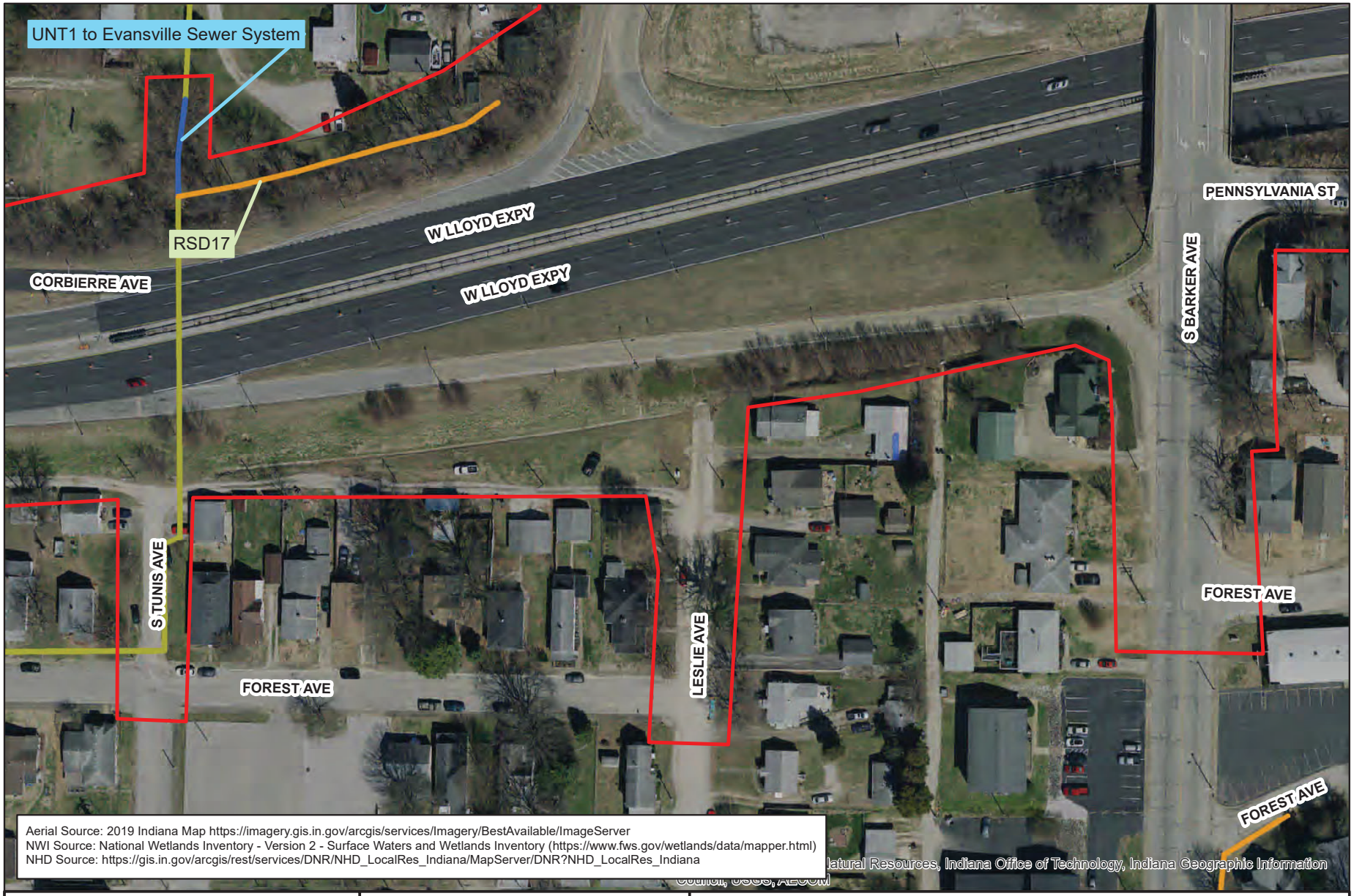

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NHD and NWI Map (9 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
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NWI Wetlands
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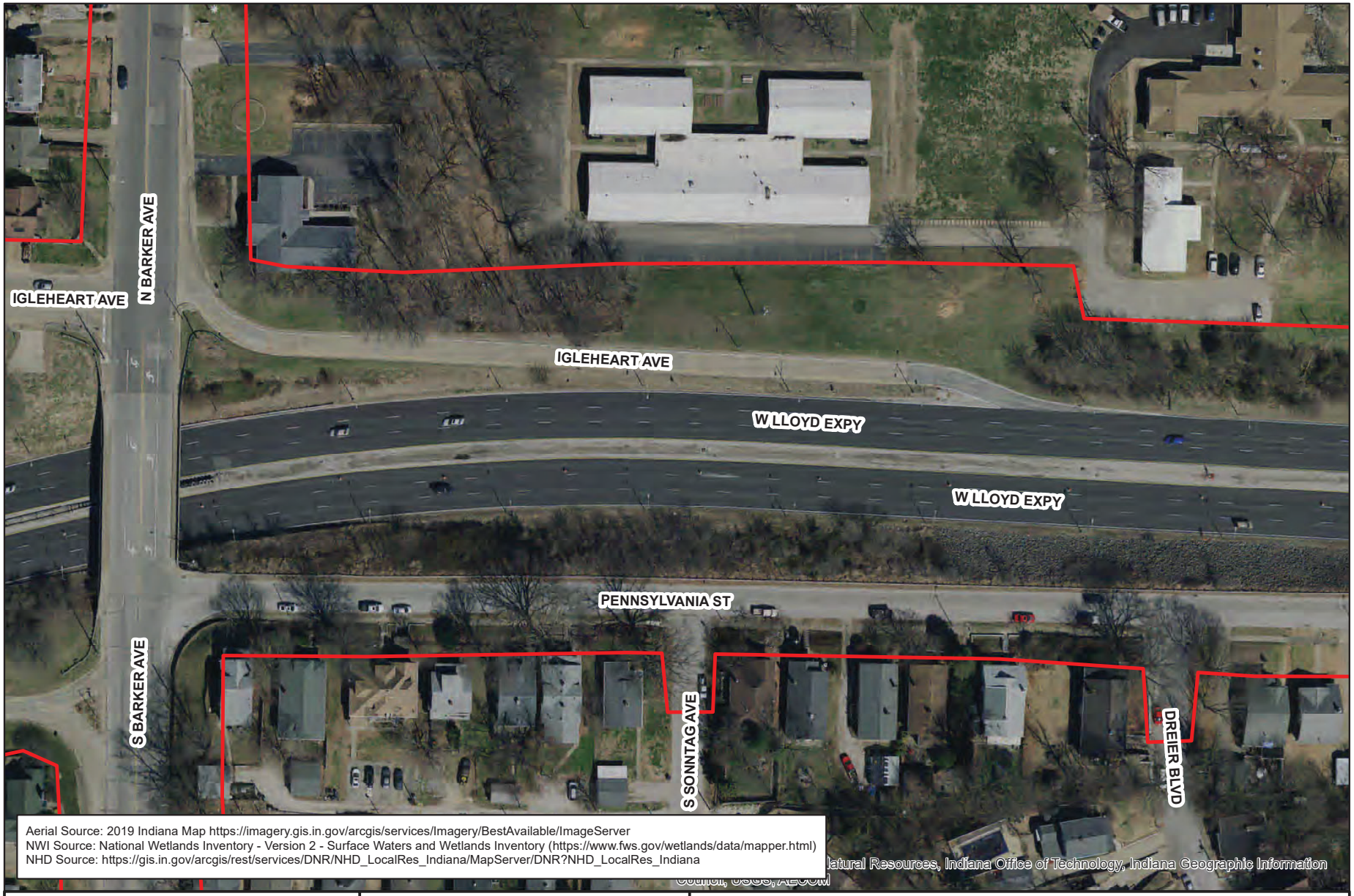

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NHD and NWI Map (10 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

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- ArtificialPath
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- Connector
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- Reservoir
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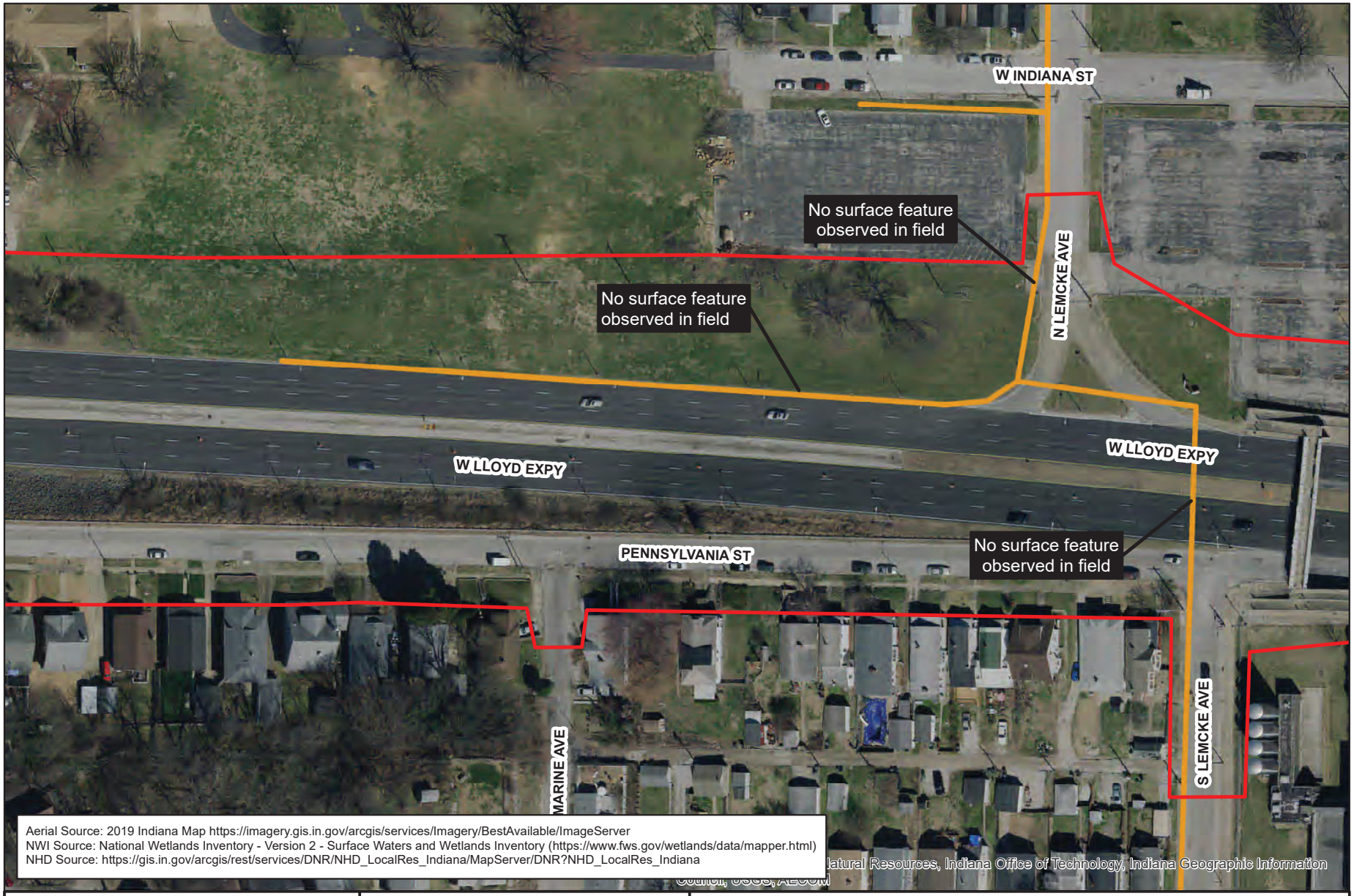

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NHD and NWI Map (11 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
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NWI Wetlands
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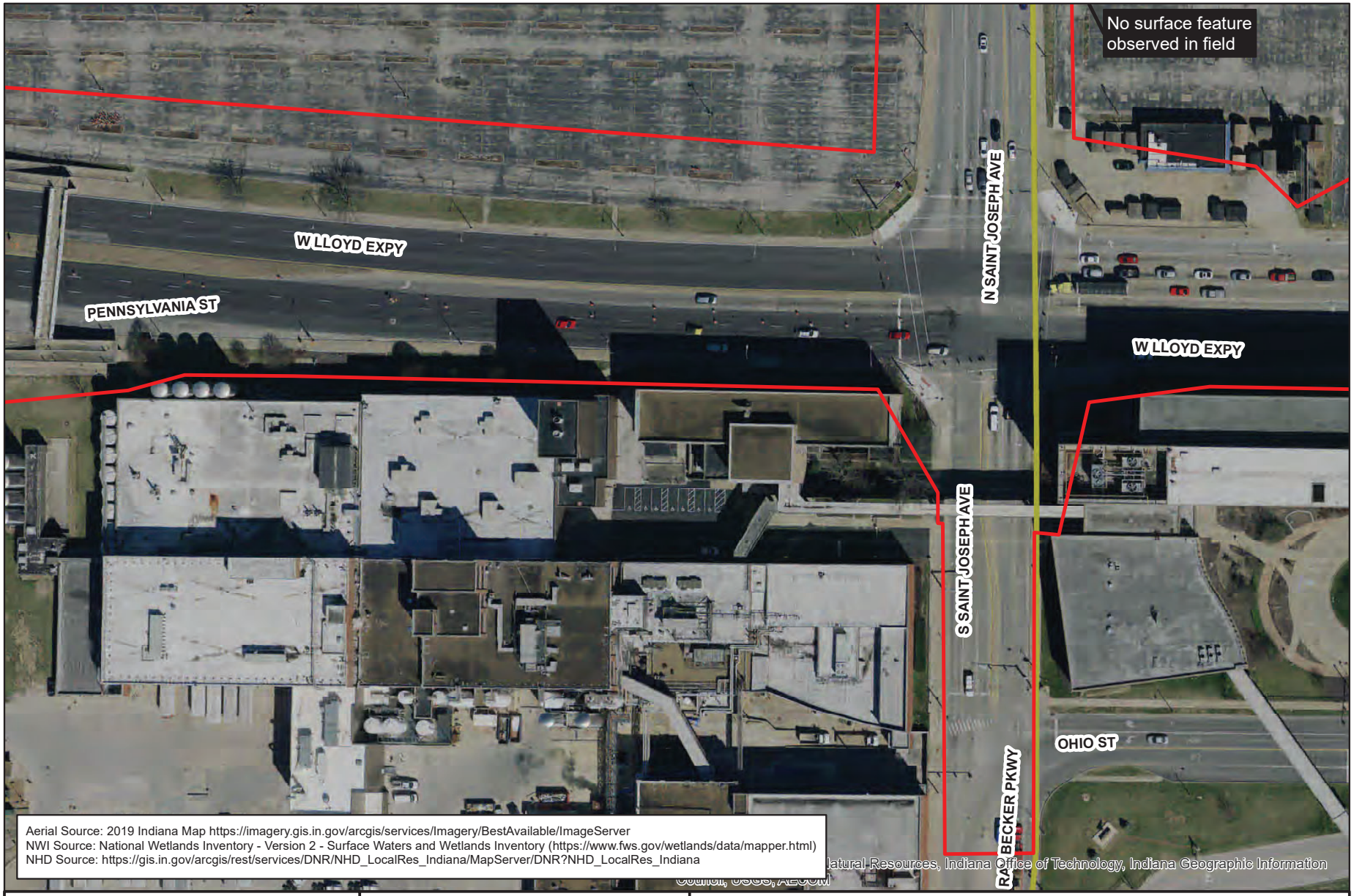

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NHD and NWI Map (12 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
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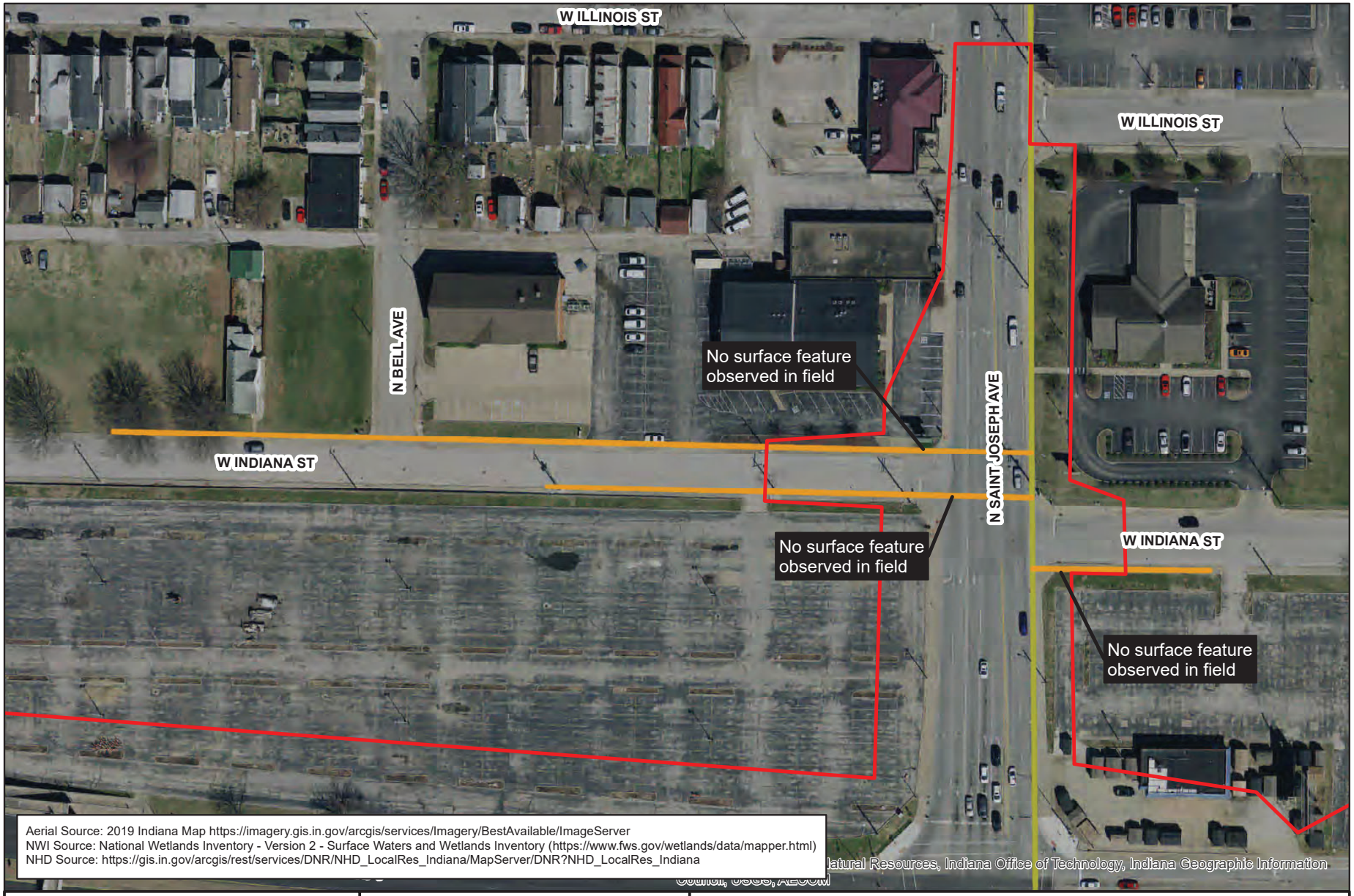

