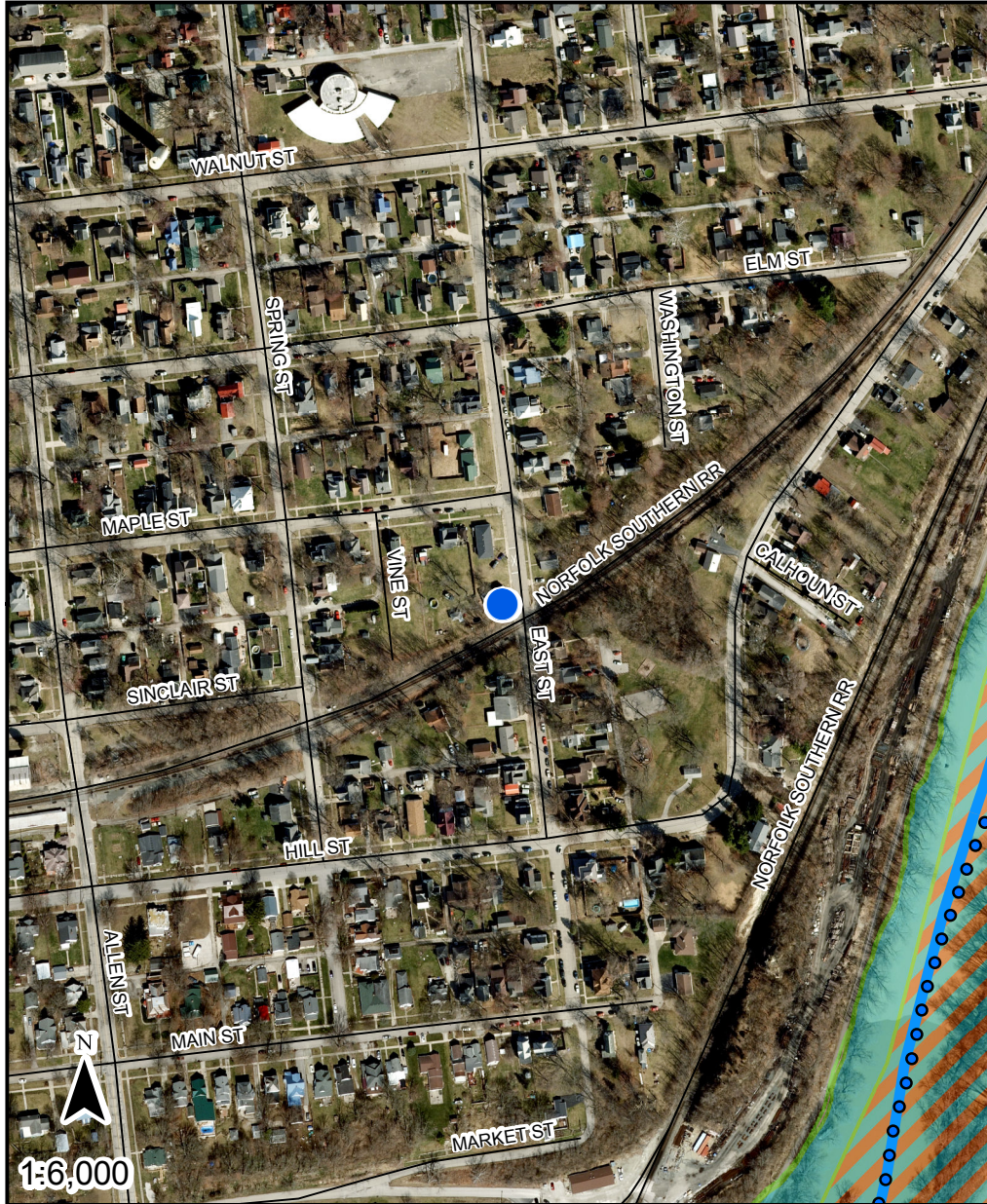


**Lead Des 1801915**  
**Appendix F**  
**Waters of the US Report**



- Point of Interest
- Base Flood Elevation Point

## Flood Elevation Points

- STUDIED STREAM

## Rivers and Streams at least 1 square mile

## Drainage Area (sq. miles)

- > 500
- ▨ FEMA Zone AE Floodway; FEMA Administrative Floodway
- ▨ FEMA Zone AE
- ▨ Additional Floodplain Area; DNR .2 Percent Flood Hazard