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N

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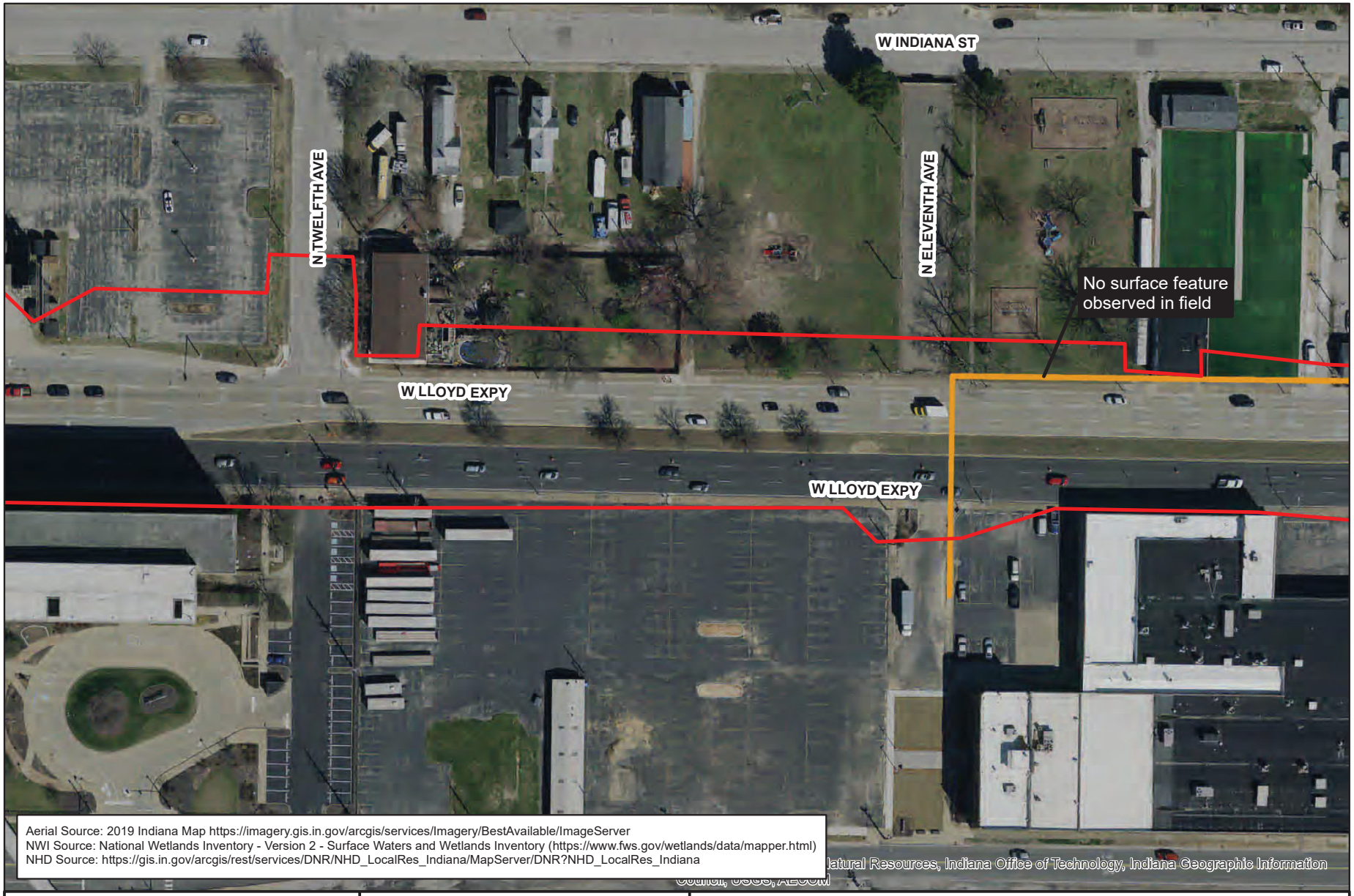
NHD and NWI Map (13 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)


W INDIANA ST
N TWELFTH AVE
N ELEVENTH AVE
No surface feature observed in field
W LLOYD EXPY
W LLOYD EXPY
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer
NWI Source: National Wetlands Inventory - Version 2 - Surface Waters and Wetlands Inventory (https://www.fws.gov/wetlands/data/mapper.html)
NHD Source: https://gis.in.gov/arcgis/rest/services/DNR/NHD_LocalRes_Indiana/MapServer/DNR?NHD_LocalRes_Indiana
atural Resources, Indiana Office of Technology, Indiana Geographic Information
0 50 100 Feet
N
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R. Yeager
NHD and NWI Map
(14 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
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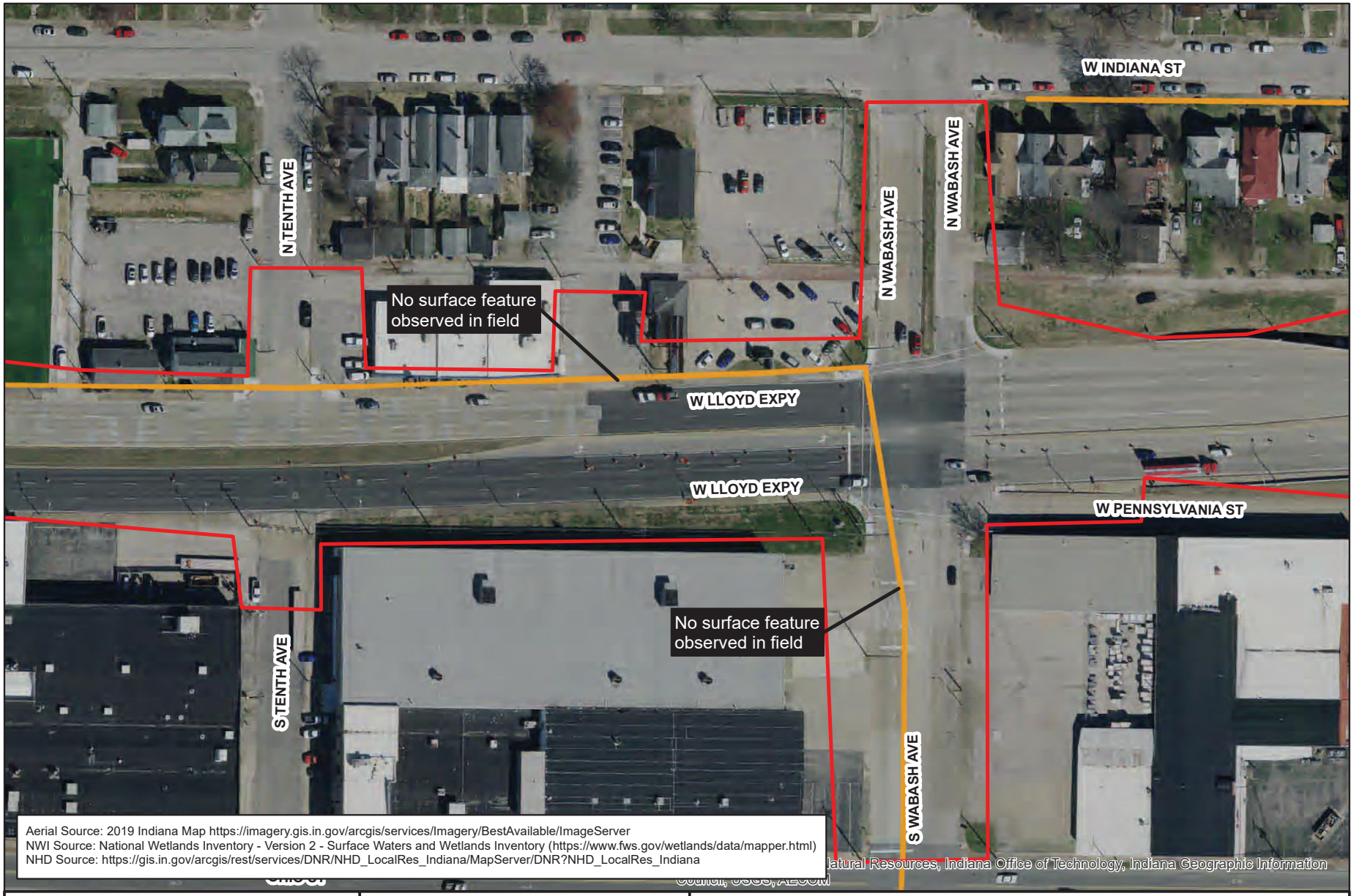
Riverine



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NHD and NWI Map (15 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

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Waterbody
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NWI Wetlands
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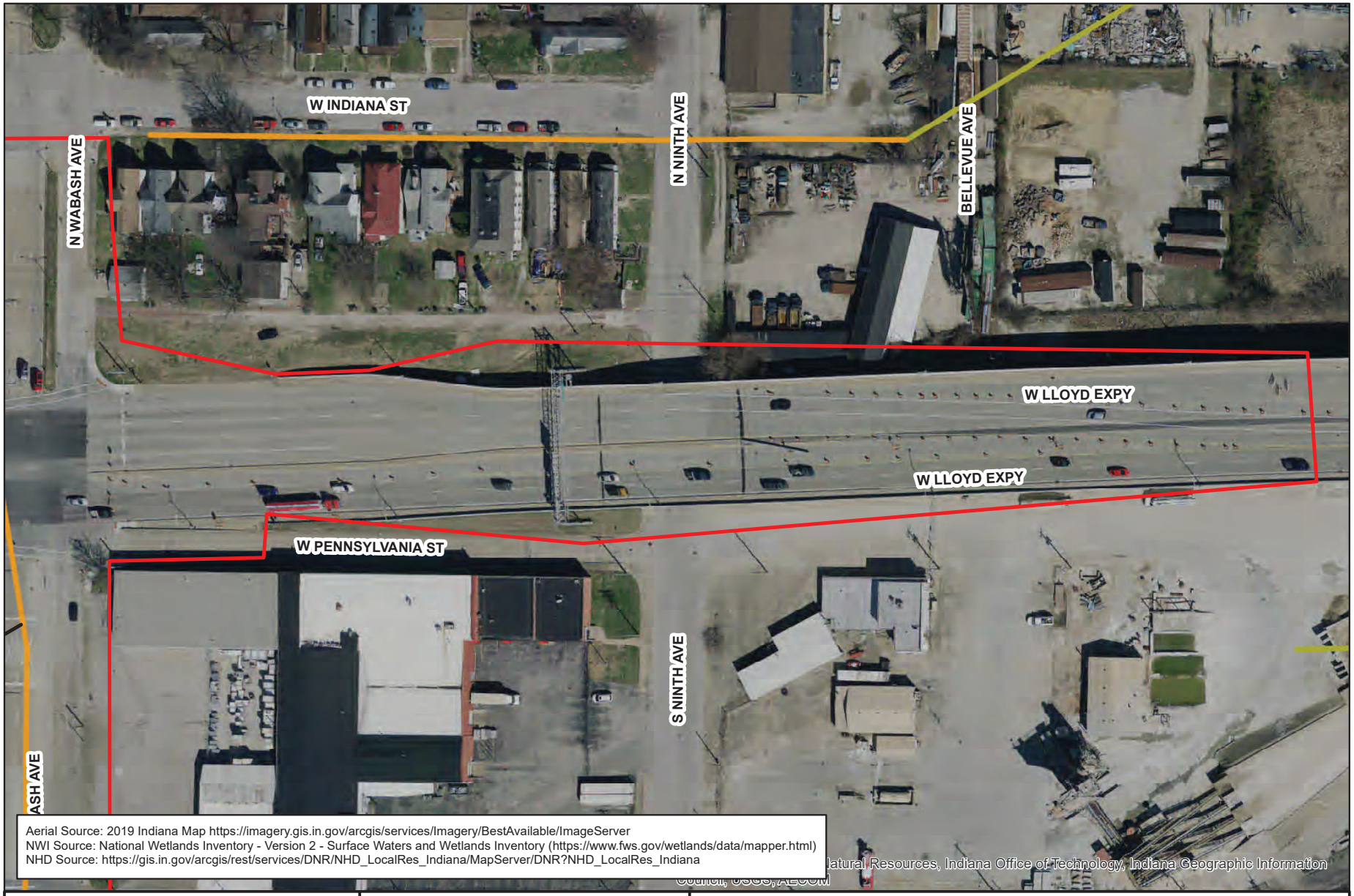
- Riverine



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NHD and NWI Map (16 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

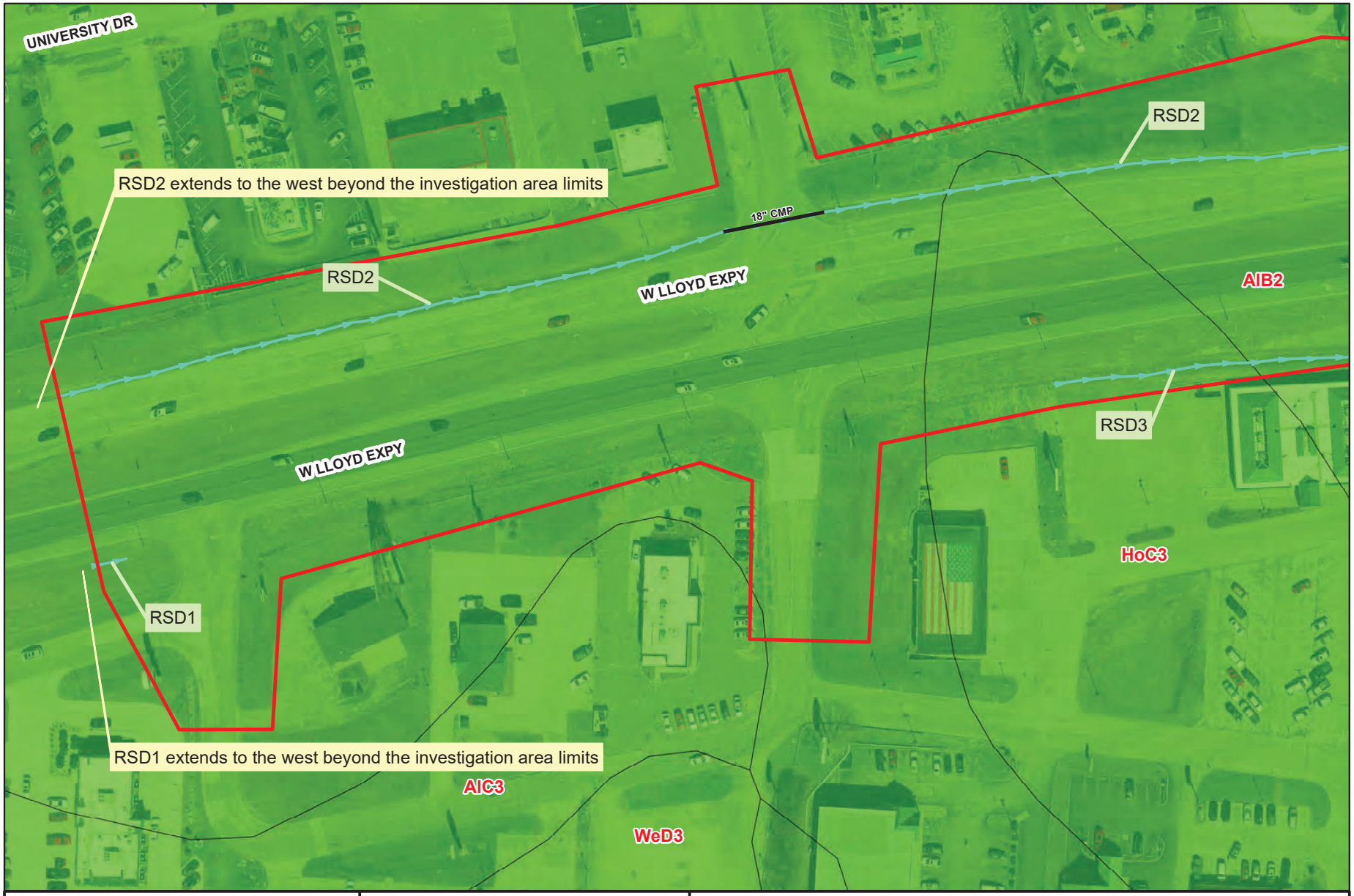
Report—Hydric Soil List - All Components

Hydric Soil List - All Components–IN163-Vanderburgh County, Indiana					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
AlB2: Alford silt loam, 2 to 5 percent slopes, eroded	Alford-Eroded	90-100	Loess hills	No	—
	Hosmer-Eroded	0-10	Ridges	No	—
AlC3: Alford silt loam, 5 to 10 percent slopes, severely eroded	Alford-Severely eroded	85-100	Loess hills	No	—
	Hosmer-Severely eroded	0-10	Loess hills	No	—
	Wakeland-Frequently flooded	0-5	Flood plains	No	—
	Alvin	0-5	Hills	No	—
AlD3: Alford silt loam, 10 to 18 percent slopes, severely eroded	Alford-Severely eroded	85-100	Loess hills	No	—
	Wakeland-Frequently flooded	0-10	Flood plains	No	—
	Alvin	0-10	Hills	No	—
Bd: Birds silt loam, 0 to 2 percent slopes, frequently flooded	Birds-Frequently flooded	85-100	Flood plains	Yes	2
	Wakeland-Frequently flooded	0-15	Flood plains	No	—
Ev: Evansville silt loam	Evansville	100	Lake plains	Yes	2
HoA: Hosmer silt loam, 0 to 2 percent slopes	Hosmer	85-100	Loess hills	No	—
	Iva	0-15	Interfluves	No	—
HoC3: Hosmer silt loam, 5 to 10 percent slopes, severely eroded	Hosmer-Severely eroded	90-100	Loess hills	No	—
	Stoy-Severely eroded	0-10	Loess hills	No	—
IoA: Iona silt loam, 0 to 2 percent slopes	Iona	100	Loess hills	No	—
MlC3: Markland silty clay loam, 6 to 18 percent slopes, severely eroded	Markland-Severely eroded	100	Lake plains	No	—
ScA: Sciotoville silt loam, 0 to 2 percent slopes	Sciotoville	100	Stream terraces	No	—
UnB2: Uniontown silt loam, 2 to 6 percent slopes, eroded	Uniontown	100	Lake terraces	No	—
Wa: Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland-Frequently flooded	90-100	Flood plains	No	—
	Birds-Frequently flooded	0-10	Flood plains	Yes	2
Wb: Weinbach silt loam	Weinbach	97	Stream terraces	No	—
	Ginat	3	Depressions	Yes	2

Hydric Soil List - All Components–IN163-Vanderburgh County, Indiana					
Map symbol and map unit name	**Component/Local Phase**	**Comp. pct.**	**Landform**	**Hydric status**	**Hydric criteria met (code)**
WeE2: Wellston silt loam, 18 to 25 percent slopes, eroded	Wellston-Eroded	90-100	Ridges	No	—
	Zanesville-Eroded	0-10	Ridges	No	—
WhA: Wheeling loam, 0 to 2 percent slopes	Wheeling	100	Stream terraces	No	—

Data Source Information

Soil Survey Area: Vanderburgh County, Indiana
Survey Area Data: Version 20, Jun 11, 2020



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

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Soils Map (1 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
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Investigated Area

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

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Soils Map
(2 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
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Culvert