Point of Interest Coordinates  
(WGS84)

Long: **-85.8145315951**

Lat: **40.8007262247**

*The information provided below is based on the point of interest shown in the map above.*

County: **Wabash**

Approximate Ground Elevation: **740.1 feet (NAVD88)**

Stream Name:  
**Wabash River**

Base Flood Elevation: **665.7 feet (NAVD88)**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **Not Mapped**

National Flood Hazard Zone: **Not Mapped**

Is a Flood Control Act permit from the DNR needed for this location? **See following pages**

Is a local floodplain permit needed for this location? **Contact your local Floodplain Administrator-**

Floodplain Administrator: **James Straws, Floodplain Administrator/Building Commissioner**

Community Jurisdiction: **City Of Wabash, City proper**

Phone: **(260) 563-4171**

Email: **buildingdept@cityofwabash.com**

US Army Corps of Engineers District: **Louisville**

Date Generated: 1/23/2023 F1



*Aaron Kochlinger* 8/25/2021

**Waters Report  
Railroad Grade Separation Project  
City of Wabash, North East St, from north of Maple St to Hill St  
Wabash County, Indiana  
Des. 1801915**

Report Completed on: August 3, 2021

Prepared for:  
WSP USA, INC.

Prepared By:

Jeegar Panchal  
SJCA Inc.  
9102 N. Meridian St., Suite 200  
Indianapolis, IN 46260

p. 317.566.0629

f. 866.422.2046

e. [jpanchal@sjcainc.com](mailto:jpanchal@sjcainc.com)

**Site Location:**

Section 11, Township 27 N, Range 6 E  
Wabash 24K Quadrangle  
Wabash County, Indiana  
Latitude: 40.8010°                      Longitude: -85.8143°

**Field Investigation Date:** July 21, 2021

**Project Description**

The City of Wabash, with funding from the Indiana Department of Transportation (INDOT), proposes to rebuild a portion of East Street over the Norfolk Southern Railroad, Des. 1801915, in the City of Wabash, Wabash County, Indiana. The railroad is located approximately 0.08 miles north of E. Hill Street, and the proposed project will reconstruct N. East Street with a new bridge with mechanically stabilized earth (MSE) walls and elevated approximately 30 feet above the current grade of the railroad tracks. No existing bridges are within the project area. The reconstructed East Street roadway will provide a structure with an out-to-out coping width of 35 feet with two 11-foot wide travel lanes. The west side of the proposed structure will have a 1-foot, 8-inch wide shoulder while the east side of the new structure will have a 2-foot wide shoulder and a 5-foot, 8-inch wide sidewalk. Concrete bridge railings with pedestrian fences will be constructed on both sides of the structure, and guardrails will be placed along the bridge approach in all quadrants of the proposed structure. Three new drainage structures will be installed under the new roadway, and ditch grading will occur to ensure positive drainage. Riprap will be placed on the proposed MSE walls to protect from erosion.

**Methodology**

The delineation of wetlands and other “waters of the U.S.” on the site was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Environmental Laboratory, 2012)* as required by current U.S. Army Corps of Engineers (USACE) policy.

Prior to the field work, background information, including U.S. Geological Survey (USGS) topographic maps, aerial photographs, the USGS National Hydrography Dataset (NHD) layer on the Indiana Geological Society’s (IGS) IndianaMap website, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and the Natural Resources Conservation Service (NRCS) Web Soil Survey for Wabash County were reviewed to establish the probability and potential location of water resources on the site. Next, a general reconnaissance of the project area was conducted to determine site conditions. The project area was investigated for evidence of hydrology and dominant vegetation was documented. Sample points to examine soils were not taken, as hydrophytic vegetation and wetland hydrology indicators were not observed within the investigated area.

## Results/Discussion

### Site Description and Conditions

- **Topography:** The topography within the investigated area is relatively level, with a slight downhill slope toward the Wabash River to the south of the investigated area. The railroad corridor is bound by vegetated embankments on the north and south. The railroad is built on a gravel embankment in the center of the corridor.
- **Existing Land-Use:** Adjacent land use is primarily residential, with a railroad corridor located approximately in the center of the investigated area.
- **Plant Communities:** Vegetation in the investigated area is primarily herbaceous vegetation and grasses that are common along roadsides and in residential lawns. The north and south boundaries of the railroad corridor were forested with dominant tree species including American elm (*Ulmus americana*, FACW), black walnut (*Juglans nigra*, FACU), sugar maple (*Acer saccharum*, FACU), and Eastern redbud (*Cercis canadensis*, FACU). The sapling and shrub stratum of the railroad corridor was dominated by sugar maple, Amur honeysuckle (*Lonicera maackii*, NI), Japanese honeysuckle (*Lonicera japonica*, FACU), and slippery elm (*Ulmus rubra*, FAC) while the herb stratum was dominated by Amur honeysuckle, Japanese honeysuckle, and multiflora rose (*Rosa multiflora*, FACU). Tree species including white mulberry (*Morus alba*, FAC), tulip (*Liriodendron tulipifera*, FACU), basswood (*Tilia americana*, FACU), and catalpa (*Catalpa sp.*, FACU) were present in residential lawns in the investigated area.
- **Soils:** According to the Wabash County Soil Survey, soils mapped within the project area include:

**Table 1. Soil Types Within the Investigated Area**

Soil Abbreviation	Soil Unit Name	Hydric Rating
MsB2	<i>Milton silt loam, 2 to 6% slopes, eroded</i>	Contains 0% Hydric Inclusions
MvC2	<i>Morley silt loam, 6 to 12% slopes, eroded</i>	Contains 3% Hydric Inclusions

- **Hydrology:** According to the Indiana Department of Natural Resources (IDNR) Best Available Flood Hazard Area dataset (see attached Floodplain Map), the investigated area is not in a mapped floodplain. No streams are mapped within the investigated area (see attached NWI map). Based on the National Hydrography Dataset (NHD) (see attached NHD Flowlines map), one unclassified flowline segment is mapped along the northwest and southeast quadrant of the railroad corridor. This unclassified flowline segment is labeled as an artificial path and does not correspond with any observed features.
- **NWI Data:** According to the NWI map, no wetlands are mapped within the project area.
- **Site Conditions:** Site conditions were typical for mid-July. No precipitation was recorded during the five days prior to the site investigation (according to weather.com). Temperatures were considered average during the site investigation, with temperatures in the mid-seventies (° F).



## Findings

### Site Analysis

The investigated area included residential properties along North East Street and the corridor for the Norfolk Southern railroad. The Wabash River is located approximately 700 feet southeast of the investigated area, and the area slopes slightly southeast toward the river. Within the investigated area, hydrology is influenced by runoff from nearby residential properties and from drainage along the railroad corridor. According to the NWI map and USGS topographic map, there are no wetlands and no streams mapped within or adjacent to the project area. The railroad corridor is bound by forested embankments on both the north and south side of the railroad. The railroad corridor can be seen in photos 8-10, 13-17 and 24-26 in the attached photo key. The dominant vegetation along these embankments included American elm (*Ulmus americana*, FACW), black walnut (*Juglans nigra*, FACU), sugar maple (*Acer saccharum*, FACU), and Eastern redbud (*Cercis canadensis*, FACU) in the tree stratum; sugar maple, Amur honeysuckle (*Lonicera maackii*, NI), Japanese honeysuckle (*Lonicera japonica*, FACU), and slippery elm (*Ulmus rubra*, FAC) in the sapling/shrub stratum; and Amur honeysuckle, Japanese honeysuckle, and multiflora rose (*Rosa multiflora*, FACU) in the herb stratum. No plant communities meeting the criteria for a hydrophytic plant community were present and no indicators of wetland hydrology were observed anywhere within the investigated area. Therefore, no sample points were taken. No unmapped wetlands or streams were identified within the investigated area during the site visit.

### Other Water Features

The project area was reviewed for the presence of other water features such as open water, areas that do not have an OHWM but have concentrated flow, all roadside ditches, historic drainage, and unusual circumstances. No open water or other water features were identified in the investigated area.

## Conclusions

The investigated area was considered typical of railroad right-of-way and residential areas, with upland vegetation and quick draining soils. No streams or wetlands were identified within the investigated area; therefore, there are no jurisdictional waters within the investigated area.

The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the USACE. This report is our best judgment based on the guidelines set forth by the Corps.

## 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, the appropriate regional supplement, the USACE Jurisdictional Determination Form Instructional Guidebook, and other appropriate agency guidelines.