Wetland
PEM
PFO
PSS
Wetland data point
Upland data point

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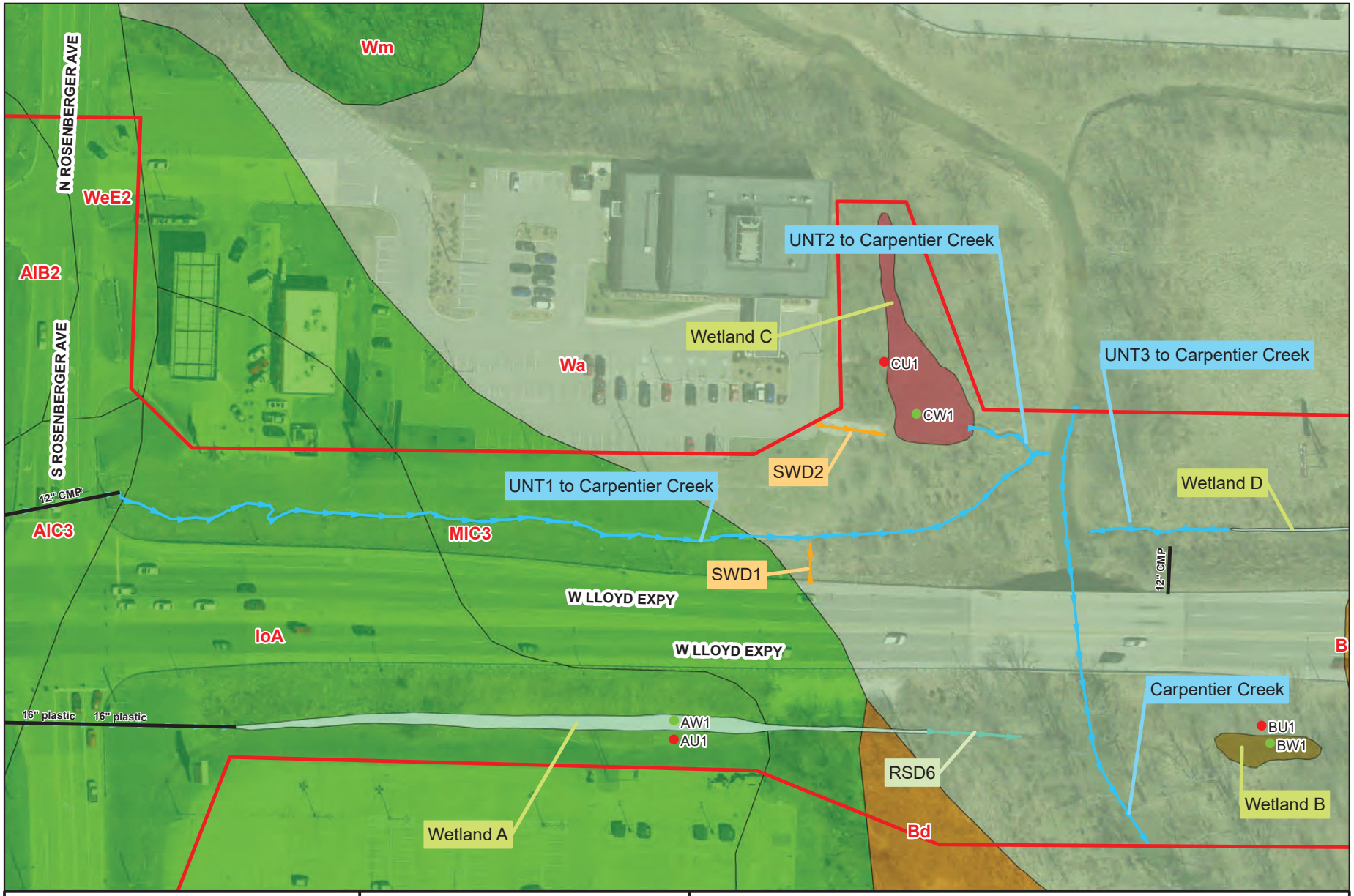
Wm
N ROSENBERGER AVE
WeE2
AlB2
S ROSENBERGER AVE
Wa
Wetland C
UNT2 to Carpentier Creek
CU1
CW1
UNT3 to Carpentier Creek
SWD2
UNT1 to Carpentier Creek
Wetland D
12" CMP
AlC3
MlC3
SWD1
W LLOYD EXPY
12" CMP
loA
W LLOYD EXPY
B
Carpentier Creek
16" plastic
16" plastic
AW1
AU1
BU1
BW1
RSD6
Wetland B
Wetland A
Bd
0 50 100 Feet
N
Created: 2/11/2023
R. Yeager
Soils Map
(3 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
Investigated Area
Flow lines
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Stormwater ditch
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Culvert
Wetland
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Wetland data point
Upland data point
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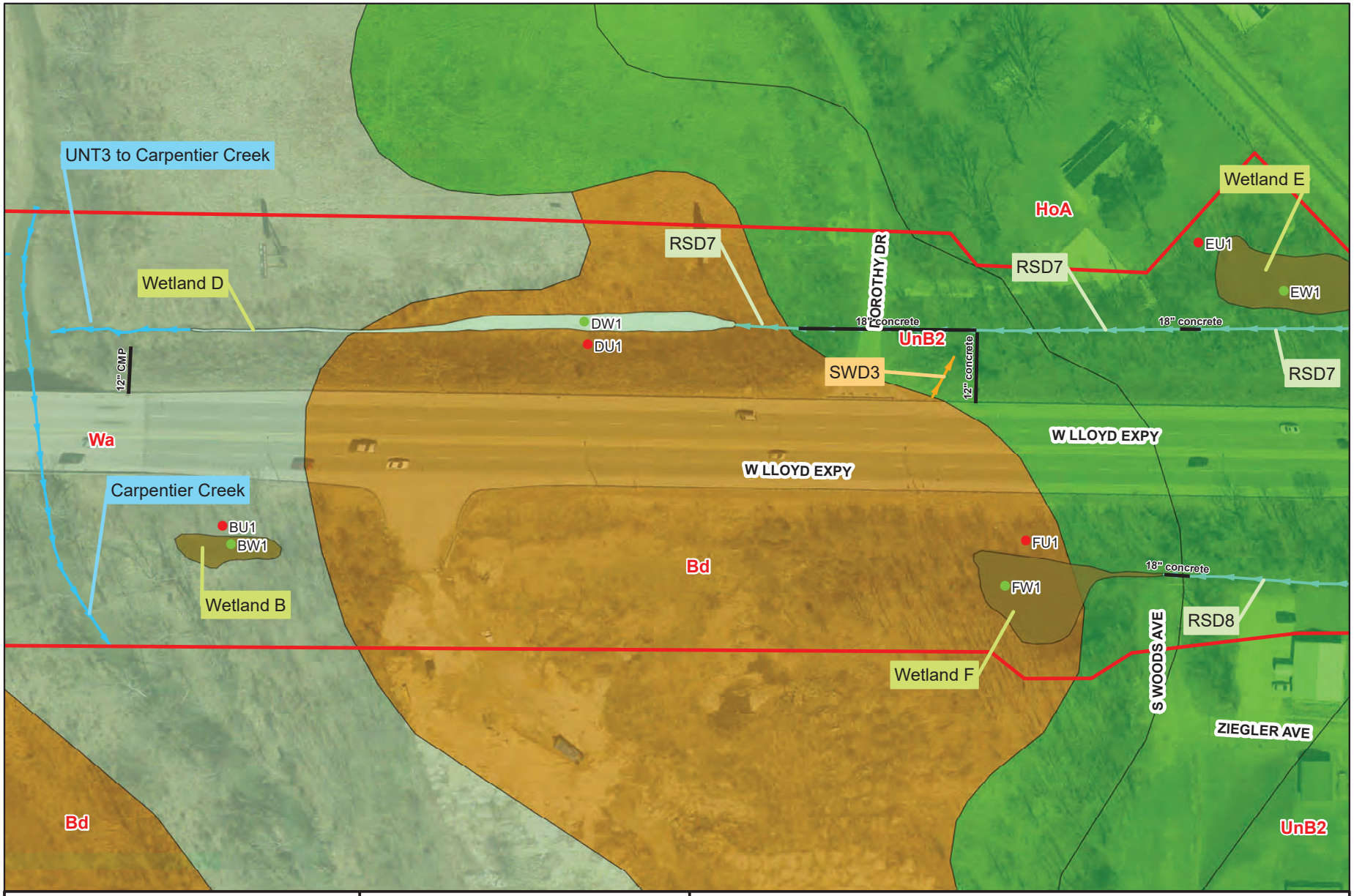
UNT3 to Carpentier Creek
Wetland D
12" CMP
Wa
Carpentier Creek
BU1
BW1
Wetland B
Bd
RSD7
DW1
DU1
DOROTHY DR
18" concrete
UnB2
SWD3
12" concrete
HoA
RSD7
Wetland E
EU1
EW1
18" concrete
RSD7
W LLOYD EXPY
W LLOYD EXPY
FU1
18" concrete
FW1
RSD8
S WOODS AVE
Wetland F
ZIEGLER AVE
Bd
UnB2
0 50 100 Feet
N
Created: 2/11/2023
R. Yeager
Soils Map
(4 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
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Wetland data point
Upland data point
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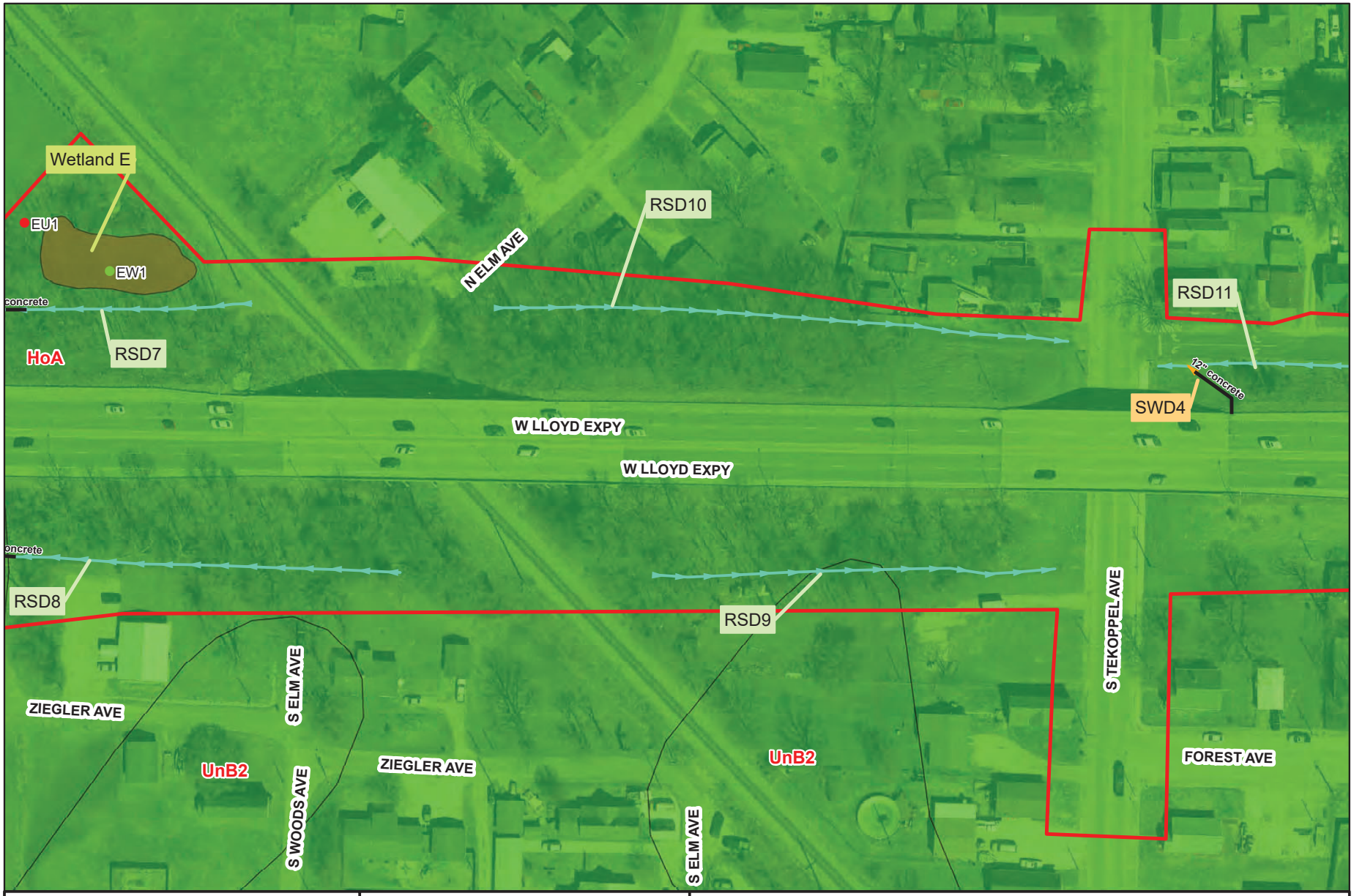
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Soils Map
(5 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
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Soils Map
(6 of 16)
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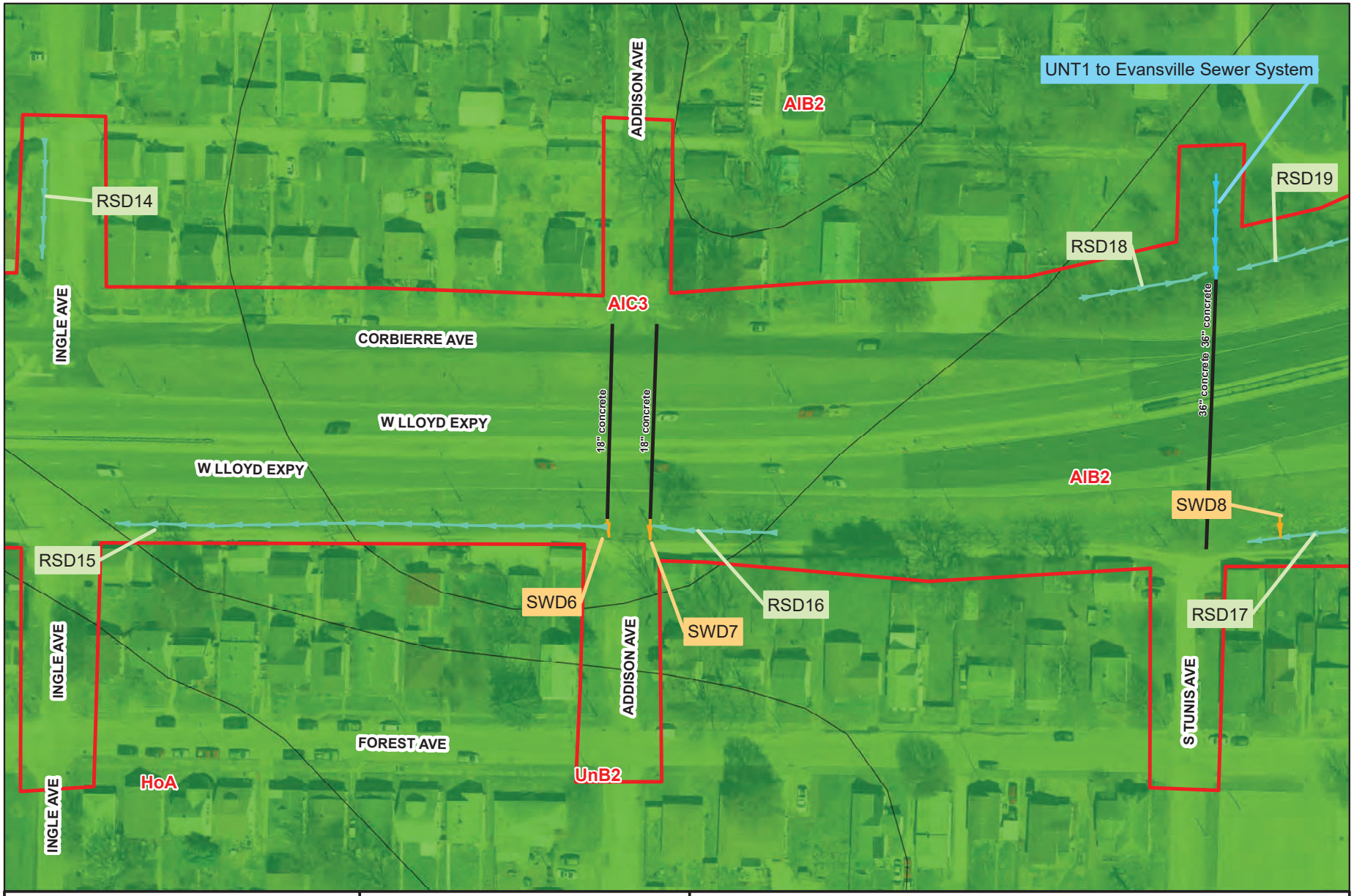
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

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Soils Map
(7 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

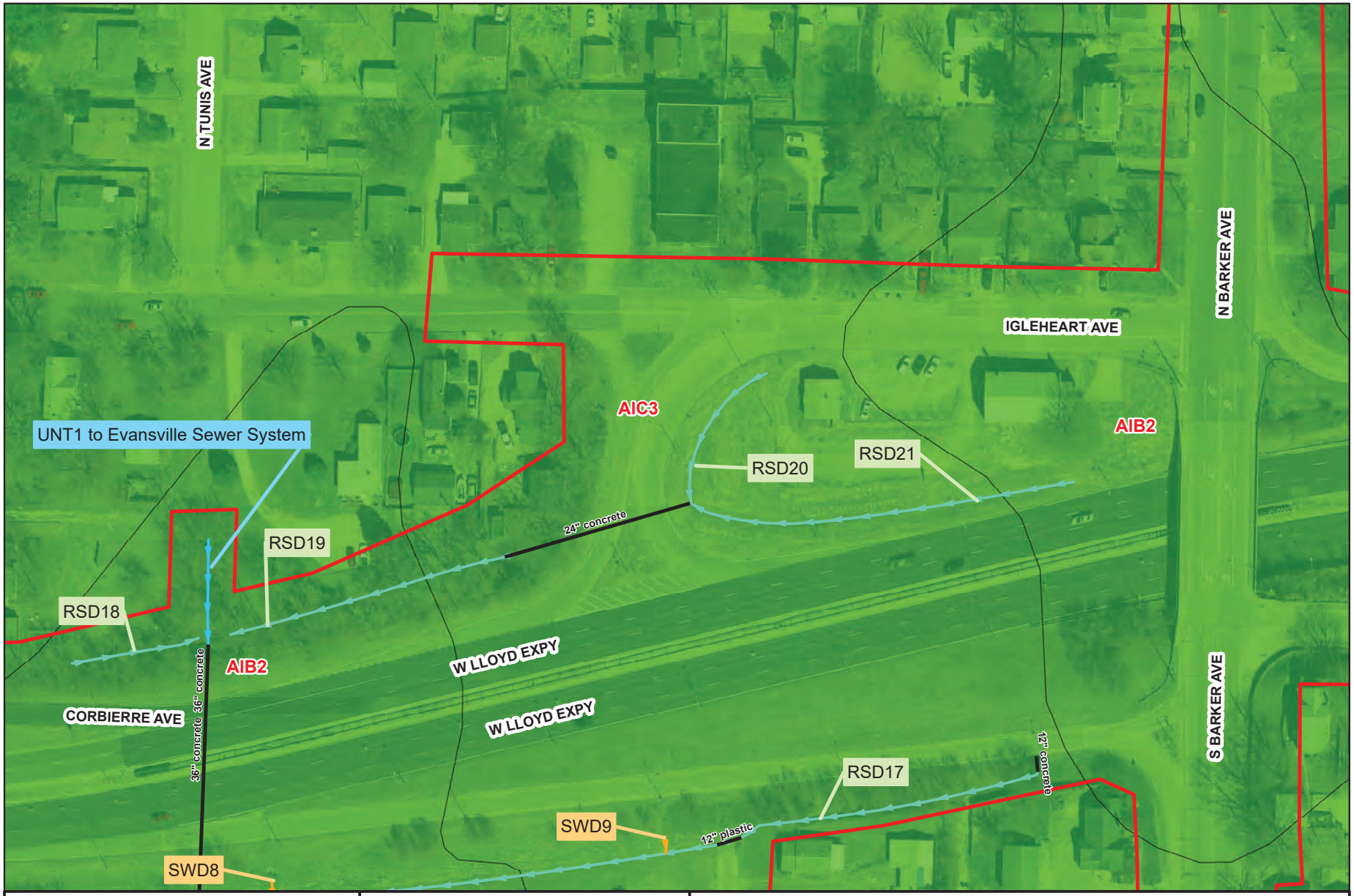
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch

Structures
Culvert

Wetland
PEM
PFO
PSS
Wetland data point
Upland data point

Hydric Classification
Hydric (100%)
Predominantly Hydric (66 - 99%)
Partially Hydric (33 - 65%)
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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R. Yeager

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Soils Map
(8 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch

Structures
Culvert

Wetland
PEM
PFO
PSS
Wetland data point
Upland data point

Hydric Classification
Hydric (100%)
Predominantly Hydric (66 - 99%)
Partially Hydric (33 - 65%)
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

Created: 2/11/2023
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Soils Map
(9 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

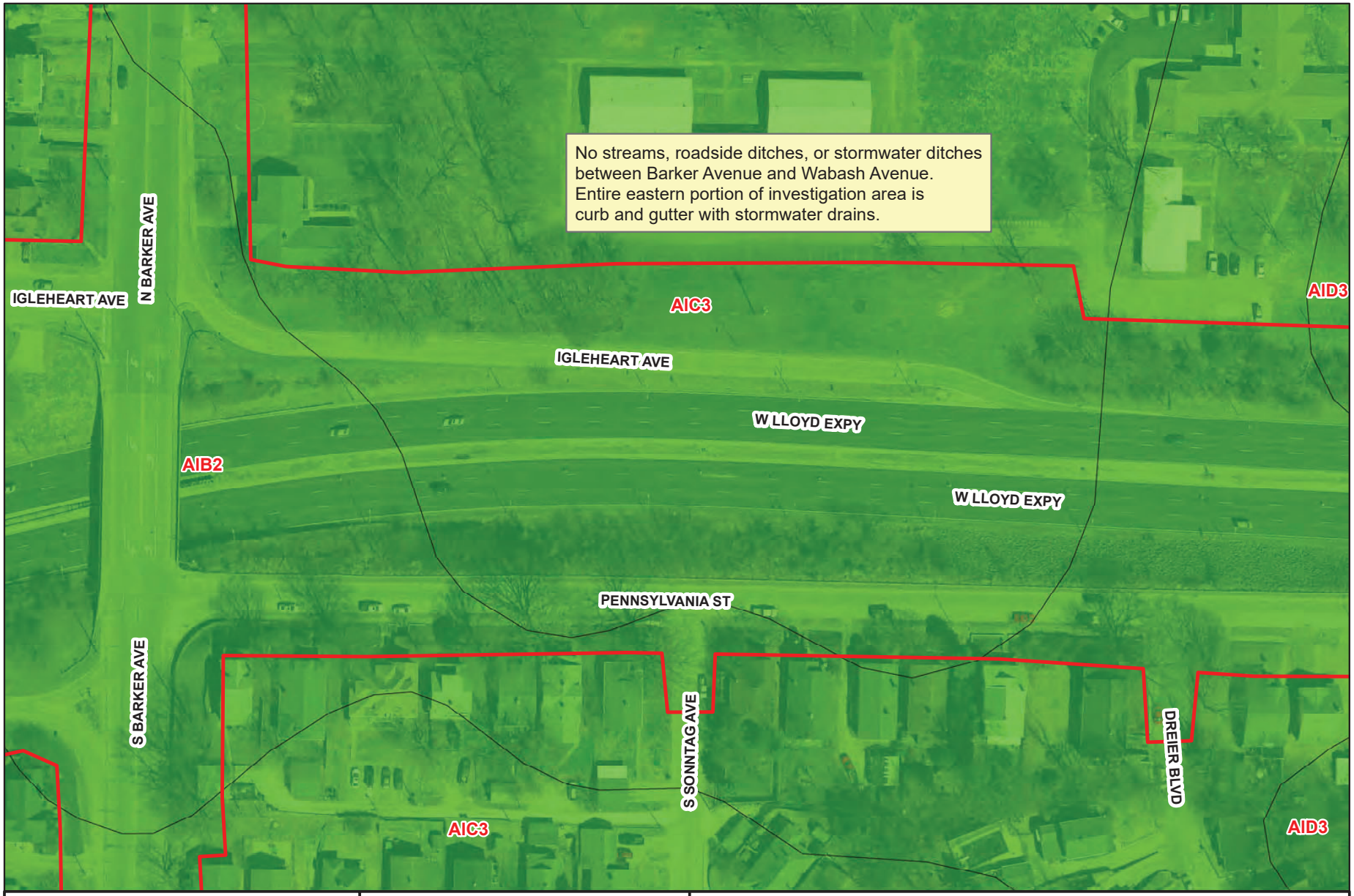
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch

Structures
Culvert

Wetland
PEM
PFO
PSS
Wetland data point
Upland data point

Hydric Classification
Hydric (100%)
Predominantly Hydric (66 - 99%)
Partially Hydric (33 - 65%)
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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R. Yeager

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Soils Map (10 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

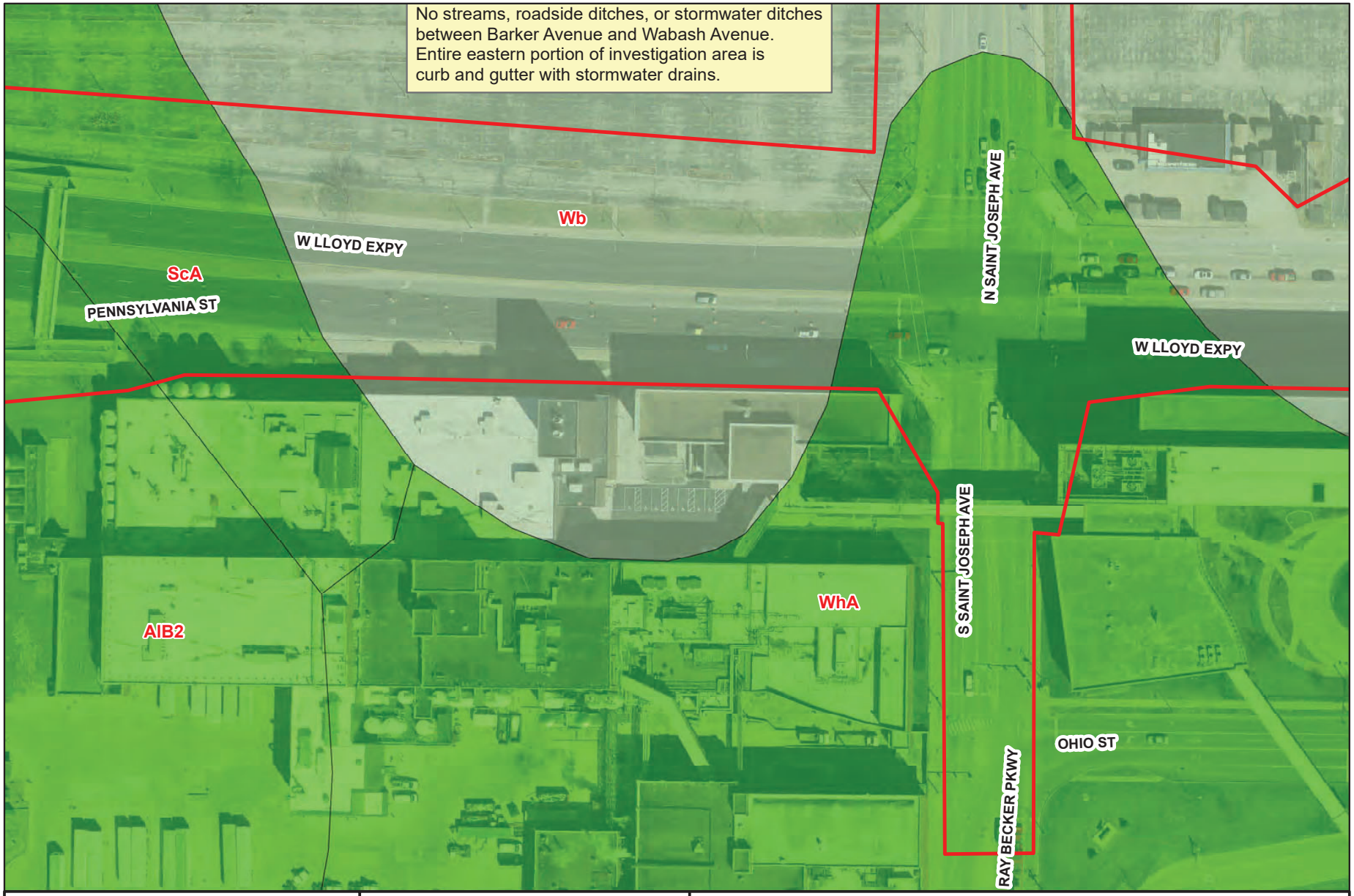
Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer


W INDIANA ST
AIB2
No streams, roadside ditches, or stormwater ditches between Barker Avenue and Wabash Avenue. Entire eastern portion of investigation area is curb and gutter with stormwater drains.
ScA
N LEMCKE AVE
AID3
AIC3
W LLOYD EXPY
W LLOYD EXPY
AIB2
PENNSYLVANIA ST
S MARINE AVE
S LEMCKE AVE
AIB2
0 50 100 Feet
N
Created: 2/11/2023
R. Yeager
Soils Map
(11 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
Investigated Area
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch
Structures
Culvert
Wetland
PEM
PFO
PSS
Wetland data point
Upland data point
Hydric Classification
Hydric (100%)
Predominantly Hydric (66 - 99%)
Partially Hydric (33 - 65%)
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Soils Map (12 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

Created: 2/11/2023
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Soils Map (13 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

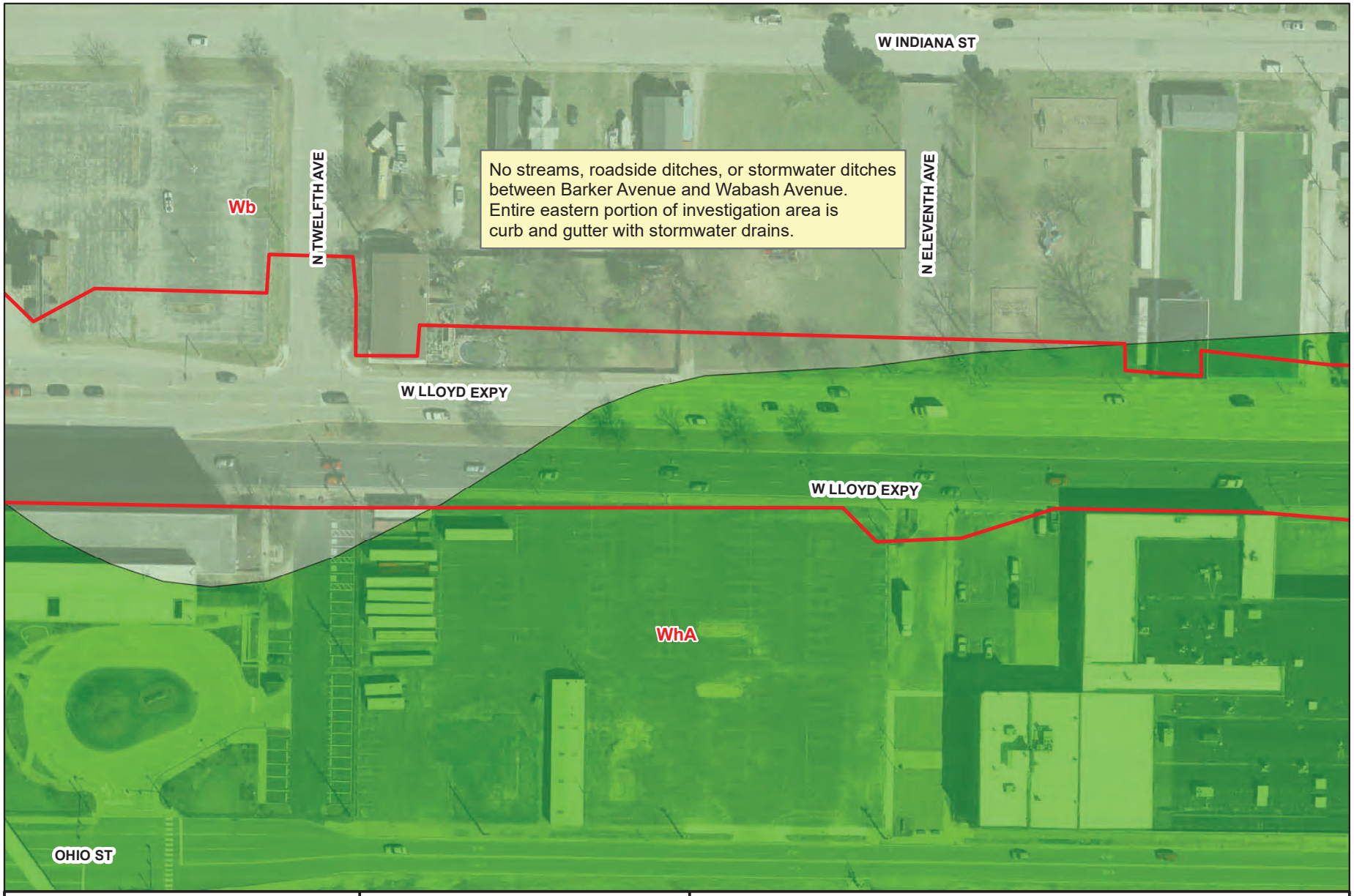
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

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Soils Map (14 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

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Soils Map (15 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS
- Wetland data point
- Upland data point

Hydric Classification
- Hydric (100%)
- Predominantly Hydric (66 - 99%)
- Partially Hydric (33 - 65%)
- Predominantly Nonhydric (1 - 32%)
- Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

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Soils Map
(16 of 16)
Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Investigated Area

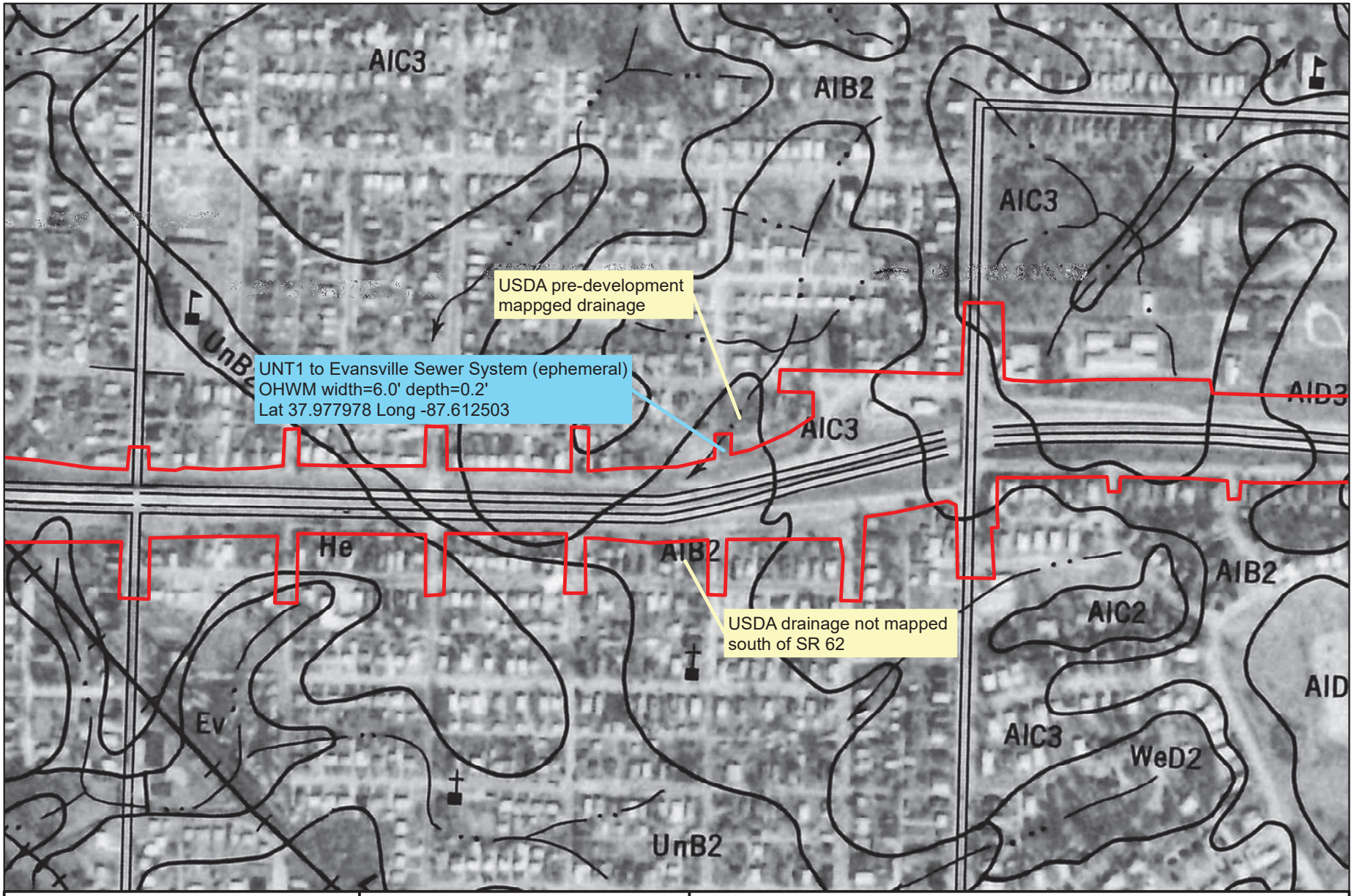
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch

Structures
Culvert

Wetland
PEM
PFO
PSS
Wetland data point
Upland data point

Hydric Classification
Hydric (100%)
Predominantly Hydric (66 - 99%)
Partially Hydric (33 - 65%)
Predominantly Nonhydric (1 - 32%)
Nonhydric (0%)

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Vanderburgh County Soil Map

Des. No. 1900308 (Lead)

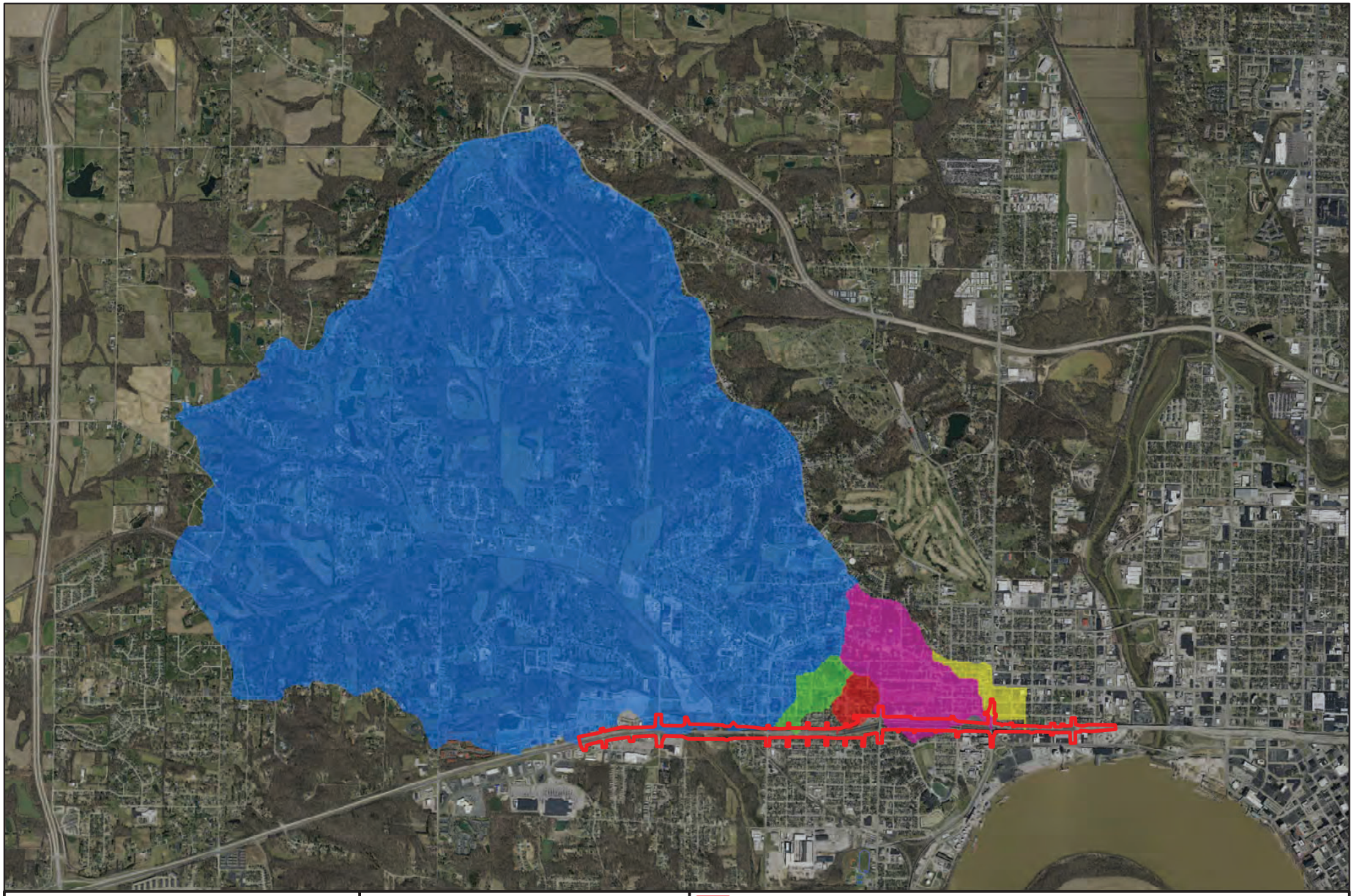
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

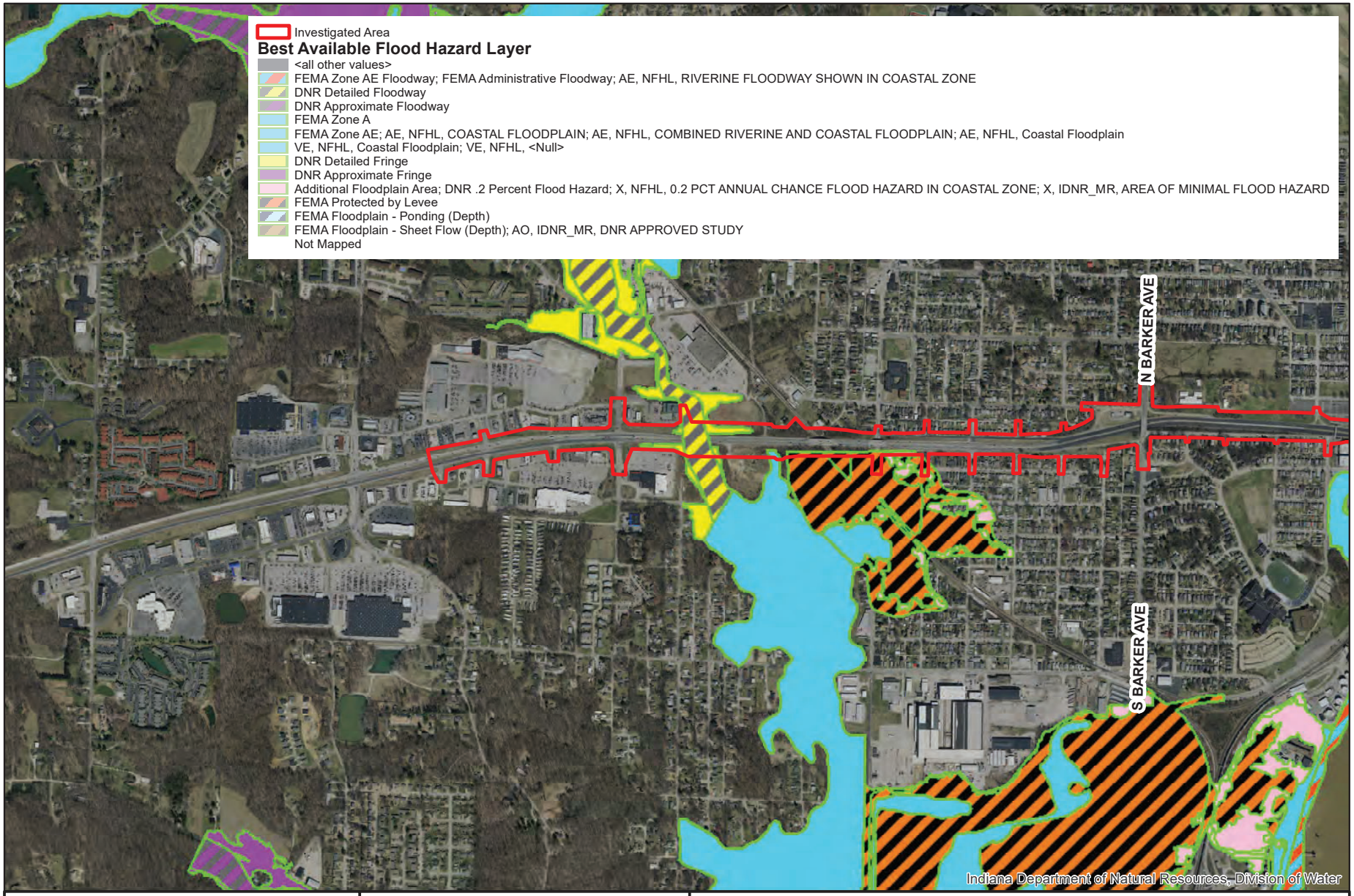
Investigated Area

Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch

Structures
Culvert

Soil Map Source: Kelly, L.A. 1976. Soil Survey of Vanderburgh County, Indiana. U.S. Department of Agriculture, Soil Conservation Service, in Cooperation with Purdue University Agricultural Experiment Station. 91 pp.