Jeegar Panchal

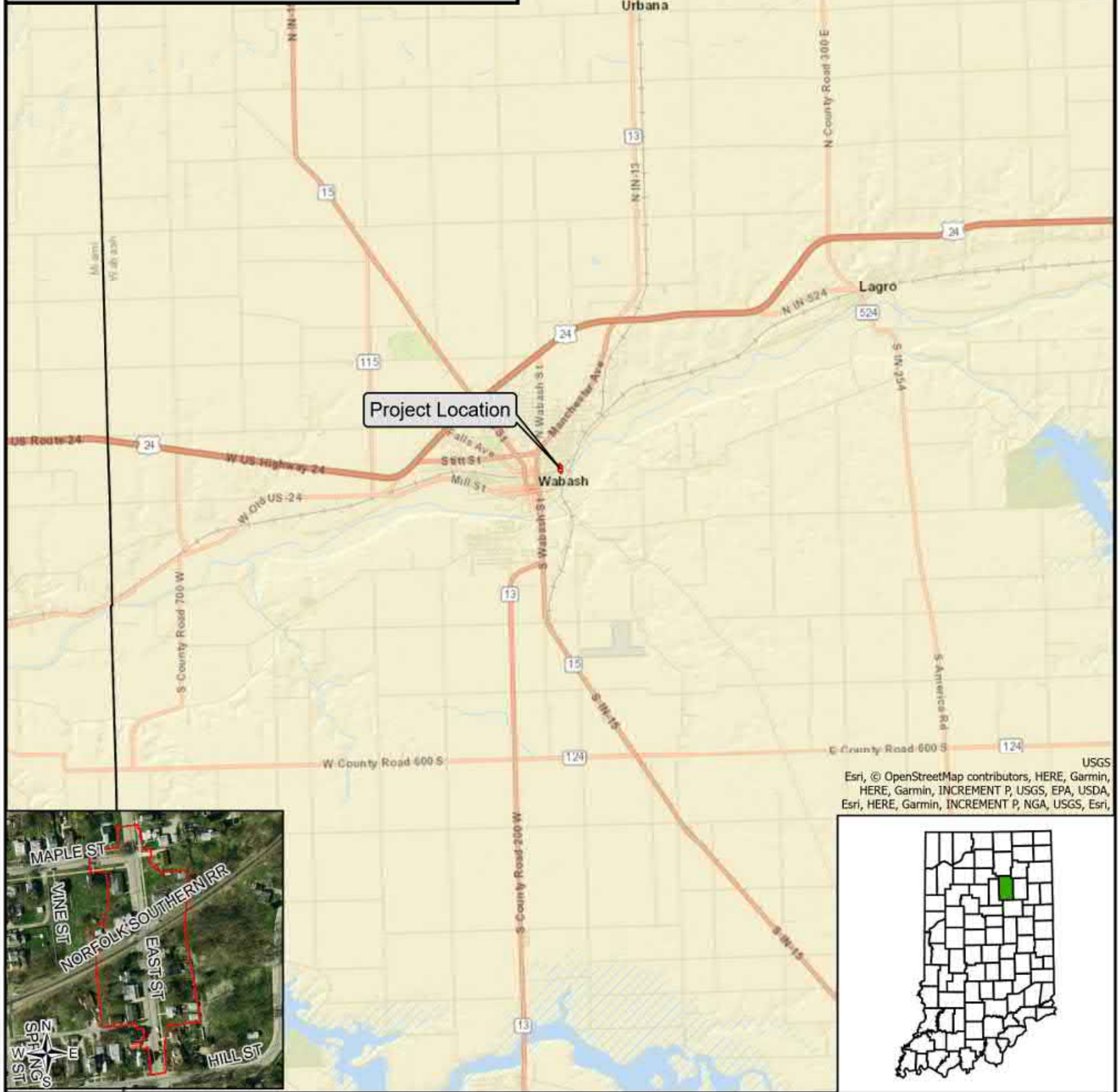


Ecologist  
SJCA Inc.  
Date: August 3, 2021

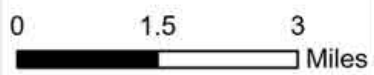
### **Supporting Documentation**


- Site Location Map
- Aerial Map
- USGS Topographic Maps
- Floodplain Map
- NHD Flowlines Map
- USFWS NWI Map
- NRCS Hydric Soil Map
- Photograph Location Map
- Watersheds Map
- Site Photographs

Project Location Map (1:130,000)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash County, Indiana  
 Source: ESRI World Streetmap



USGS  
 Esri, © OpenStreetMap contributors, HERE, Garmin,  
 HERE, Garmin, INCREMENT P, USGS, EPA, USDA,  
 Esri, HERE, Garmin, INCREMENT P, NGA, USGS, Esri,

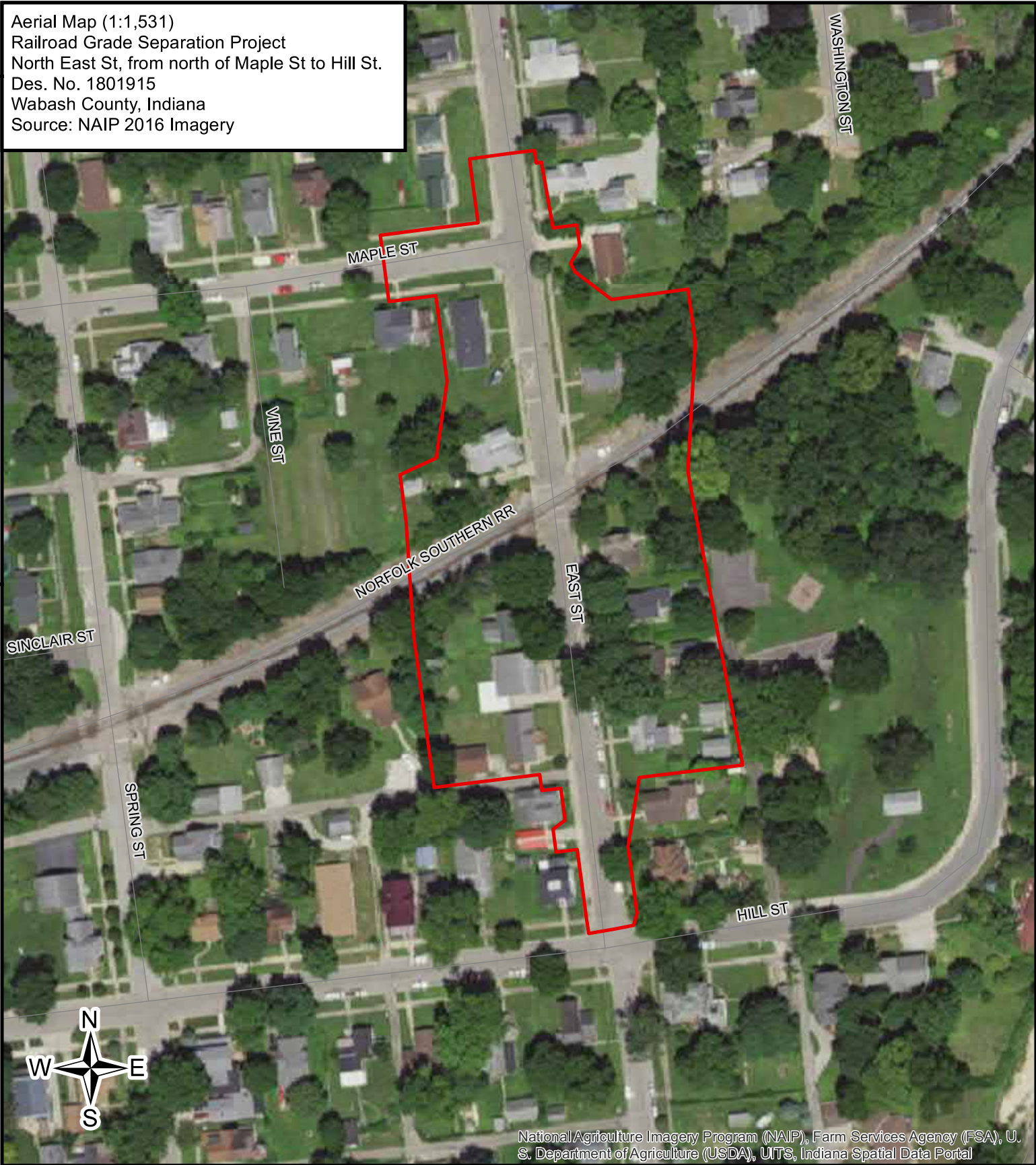


-  County Boundary
-  Project County
-  Investigated Area





Aerial Map (1:1,531)  
Railroad Grade Separation Project  
North East St, from north of Maple St to Hill St.  
Des. No. 1801915  
Wabash County, Indiana  
Source: NAIP 2016 Imagery