0 1,500 3,000
Feet
N
Created: 2/11/2023
R. Yeager
StreamStats Watershed Map
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
Investigated Area
Carpentier Creek watershed at SR 62 (5.55 sq. mi.)
Watershed near Walker Avenue at SR 62 (0.05 sq. mi.)
Watershed near Addison Avenue at SR 62 (0.04 sq. mi.)
Watershed near St. Joseph Avenue at SR 62 (0.24 sq. mi.)
Watershed near 11th Street at SR 62 (0.05 sq. mi.)
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer
Watershed Source: U.S. Geological Survey, 2016, The StreamStats program, online at http://streamstats.usgs.gov.



0 500 1,000 Feet

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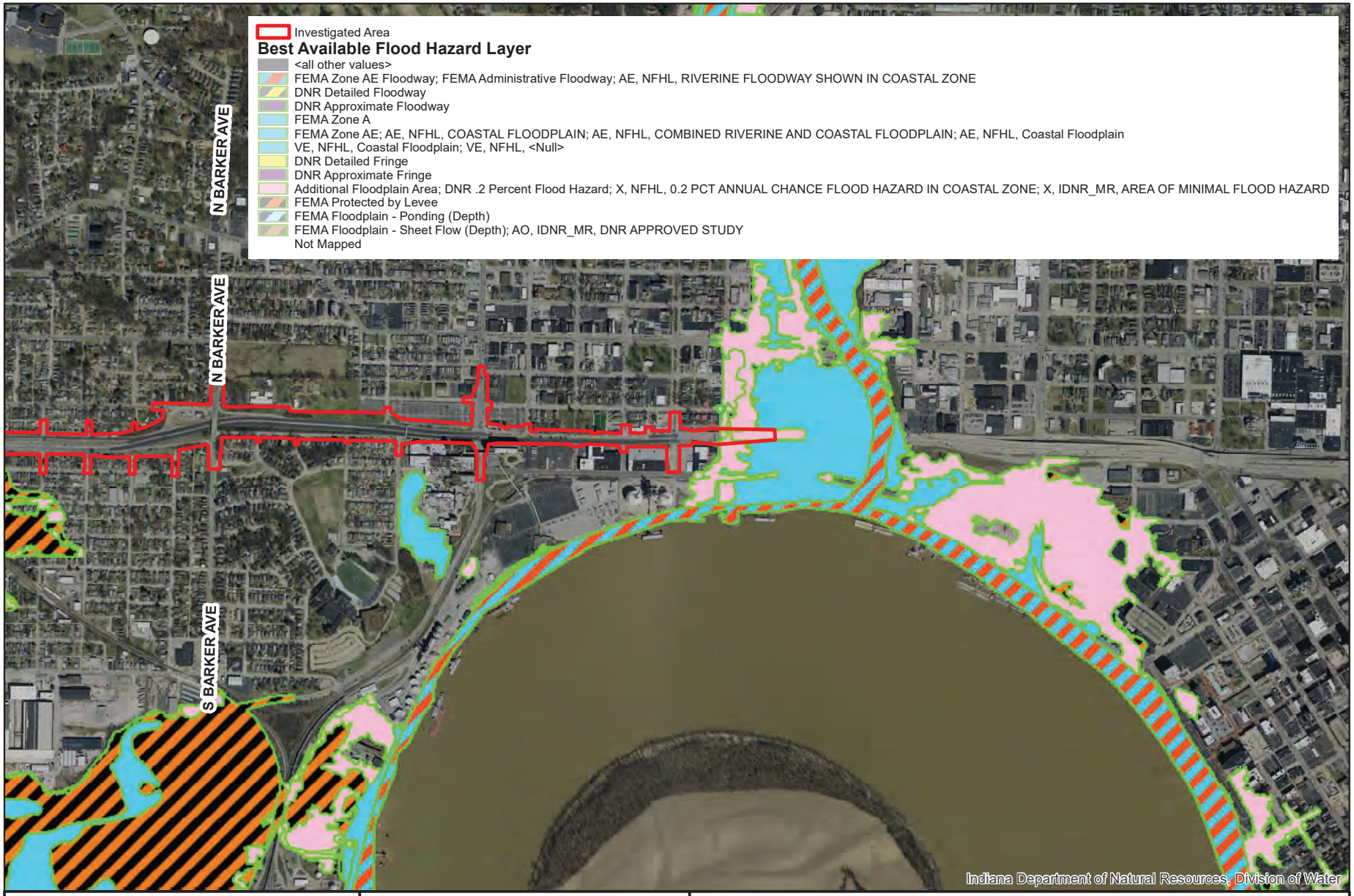
Floodway/Floodplain Map
(1 of 2)
Des. No. 1900308 (Lead)

LOCHMUELLER GROUP

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Aerial source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer
Floodplain source: https://gis.in.gov/arcgis/rest/services/DNR/FloodHazard_BestAvailable_IDNR_IN/MapServer/DNR/FloodHazard_BestAvailable_IDNR_IN



0 500 1,000 Feet

N

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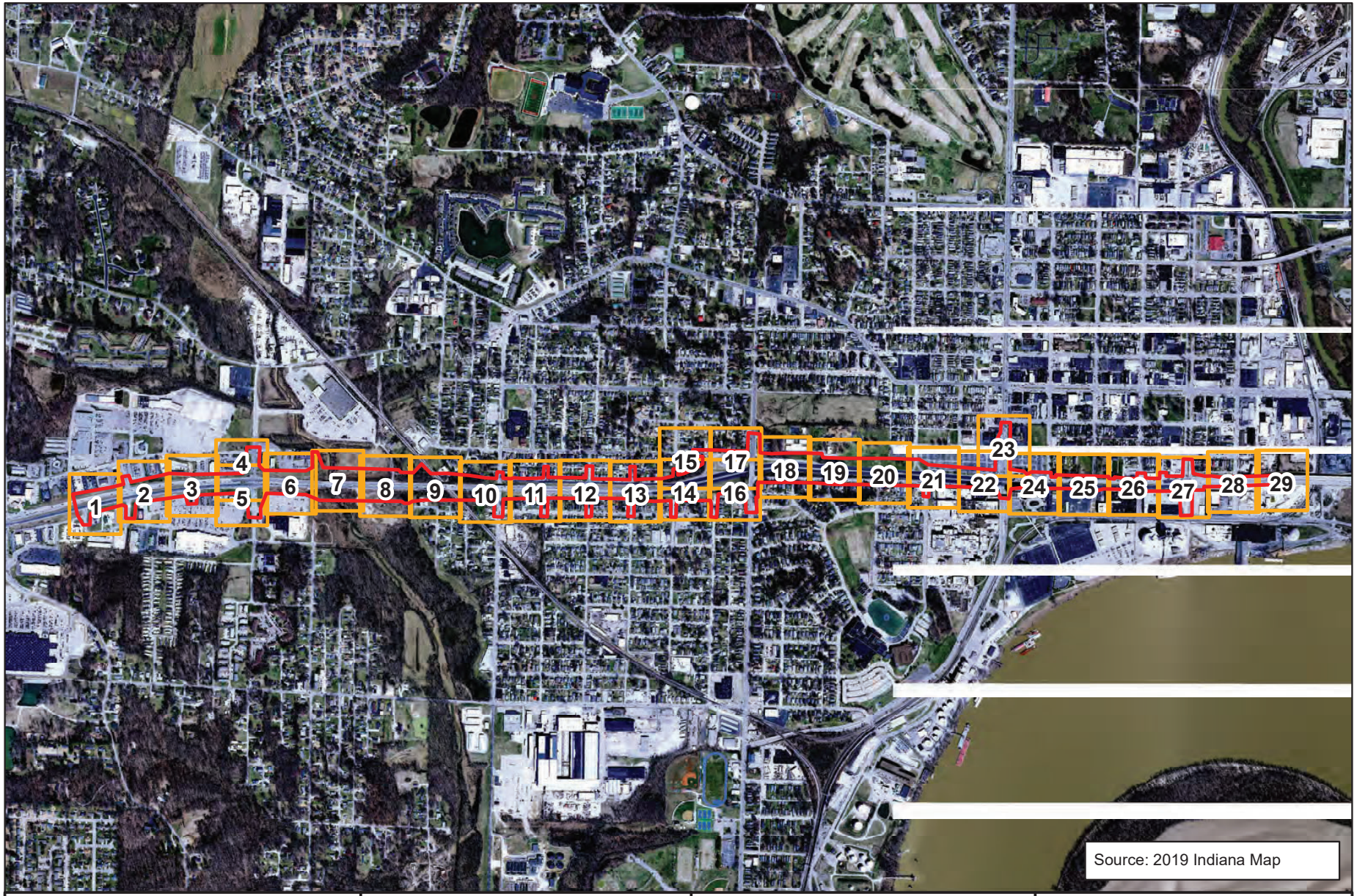
Floodway/Floodplain Map (2 of 2)

Des. No. 1900308 (Lead)

LOCHMUELLER GROUP

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

Aerial source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer
Floodplain source: https://gis.in.gov/arcgis/rest/services/DNR/FloodHazard_BestAvailable_IDNR_IN/MapServer/DNR/FloodHazard_BestAvailable_IDNR_IN



LOCHMUELLER GROUP
6200 Vogel Road
Evansville IN, 47715
Phone: (812) 479-6200
Toll Free: (800) 423-7411

Photo Location Index Map

Des. No. 1900308 (Lead)
Waters of the U.S. Report

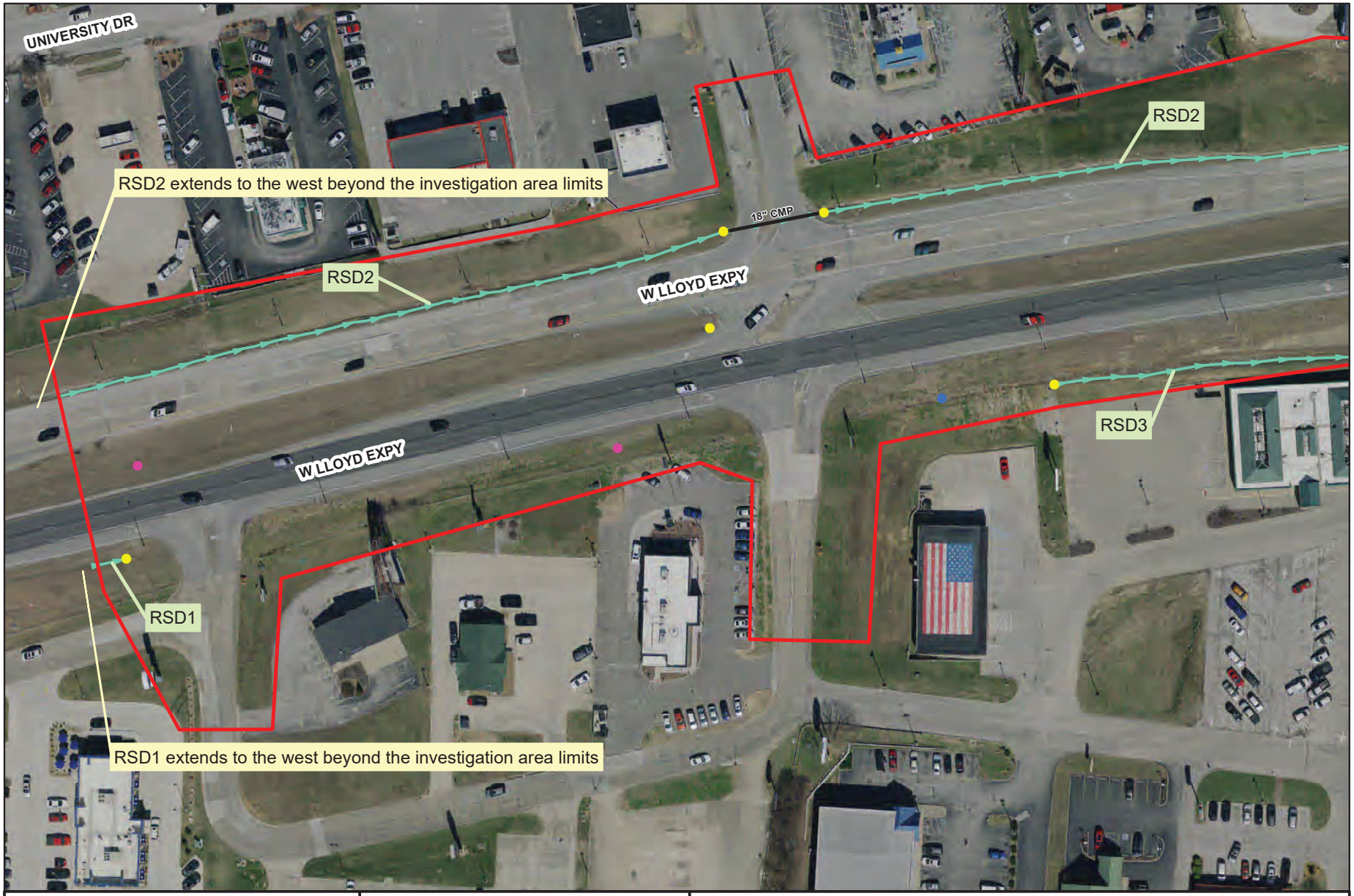
0 1,000 2,000 Feet

N

County: Vanderburgh
Township: Perry and Pigeon
State: Indiana

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US-41)
to Wabash Avenue (2.72 mi W of S Jct US-41)

Investigation Area
Photo Location Maps



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Water Resource Map (1 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

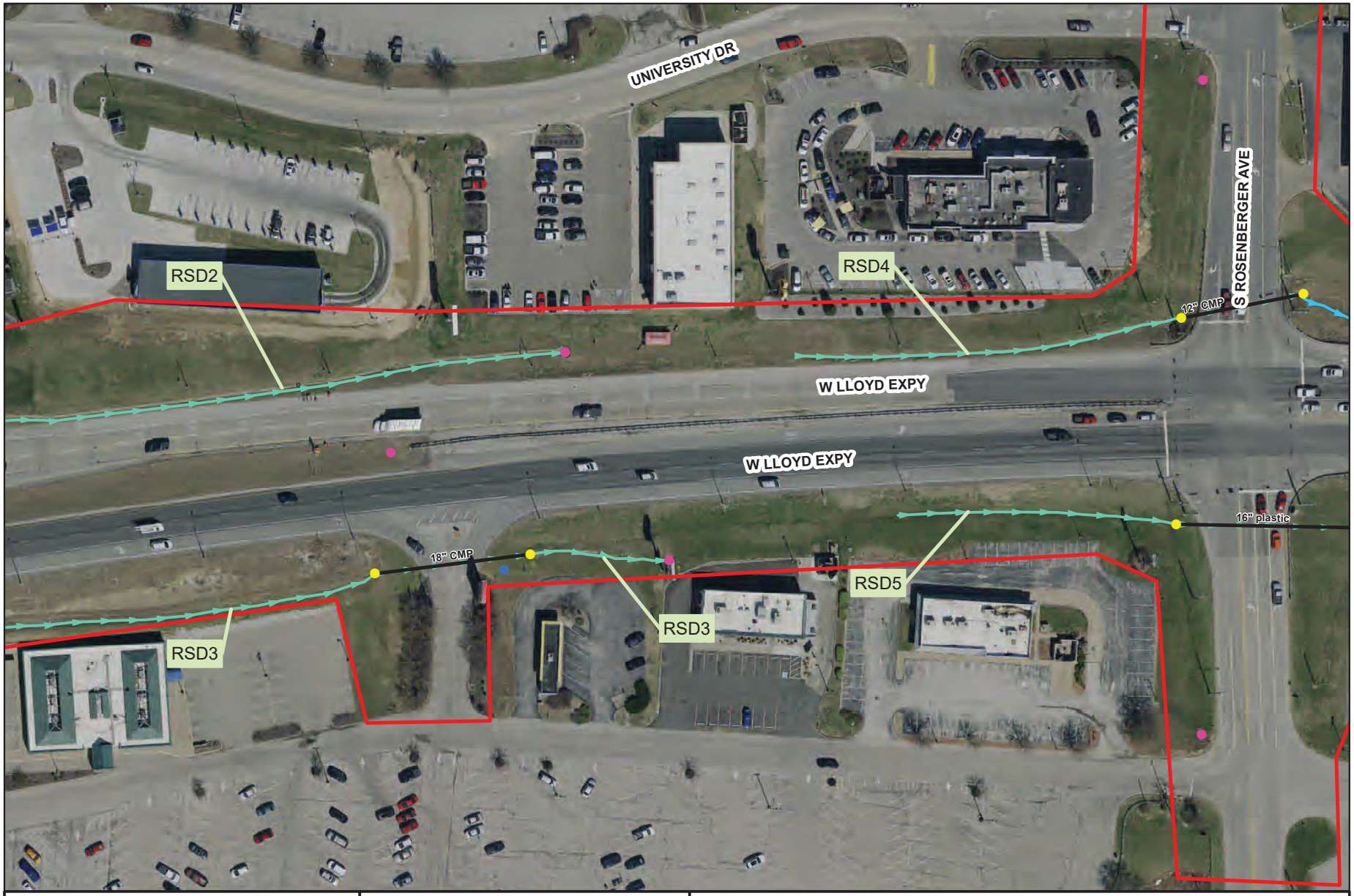
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

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Water Resource Map (2 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

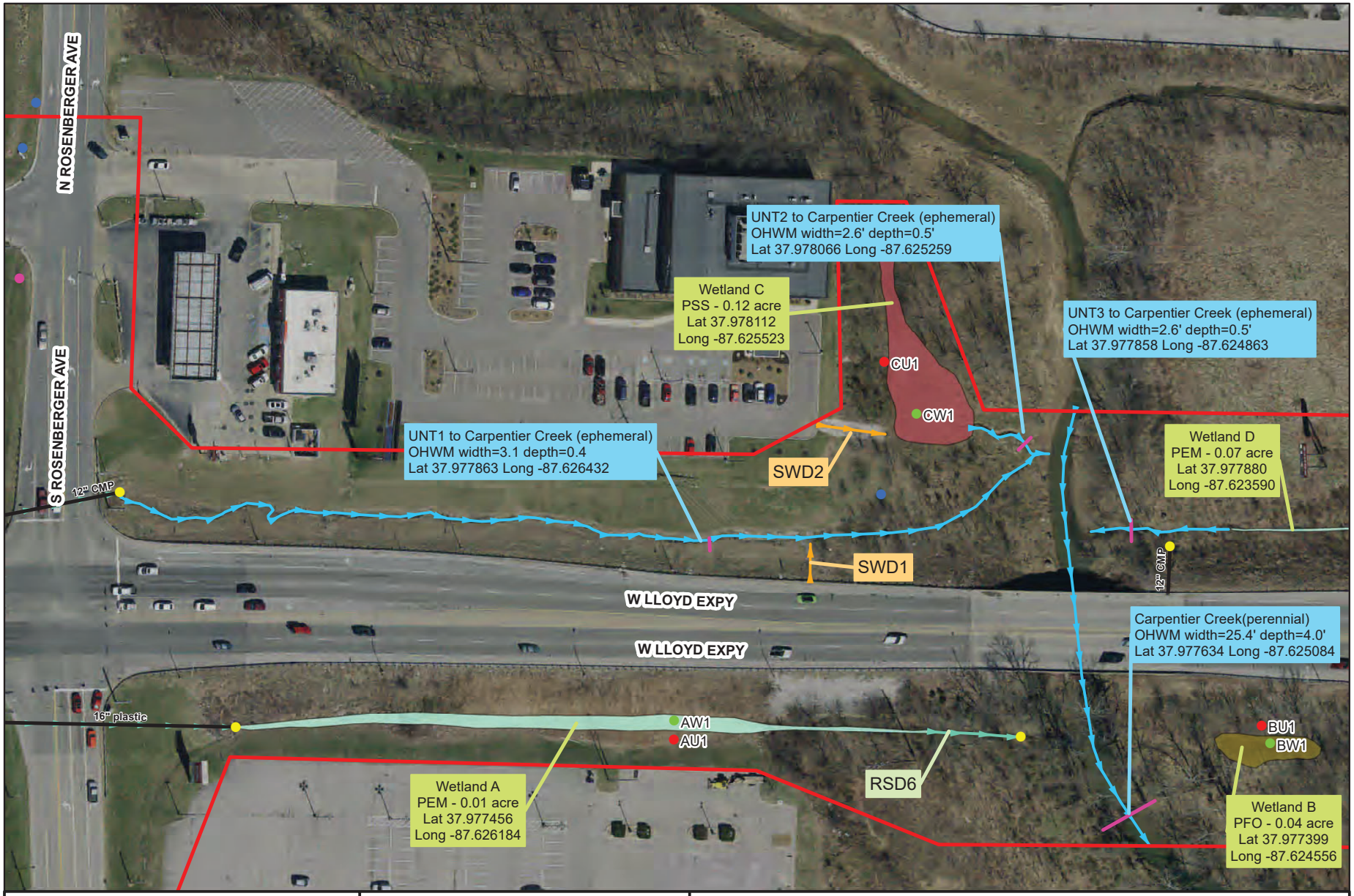
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

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R. Yeager

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Water Resource Map (3 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

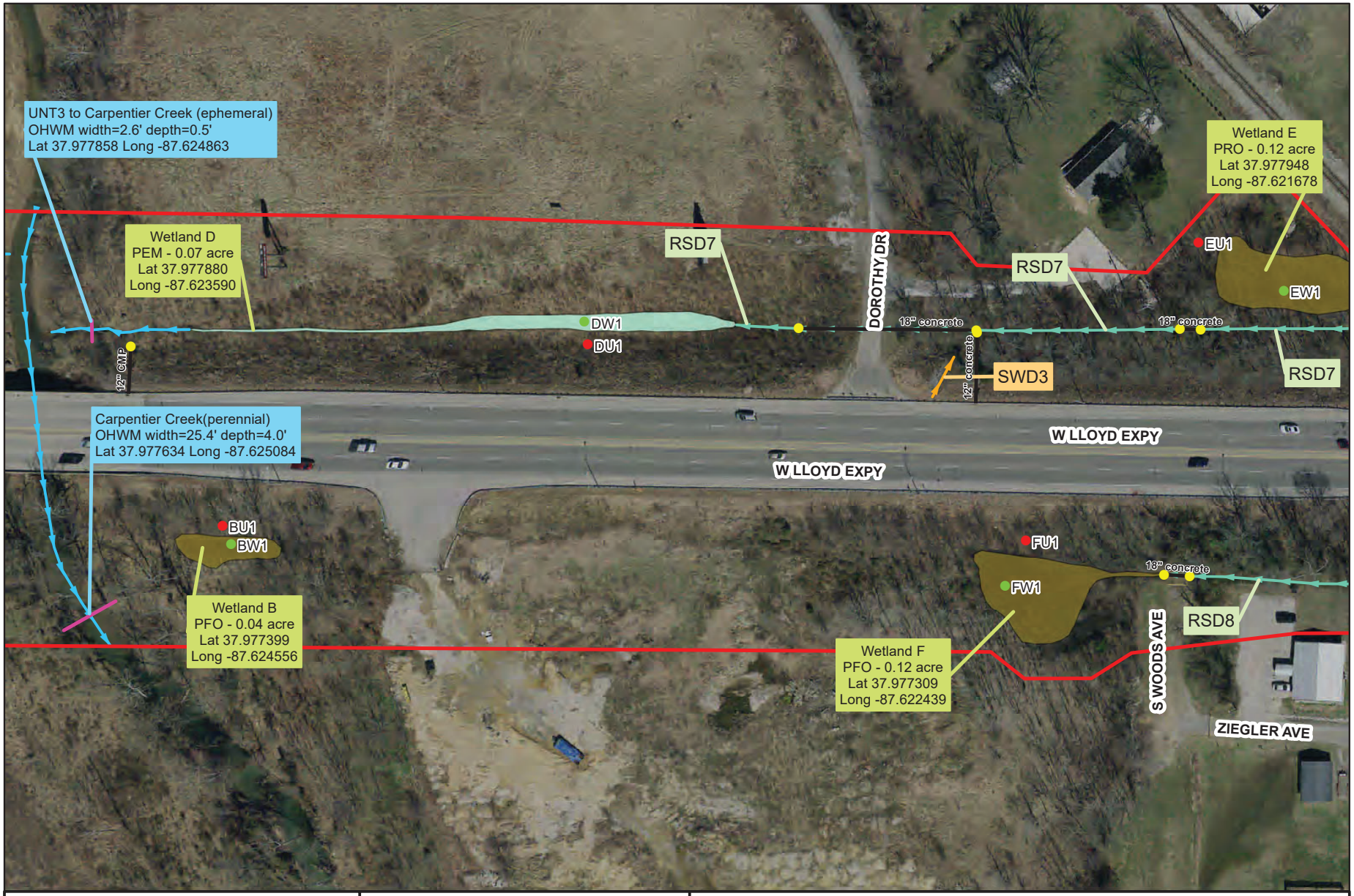
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

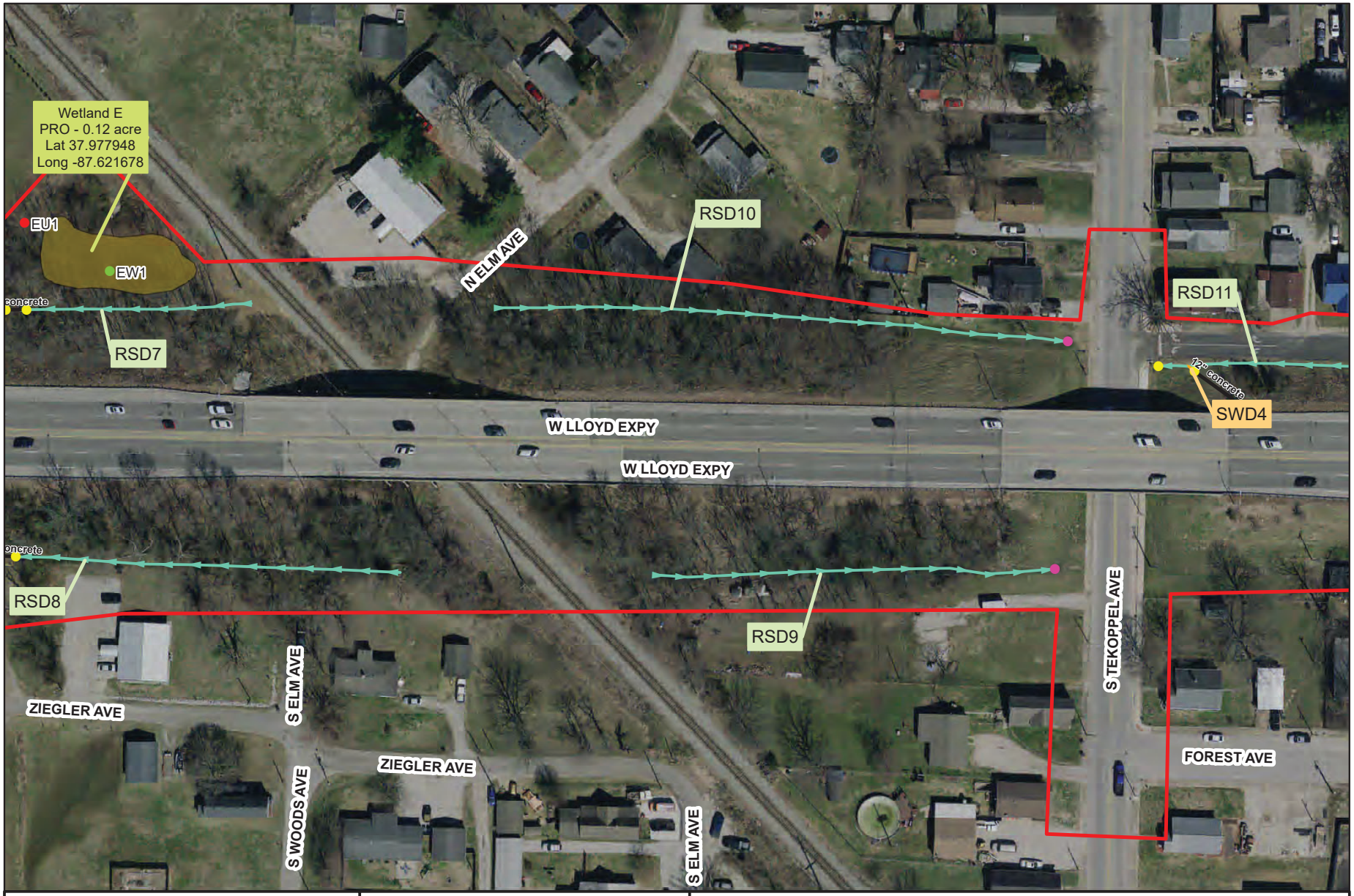
Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer


UNT3 to Carpentier Creek (ephemeral)
OHWM width=2.6' depth=0.5'
Lat 37.977858 Long -87.624863
Wetland D
PEM - 0.07 acre
Lat 37.977880
Long -87.623590
RSD7
DOROTHY DR
RSD7
Wetland E
PRO - 0.12 acre
Lat 37.977948
Long -87.621678
EU1
EW1
DW1
DU1
18" concrete
18" concrete
12" CMP
12" concrete
SWD3
RSD7
Carpentier Creek(perennial)
OHWM width=25.4' depth=4.0'
Lat 37.977634 Long -87.625084
W LLOYD EXPY
W LLOYD EXPY
BU1
BW1
Wetland B
PFO - 0.04 acre
Lat 37.977399
Long -87.624556
FU1
FW1
18" concrete
RSD8
Wetland F
PFO - 0.12 acre
Lat 37.977309
Long -87.622439
S WOODS AVE
ZIEGLER AVE
0 50 100 Feet
N
Created: 2/11/2023
R. Yeager
Water Resource Map
(4 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
Investigated Area
Culvert inlet/outlet
Stormwater drain
Manhole
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch
OHWM
Structures
Culvert
Wetland
PEM
PFO
PSS
Wetland data point
Upland data point
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

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Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (5 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

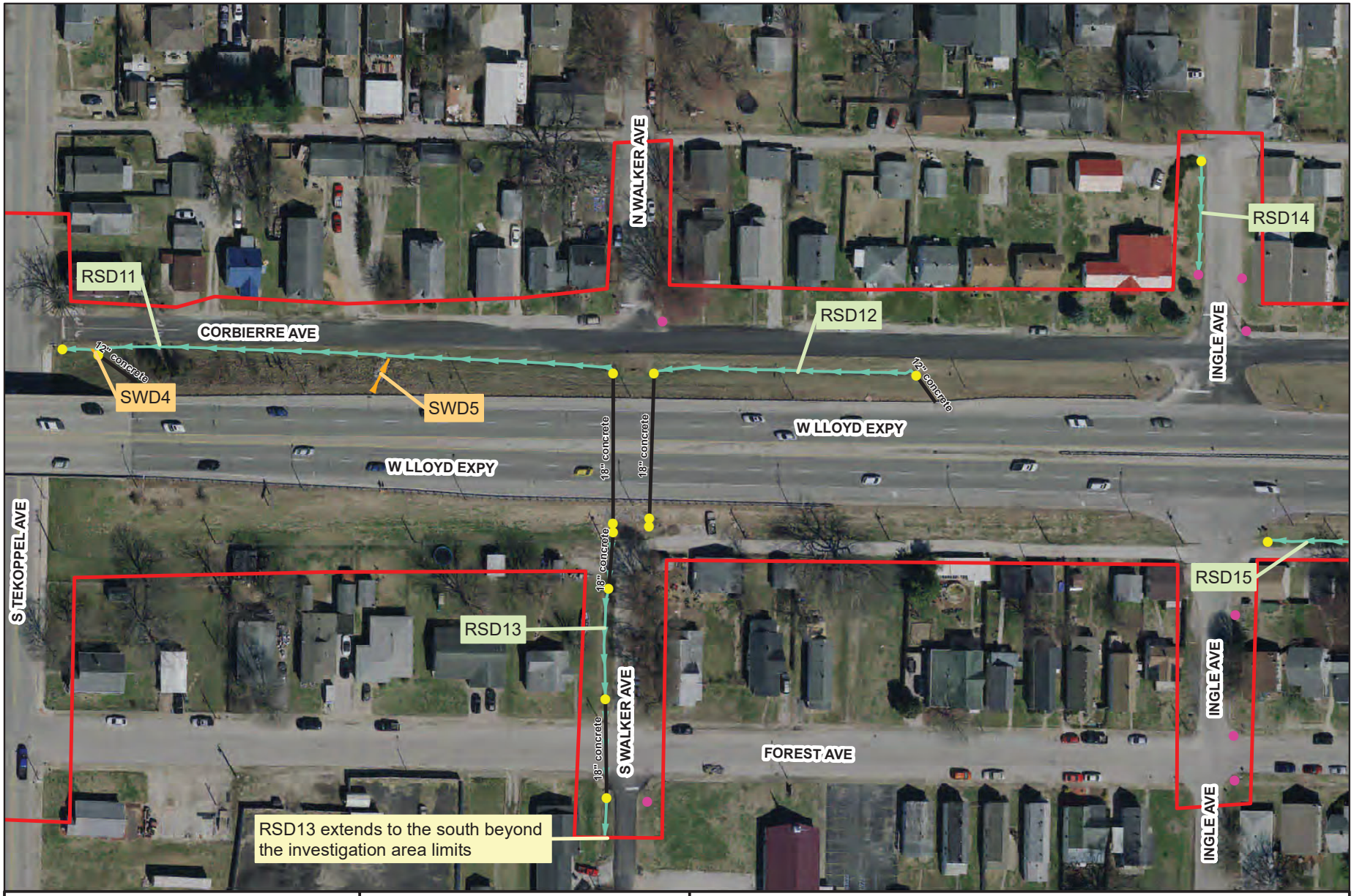
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (6 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

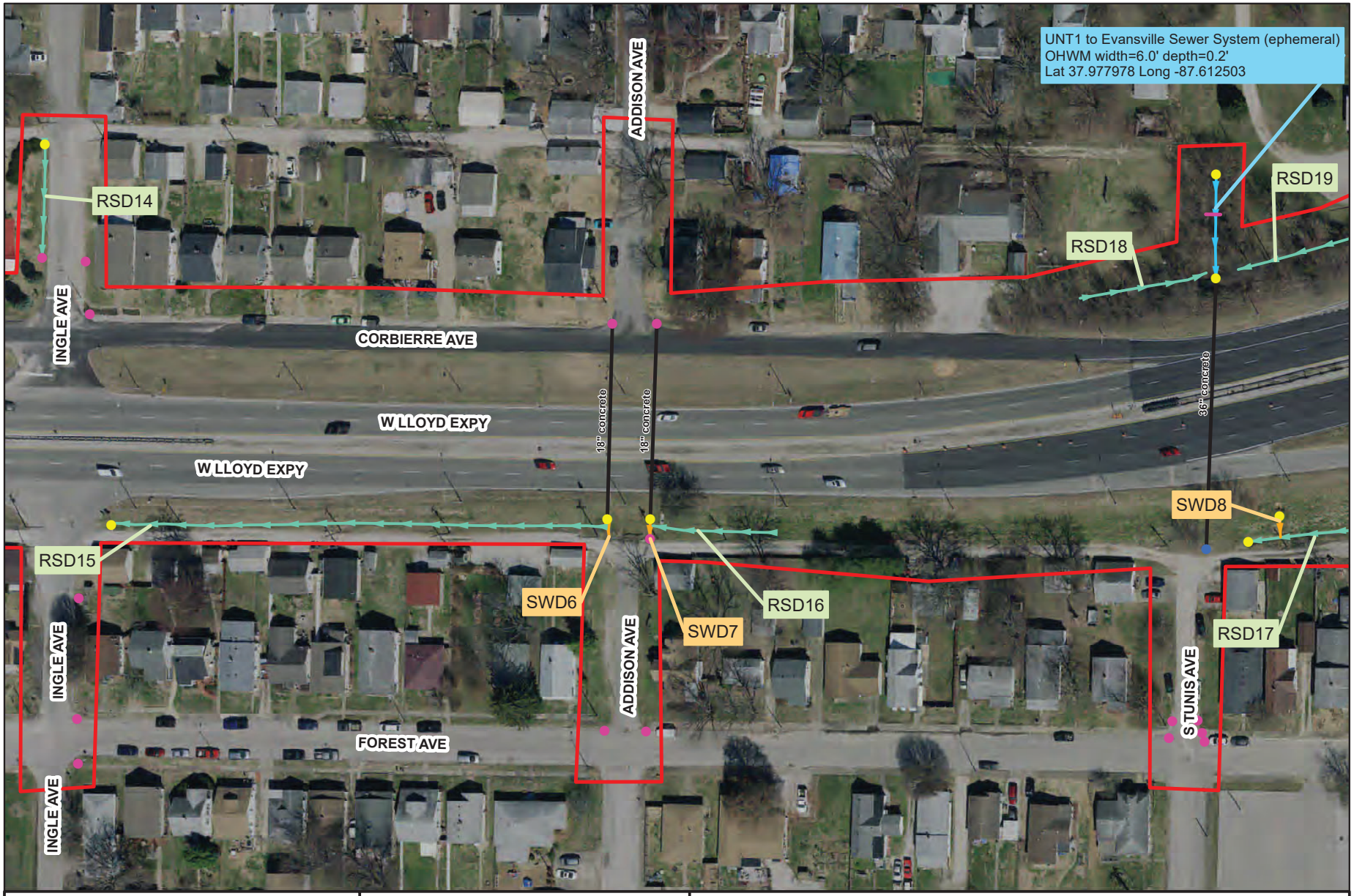
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (7 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