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

0 90 180  
Feet

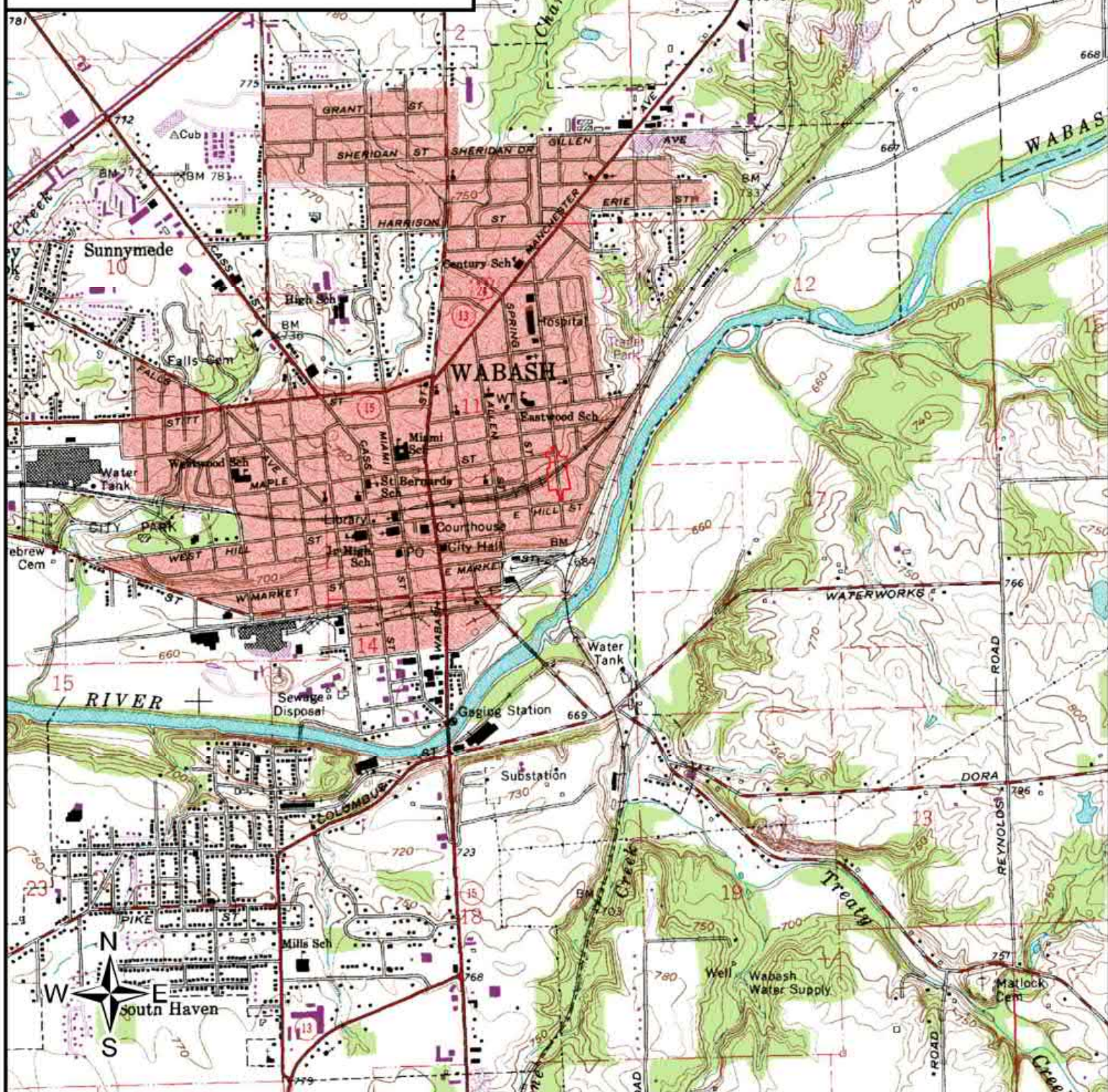
Investigated Area



7/20/2021



Topographic Map (1:24,000)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash Quadrangle, Wabash County, Indiana  
 Source: US Geological Survey, PLSS