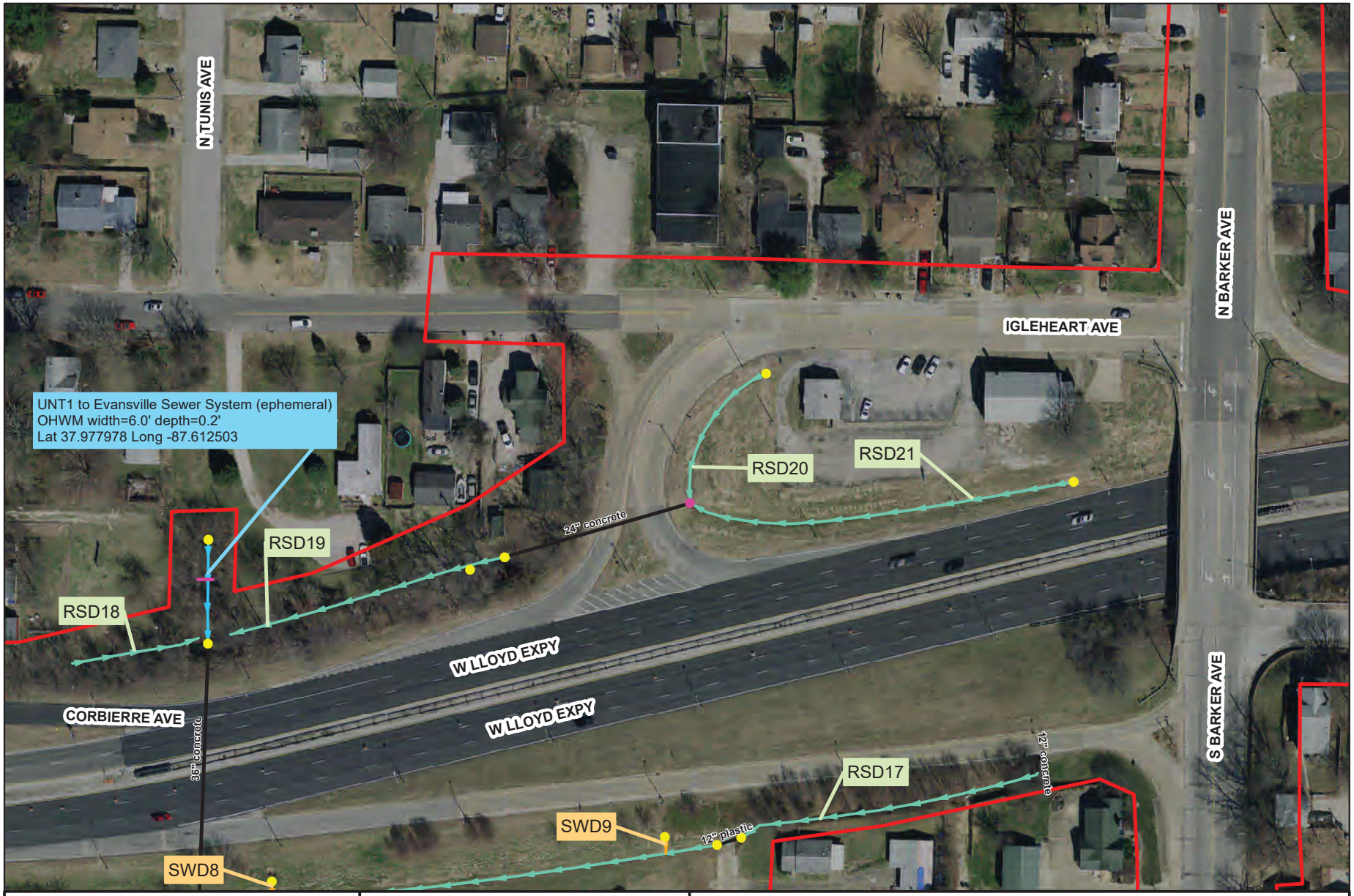
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (8 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer


RSD20
RSD21
RSD19
RSD18
24" concrete
W LLOYD EXPY
W LLOYD EXPY
CORBIERRE AVE
36" concrete
PENNSYLVANIA ST
S BARKER AVE
12" concrete
RSD17
SWD9
12" plastic
SWD8
RSD17
S TUNIS AVE
FOREST AVE
LESLIE AVE
FOREST AVE
FOREST AVE
0 50 100 Feet
N
Created: 2/11/2023
R. Yeager
Water Resource Map
(9 of 16)
Des. No. 1900308 (Lead)
LOCHMUELLER GROUP
SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)
Investigated Area
Culvert inlet/outlet
Stormwater drain
Manhole
Flow lines
Stream (OHWM)
Roadside ditch
Stormwater ditch
OHWM
Structures
Culvert
Wetland
PEM
PFO
PSS
Wetland data point
Upland data point
Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (10 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (11 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

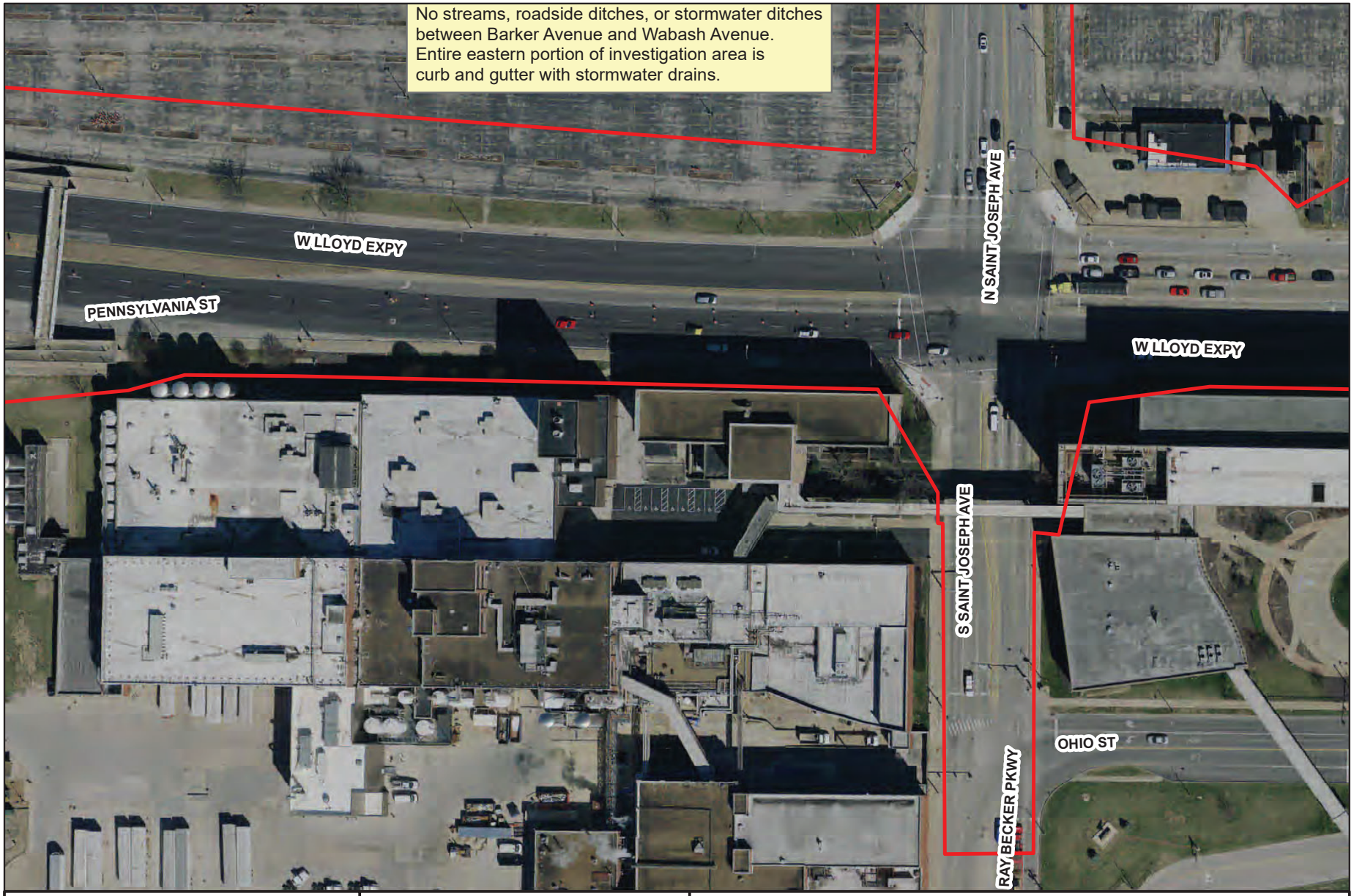
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (12 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

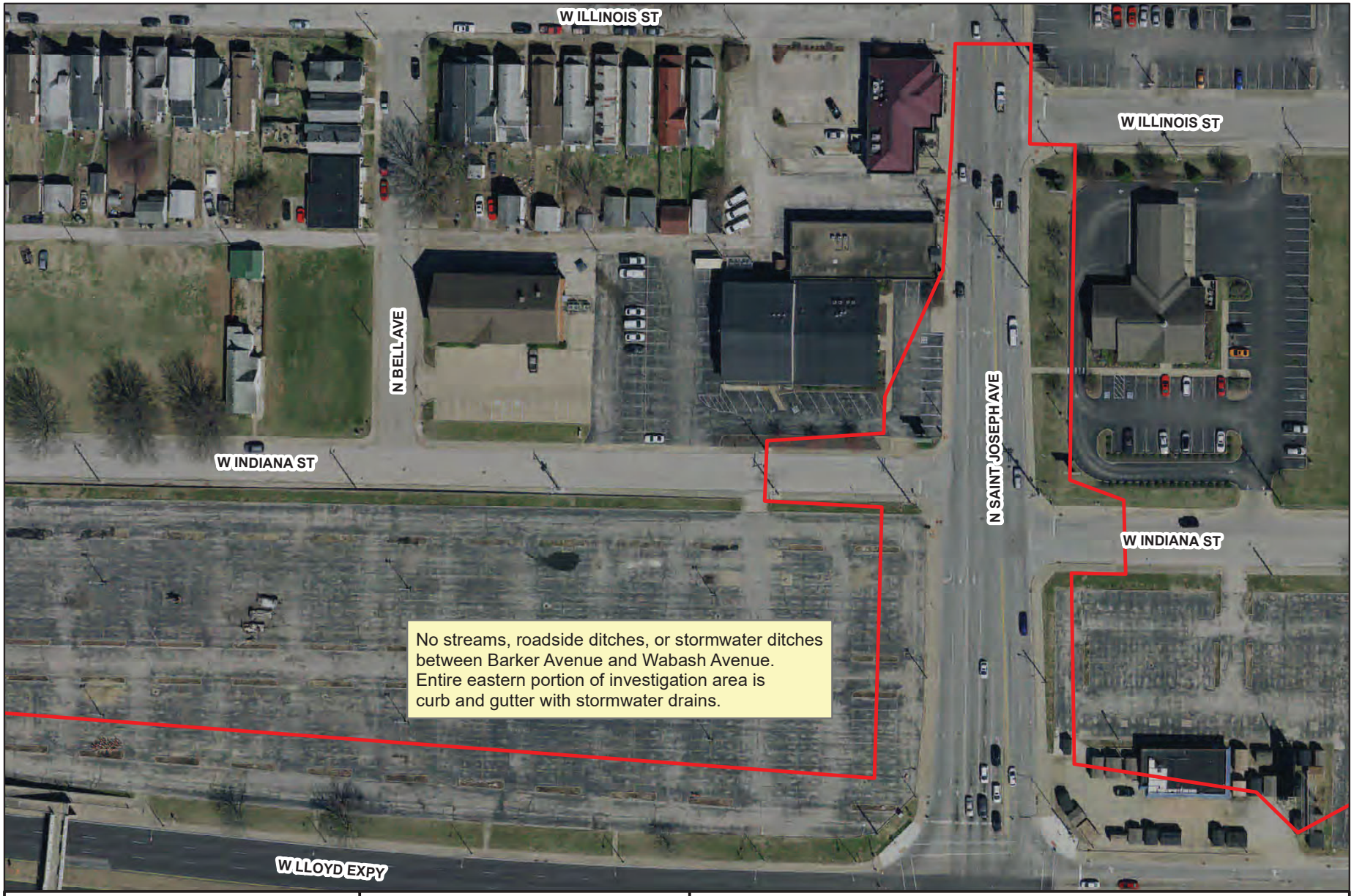
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (13 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

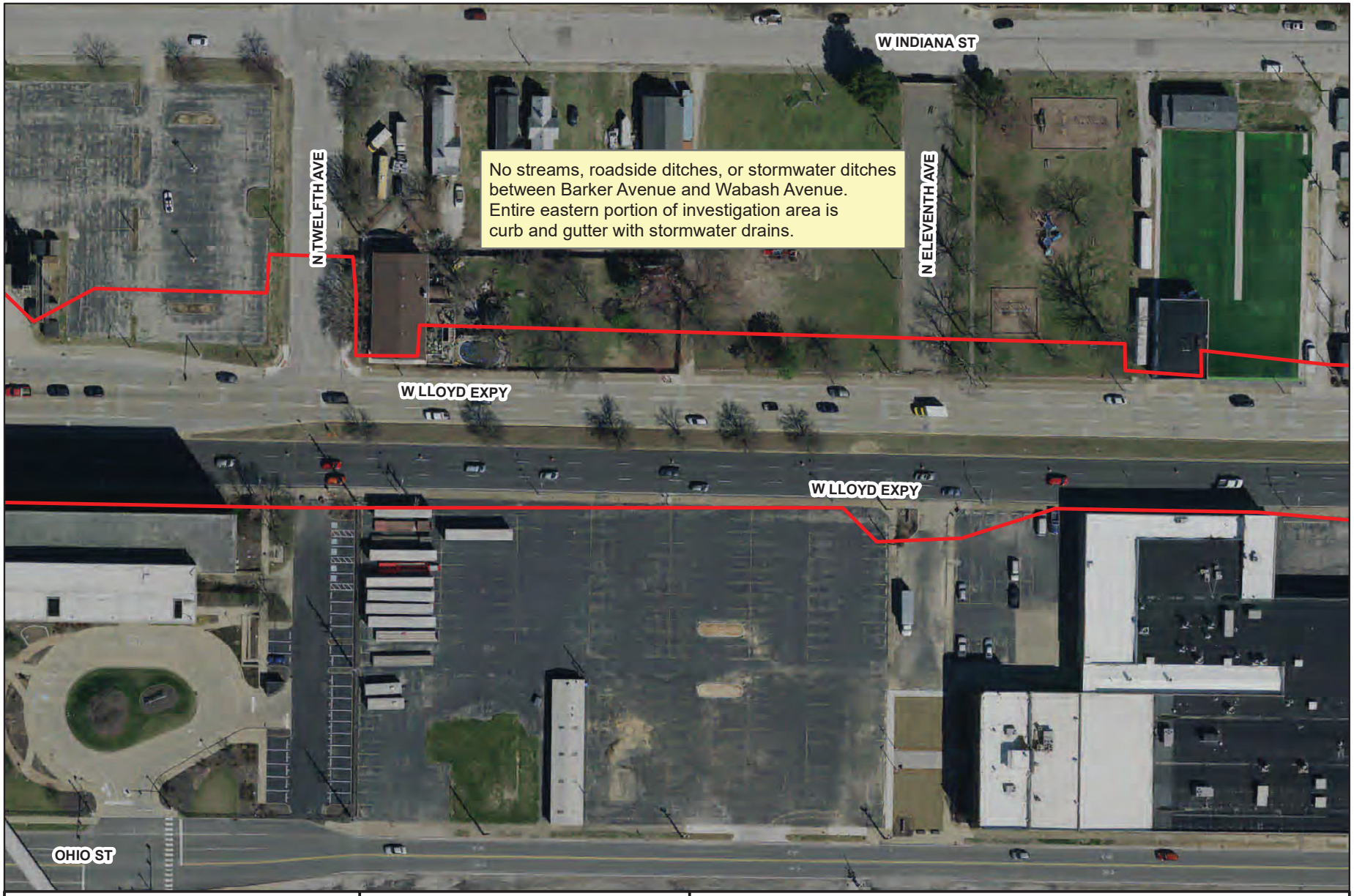
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



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Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (14 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

0 50 100 Feet

N

Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (15 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

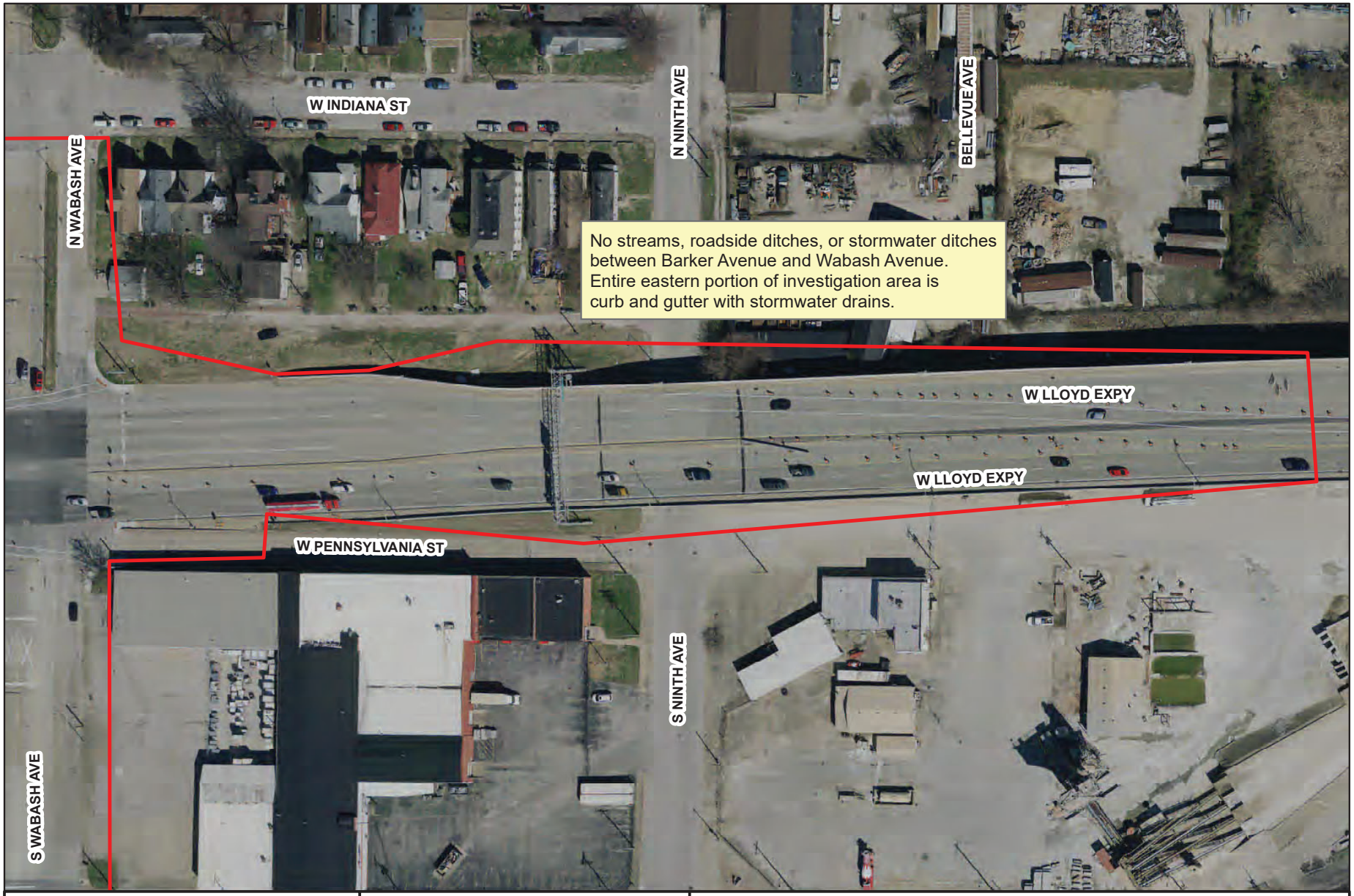
Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer



0 50 100 Feet

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Created: 2/11/2023
R. Yeager

LOCHMUELLER GROUP

Water Resource Map (16 of 16)

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41) to Wabash Avenue (2.72 mi W of S Jct US 41)

- Investigated Area
- Culvert inlet/outlet
- Stormwater drain
- Manhole

Flow lines
- Stream (OHWM)
- Roadside ditch
- Stormwater ditch
- OHWM

Structures
- Culvert

Wetland
- PEM
- PFO
- PSS

- Wetland data point
- Upland data point

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

Appendix D
Preliminary Jurisdictional Determination Forms

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: February 11, 2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Rusty Yeager
Lochmueller Group, 6200 Vogel Road, Evansville, IN 47715

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The project (Des. No. 1900308 (lead) is located along SR 62 from 0.36 mile west of Rosenberger Avenue to 0.19 mile east of Wabash Avenue in Evansville, Indiana. The SR 62 road improvement project involves three intersection improvements (Rosenberger Avenue, St. Joseph Avenue, and Wabash Avenue) and three bridge replacements (CSX Railroad/Evansville Western Railway, Tekoppel Avenue, and Carpentier Creek. The project will also include new lighting.

- Des. No. 1900308 – SR 62 (Lloyd) from Rosenberger Avenue to Wabash Avenue – Road Reconstruction
- Des. No. 2000187 – SR 62 (Lloyd) at Wabash Avenue – Intersection Improvements
- Des. No. 1900263 – SR 62 (Lloyd) at St. Joseph Avenue – Intersection Improvements
- Des. No. 1900264 – SR 62 (Lloyd) at Rosenberger Avenue – Intersection Improvements
- Des. No. 1500041 – SR 62 (Lloyd) over CSX Railroad/Evansville Western Railway – Bridge Replacement
- Des. No. 1600060 – SR 62 (Lloyd Expressway) over Tekoppel Avenue – Bridge Replacement
- Des. No. 1602258 – SR 62 (Lloyd Expressway) over Carpentier Creek – Bridge Replacement

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Indiana County/parish/borough: Vanderburgh City: Evansville

Center coordinates of site (lat/long in degree decimal format):

Lat.: 37.977638 Long.: -87.612405

Universal Transverse Mercator: 16S, 446215E, 4203510N

Name of nearest waterbody: Carpentier Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUAIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Carpentier Creek	37.977634	-87.625084	357 feet	non-wetland	Section 404
UNT1 to Carpentier Creek	37.977863	-87.626432	775 feet	non-wetland	Section 404
UNT2 to Carpentier Creek	37.978066	-87.625259	69 feet	non-wetland	Section 404
UNT3 to Carpentier Creek	37.977858	-87.624863	110 feet	non-wetland	Section 404
UNT1 to Evansville Sewer System	37.977978	-87.612503	83 feet	non-wetland	Section 404
Wetland A	37.977456	-87.626184	0.01 acre	wetland	Section 404
Wetland B	37.977399	-87.624556	0.04 acre	wetland	Section 404
Wetland C	37.978112	-87.625523	0.12 acre	wetland	Section 404
Wetland D	37.977880	-87.623590	0.07 acre	wetland	Section 404
Wetland E	37.977948	-87.621678	0.12 acre	wetland	Section 404
Wetland F	37.977309	-87.622439	0.12 acre	wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: Location map, topographic, soils, NWI, floodplain, aerial.
- ☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report. Rationale: _____.
- ☐ Data sheets prepared by the Corps: _____.
- ☐ Corps navigable waters' study: _____.
- ☐ U.S. Geological Survey Hydrologic Atlas: _____.
  - ☒ USGS NHD data.
  - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: Evansville South and West Franklin 1:24,000.
- ☒ Natural Resources Conservation Service Soil Survey. Citation: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.
- ☒ National wetlands inventory map(s). Cite name: https://www.fws.gov/wetlands/Data/Mapper.html.
- ☐ State/local wetland inventory map(s): _____.
- ☒ FEMA/FIRM maps: FIRM Map Number 18163C0157D and 18163C0176E.
- ☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): Indiana Map 2019.
  or ☒ Other (Name & Date): Ground photos August 25, 26, and 27, Sept. 2, 3, 24, and 28, 2021.
- ☐ Previous determination(s). File no. and date of response letter: _____.
- ☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	Rusty Yeager Digitally signed by Rusty Yeager Date: 2022.02.11 15:48:33 -06'00'
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix E
Bridge Bat Assessment Data

Bridge/Structure Bat Assessment Forms
Guano Collection Form
Bat Presence Map
Bat Photos

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
September 3, 2021, 1:42pm CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021930	37.9776 -87.6250	19.1 feet	110.0 feet

Structure Type (check one)

Bridge Construction Style

- (•) Cast-in-place
- ( ) Flat Slab/Box
- ( ) Truss (Side View)
- ( ) Parallel Box Beam
- ( ) Pre-stressed Girder
- ( ) Steel I-beam
- ( ) Covered
- ( ) Other:

Culvert Type

- ( ) Box
- ( ) Pipe/Round
- ( ) Other:

Other Structure

- ( )

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
[ ] Metal	[ ] None	[X] Concrete
[X] Concrete	[X] Concrete	[ ] Timber
[ ] Timber	[ ] Steel	[ ] Stone/Masonry
[ ] Open grid	[ ] Timber	[ ] Other:
[ ] Other:	[ ] Other:	

Culvert Material

- [ ] Metal
- [ ] Concrete
- [ ] Plastic
- [ ] Stone/Masonry
- [ ] Other:

Creosote Evidence

- ( ) Yes ( ) No
- ( ) Unknown

Notes:

Crossings Traversed (check all that apply)

[X] Bare ground	[ ] Open vegetation
[ ] Rip-rap	[ ] Closed vegetation
[X] Flowing water	[ ] Railroad
[ ] Standing water	[ ] Road/trail - Type:
[ ] Seasonal water	[ ] Other:

Surrounding Habitat (check all that apply)

[ ] Agricultural	[ ] Grassland
[X] Commercial	[ ] Ranching
[ ] Residential-urban	[X] Riparian/wetland
[ ] Residential-rural	[ ] Mixed use
[ ] Woodland/forested	[ ] Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)
[X] All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Concrete surfaces (open roosting on concrete)	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Spaces between concrete end walls and the bridge deck	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Crack between concrete railings on top of the bridge deck (Gap / Railing)	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Vertical surfaces on concrete I-beams	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Spaces between walls, ceiling joists	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Weep holes, scupper drains, and inlets/pipes	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] All guiderails	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] All expansion joints	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species

Name: Rusty Yeager

Signature: Rusty Yeager

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
September 2, 2021, 1:42pm CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021940	37.97769 -87.62083	22.4 feet	200.0 feet

Structure Type (check one)

Bridge Construction Style

- (•) Cast-in-place 
- ( ) Flat Slab/Box 
- ( ) Truss 
- ( ) Parallel Box Beam 
- ( ) Pre-stressed Girder 
- ( ) Steel I-beam 
- ( ) Covered 
- ( ) Other:

Culvert Type

- ( ) Box
- ( ) Pipe/Round
- ( ) Other:

Other Structure

- ( )

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
[ ] Metal	[ ] None	[X] Concrete
[X] Concrete	[X] Concrete	[ ] Timber
[ ] Timber	[X] Steel	[ ] Stone/Masonry
[ ] Open grid	[ ] Timber	[ ] Other:
[ ] Other:	[ ] Other:	

Creosote Evidence

- ( ) Yes ( ) No
- ( ) Unknown

Culvert Material

- [ ] Metal
- [ ] Concrete
- [ ] Plastic
- [ ] Stone/Masonry
- [ ] Other:

Notes:

Crossings Traversed (check all that apply)

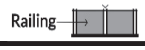
[ ] Bare ground	[ ] Open vegetation
[ ] Rip-rap	[ ] Closed vegetation
[ ] Flowing water	[X] Railroad
[ ] Standing water	[ ] Road/trail - Type:
[ ] Seasonal water	[ ] Other:

Surrounding Habitat (check all that apply)

[ ] Agricultural	[ ] Grassland
[X] Commercial	[ ] Ranching
[X] Residential-urban	[ ] Riparian/wetland
[ ] Residential-rural	[ ] Mixed use
[ ] Woodland/forested	[ ] Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)	
[X] All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[X] Concrete surfaces (open roosting on concrete)	[ ] Not present	[X] Visual - live # 2 dead # [X] Guano [X] Staining	[ ] Audible [ ] Odor [X] Photos Species: big brown bat
[ ] Spaces between concrete end walls and the bridge deck	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[ ] Crack between concrete railings on top of the bridge deck 	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[X] Vertical surfaces on concrete I-beams	[ ] Not present	[ ] Visual - live # dead # [X] Guano [X] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[X] Spaces between walls, ceiling joists	[ ] Not present	[X] Visual - live # 50+/- dead # [X] Guano [X] Staining	[X] Audible [ ] Odor [X] Photos Species: big brown bat
[ ] Weep holes, scupper drains, and inlets/pipes	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[X] All guiderails	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:
[X] All expansion joints	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining	[ ] Audible [ ] Odor [ ] Photos Species:

Name: Rusty Yeager

Signature: Rusty Yeager

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
September 2, 2021, 3:35pm CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021950	37.97735 -87.61893	18.0 feet	138.0 feet

Structure Type (check one)

Bridge Construction Style

- (•) Cast-in-place 
- ( ) Pre-stressed Girder 
- ( ) Flat Slab/Box 
- ( ) Steel I-beam 
- ( ) Truss 
- ( ) Covered 
- ( ) Parallel Box Beam 
- ( ) Other:

Culvert Type

- ( ) Box
- ( ) Pipe/Round
- ( ) Other:

Other Structure

- ( )

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
[ ] Metal	[ ] None	[X] Concrete
[X] Concrete	[ ] Concrete	[ ] Timber
[ ] Timber	[ ] Steel	[ ] Stone/Masonry
[ ] Open grid	[ ] Timber	[ ] Other:
[ ] Other:	[ ] Other:	

Creosote Evidence

- ( ) Yes ( ) No
- ( ) Unknown

Culvert Material

- [ ] Metal
- [ ] Concrete
- [ ] Plastic
- [ ] Stone/Masonry
- [ ] Other:

Notes:

Crossings Traversed (check all that apply)

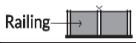
[ ] Bare ground	[ ] Open vegetation
[ ] Rip-rap	[ ] Closed vegetation
[ ] Flowing water	[ ] Railroad
[ ] Standing water	[X] Road/trail - Type: Tekoppel Avenue
[ ] Seasonal water	[ ] Other:

Surrounding Habitat (check all that apply)

[ ] Agricultural	[ ] Grassland
[ ] Commercial	[ ] Ranching
[X] Residential-urban	[ ] Riparian/wetland
[ ] Residential-rural	[ ] Mixed use
[ ] Woodland/forested	[ ] Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)
[X] All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Concrete surfaces (open roosting on concrete)	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Spaces between concrete end walls and the bridge deck	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Crack between concrete railings on top of the bridge deck 	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Vertical surfaces on concrete I-beams	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Spaces between walls, ceiling joists	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Weep holes, scupper drains, and inlets/pipes	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] All guiderails	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] All expansion joints	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species

Name: Rusty Yeager

Signature: Rusty Yeager

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
August 25, 2021, 11:20am CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021960	37.9782 -87.60973	14.2 feet	108.0 feet

Structure Type (check one)

Bridge Construction Style

- (•) Cast-in-place
- ( ) Flat Slab/Box
- ( ) Truss (Side View)
- ( ) Parallel Box Beam
- ( ) Pre-stressed Girder
- ( ) Steel I-beam
- ( ) Covered
- ( ) Other:

Culvert Type

- ( ) Box
- ( ) Pipe/Round
- ( ) Other:

Other Structure

- ( )

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
[ ] Metal	[ ] None	[X] Concrete
[X] Concrete	[ ] Concrete	[ ] Timber
[ ] Timber	[ ] Steel	[ ] Stone/Masonry
[ ] Open grid	[ ] Timber	[ ] Other:
[ ] Other:	[ ] Other:	

Culvert Material

- [ ] Metal
- [ ] Concrete
- [ ] Plastic
- [ ] Stone/Masonry
- [ ] Other:

Creosote Evidence

- ( ) Yes ( ) No
- ( ) Unknown

Notes:

Crossings Traversed (check all that apply)

[ ] Bare ground	[ ] Open vegetation
[ ] Rip-rap	[ ] Closed vegetation
[ ] Flowing water	[ ] Railroad
[ ] Standing water	[X] Road/trail - Type: SR62
[ ] Seasonal water	[ ] Other:

Surrounding Habitat (check all that apply)

[ ] Agricultural	[ ] Grassland
[ ] Commercial	[ ] Ranching
[X] Residential-urban	[ ] Riparian/wetland
[ ] Residential-rural	[ ] Mixed use
[ ] Woodland/forested	[ ] Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)
[X] All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Concrete surfaces (open roosting on concrete)	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Spaces between concrete end walls and the bridge deck	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] Crack between concrete railings on top of the bridge deck (Gap / Railing)	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] Vertical surfaces on concrete I-beams	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
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[ ] Weep holes, scupper drains, and inlets/pipes	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[ ] All guiderails	[X] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species
[X] All expansion joints	[ ] Not present	[ ] Visual - live # dead # [ ] Guano [ ] Staining [ ] Audible [ ] Odor [ ] Photos [ ] Species

Name: Rusty Yeager

Signature: Rusty Yeager

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
September 3, 2021, 3:16pm CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021970	37.97796 -87.60307	15.1 feet	138.0 feet

Structure Type (check one)

Bridge Construction Style

- ○ Cast-in-place
- ○ Flat Slab/Box
- ○ Truss (Side View)
- ○ Parallel Box Beam
- ○ Pre-stressed Girder
- ○ Steel I-beam
- ○ Covered
- ◉ Other: Girder and floorbeam system

Culvert Type

- ◉ Box
- ◉ Pipe/Round
- ◉ Other:

Other Structure

- ○

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
☐ Metal	☐ None	☒ Concrete
☒ Concrete	☐ Concrete	☐ Timber
☐ Timber	☒ Steel	☐ Stone/Masonry
☐ Open grid	☐ Timber	☐ Other:
☐ Other:	☐ Other:	

Creosote Evidence

- ◉ Yes ◉ No
- ◉ Unknown

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Notes:

Crossings Traversed (check all that apply)

☐ Bare ground	☐ Open vegetation
☐ Rip-rap	☐ Closed vegetation
☐ Flowing water	☐ Railroad
☐ Standing water	☒ Road/trail - Type: SR62
☐ Seasonal water	☐ Other:

Surrounding Habitat (check all that apply)

☐ Agricultural	☐ Grassland
☐ Commercial	☐ Ranching
☒ Residential-urban	☐ Riparian/wetland
☐ Residential-rural	☐ Mixed use
☐ Woodland/forested	☐ Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Concrete surfaces (open roosting on concrete)	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between concrete end walls and the bridge deck	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck (Gap / Railing)	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Vertical surfaces on concrete I-beams	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between walls, ceiling joists	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All guiderails	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All expansion joints	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Rusty Yeager

Signature: Rusty Yeager

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
September 3, 2021, 3:25pm CDT	2000691	SR 62	Vanderburgh
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
021971	37.97788 -87.59213	15.9 feet	62.0 feet

Structure Type (check one)

Bridge Construction Style

- (○) Cast-in-place
- (○) Flat Slab/Box
- (○) Truss — Side View
- (○) Parallel Box Beam
- (◉) Pre-stressed Girder
- (○) Steel I-beam
- (○) Covered
- (○) Other:

Culvert Type

- (○) Box
- (○) Pipe/Round
- (○) Other:

Other Structure

- (○)

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
☐ Metal	☐ None	☒ Concrete
☒ Concrete	☒ Concrete	☐ Timber
☐ Timber	☐ Steel	☐ Stone/Masonry
☐ Open grid	☐ Timber	☐ Other:
☐ Other:	☐ Other:	

Creosote Evidence

- (○) Yes (○) No
- (○) Unknown

Culvert Material

- ☐ Metal
- ☐ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Notes:

Crossings Traversed (check all that apply)

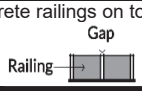
☐ Bare ground	☐ Open vegetation
☐ Rip-rap	☐ Closed vegetation
☐ Flowing water	☐ Railroad
☐ Standing water	☒ Road/trail - Type: SR62
☐ Seasonal water	☐ Other:

Surrounding Habitat (check all that apply)

☐ Agricultural	☐ Grassland
☐ Commercial	☐ Ranching
☒ Residential-urban	☐ Riparian/wetland
☐ Residential-rural	☐ Mixed use
☐ Woodland/forested	☐ Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	**Assessment Notes**	**Evidence of Bats** (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Concrete surfaces (open roosting on concrete)	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between concrete end walls and the bridge deck	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck 	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ Vertical surfaces on concrete I-beams	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between walls, ceiling joists	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All guiderails	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☒ All expansion joints	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Rusty Yeager

Signature: Rusty Yeager

Effective: November 2021

General Information

Name and company collecting guano:		Rusty Yeager (Lochmueller Group, Inc.)
Qualifications or degree held:		BS
DES Number:	1900041	Project Description:
Date of Inspection:	September 6, 2021	SR 62 (Lloyd Expressway) road reconstruction, intersection improvement, and bridge replacement.
Date of Collection:	December 27, 2021	
County:	Vanderburgh	

Bridge/Structure Information

Bridge/Structure Number:	062-82-02195 B	Bridge/Structure Location:
Bridge/Structure Lat/Long:	37.97769\-87.62083	Approximately 4.19 miles west of US 41 in Evansville, IN
Type of Bridge/Structure:	Concrete I-beam/concrete deck	
Feature Crossed:	Evansville Western RR	

Favorable Conditions on Bridge/Structure

Cracks in concrete: ✓ Expansion joints: ✓ Cave-like areas:

Large river or floodplain:
Forested and/or riparian:

Other: Deteriorated concrete and faces of concrete I-beams.

Indicators of Bats and Guano Collection

**If any checkbox is marked in this section a note(s) will need added regarding the box indicated.*

Visual Signs:	✓	Sound:	✓
Live Bats:	✓	Dead Bats:	
Droppings (guano):	✓	Staining:	✓

Type and number of samples collected: Five 15ml vial with RNALater

Additional notes: Sample submitted to Northern Arizona University Species from Feces Program

Sample Collection Table

Sample Number or Name (indicated on plan sheet attached)	Latitude Location	Longitude Location	Sample Area Description and Photo Number
See attachment			

Attachments:
Bridge/structure plan(s) with bats/guano indicated and sample locations
Applicable photos of bridge/structure and location of bats and/or guano
Guano analysis results from qualified research facility

Project	SR62 Lloyd Expressway CSX Railroad bridge, Vanderburgh County, Indiana at Evansville
INDOT DES	1900041
Latitude	37.97769
Longitude	-87.62083

Sample ID	Location	Date	Time (approx.)	Estimated pellets	Collected by
SR62 - RR1	east side, atop bridge pier wall	12/27/2021	4:38:00 pm EST	approx. 30	Rusty Yeager
SR62 - RR2	east side, between NB/SB lanes under pier beam	12/27/2021	4:42:00 pm EST	approx. 35	Kenan Lochmueller
SR62 - RR3/4	east side, composite sample from bay 3 and 4 between upper pier beam and abutment	12/27/2021	4:46:00 PM EST	approx. 10+20	Kenan Lochmueller
SR62 - RR5	east side, south side of bay 4 between upper pier beam and abutment	12/27/2021	4:50:00 PM EST	approx. 25	Kenan Lochmueller
SR62 - RR6/7	east side, composite sample from bay 5 and 6 between upper pier beam and abutment	12/27/2021	4:54:00 PM EST	approx. 30+10	Kenan Lochmueller

Contact:
Rusty Yeager
6200 Vogel Road
Evansville, IN 47715
812-759-1463
ryeager@lochgroup.com

0 12.5 25 Feet

N

Created: 2/14/2022
R. Yeager

Bat Presence Map

Des. No. 1900308 (Lead)

SR62/Lloyd Expressway, Road Improvement
Rosenberger Road (4.59 mi W of S Jct US 41)
to Wabash Avenue (2.72 mi W of S Jct US 41)

LOCHMUELLER GROUP

Guano and staing locations
- guano location
- staining on beams

Bats observed
- A 1 bat (9/2/221)
- B 30+ bat (9/2/2021)
- C 1 bat (12/27/2021)

- concrete beams
- steel beam
- piers and columns
- end bents

Aerial Source: 2019 Indiana Map https://imagery.gis.in.gov/arcgis/services/Imagery/BestAvailable/ImageServer

Bat location A: Big brown bat in acute angle corner at top of pier 2 on west side of pier away from railroad. - 9/2/2021

Bat location B: Big brown bats (30+) in expansion joint gap above pier 3 between center columns - 9/2/2021

Bat location C: Big brown bat in expansion joint crevice above pier 3 center columns on east side of railroad - 12/27/2021

Staining location 5: Staining in corner at top of pier 3 between center columns - 9/2/2021

Staining location 6: Staining on south face of beam 4 - 12/27/2021

Staining location 7: Staining on north face of beam 5 - 12/27/2021

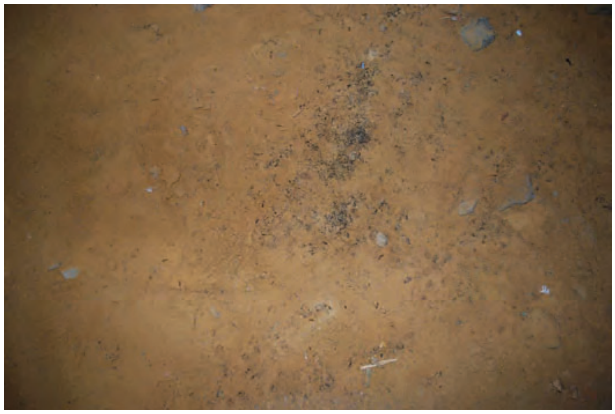
Staining location 8: Staining on north face of beam 7 - 12/27/2021

Guano location 1: Guano on concrete wall of pier 3 between columns - 12/27/2021

Guano location 2: Guano on dirt slope wall under pier 3 between beams 5 and 6 - 12/27/2021

Guano location 3: Guano on dirt slope wall east of pier 3 under beam 3 - 12/27/2021

Guano location 4: Guano on dirt slope wall east of pier 3 under beam 4 - 12/27/2021



Guano location 5: Guano on dirt slope wall east of pier 3 under beam 5 - 12/27/2021

Guano location 6: Guano on dirt slope wall east of pier 3 under beam 7 - 12/27/2021

Guano location 6: Guano on dirt slope wall east of pier 3 under beam 8 - 12/27/2021