0 0.28 0.55  
 Miles

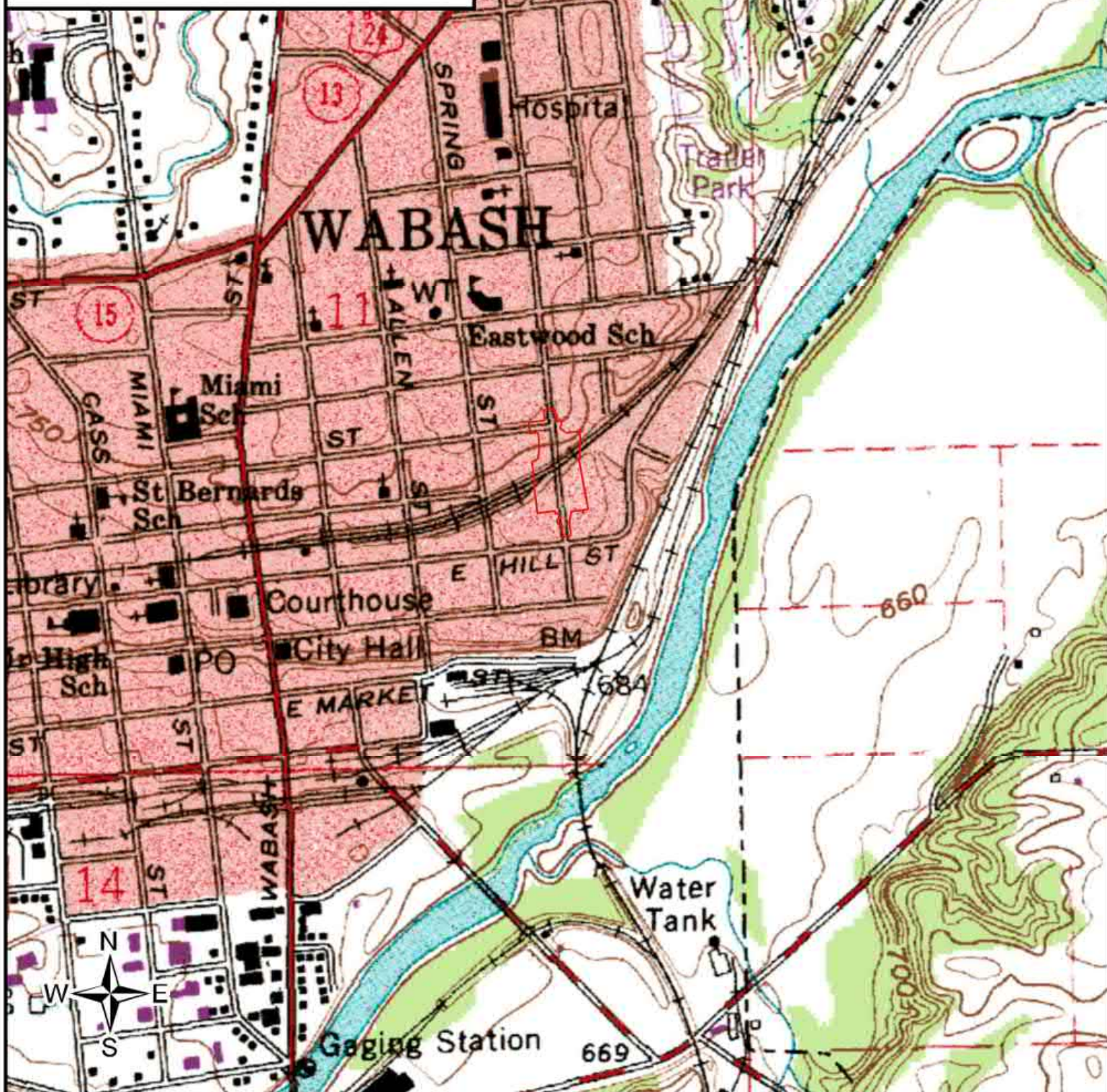
Investigated Area



7/20/2021



Topographic Map (1:10,000)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash Quadrangle, Wabash County, Indiana  
 Source: US Geological Survey, PLSS



0 0.1 0.2  
 Miles

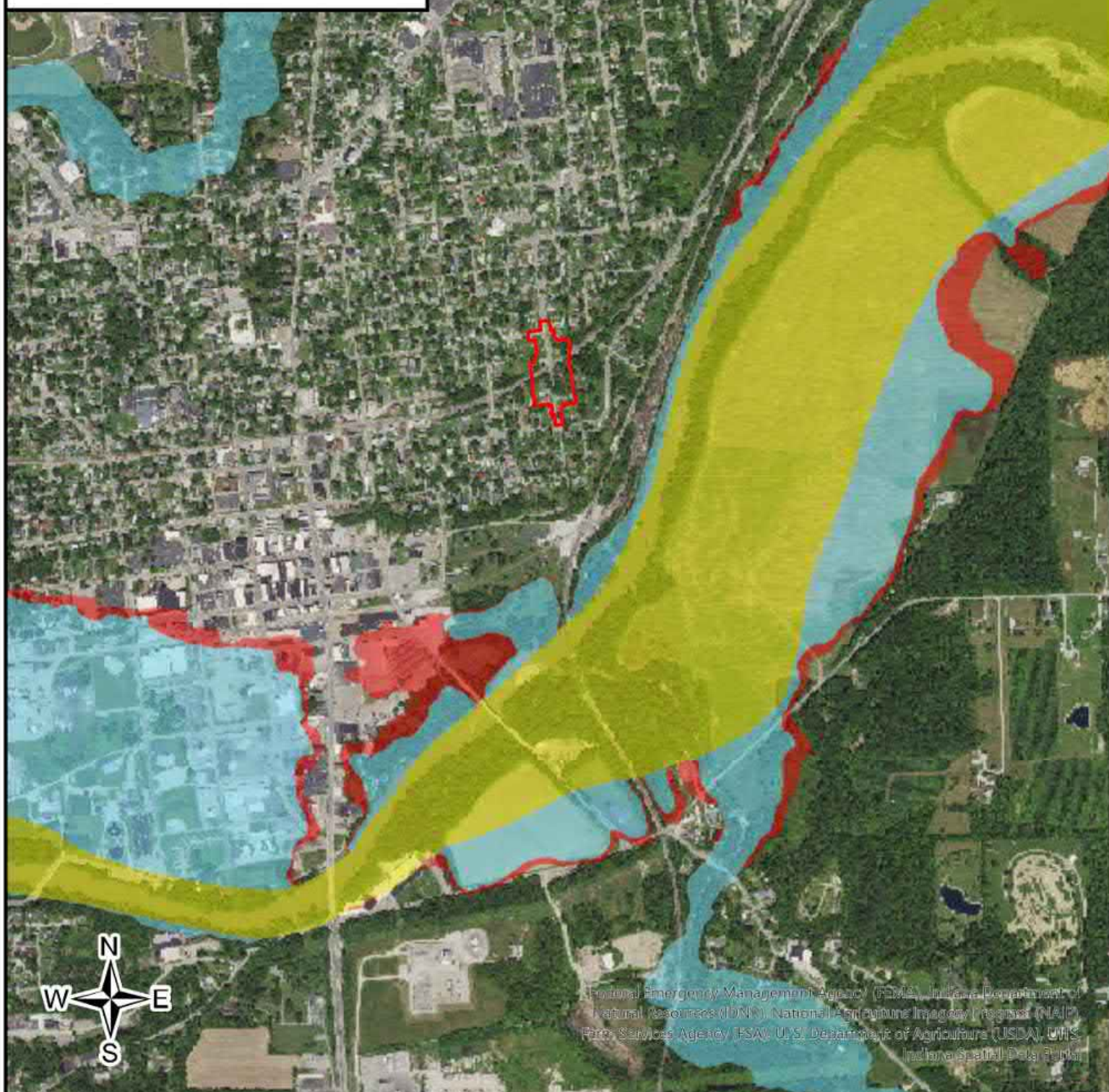
Investigated Area



7/20/2021



Floodplain Map (1:12,288)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash County, Indiana  
 Source: FEMA, IDNR, & NAIP 2016 Imagery



0 0.13 0.25  
 Miles

- Investigated Area
- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard






7/20/2021



NHD Flowline Map (1:1,311)  
Railroad Grade Separation Project  
North East St, from north of Maple St to Hill St  
Des. No. 1801915  
Wabash County, Indiana  
Source: NAIP 2016 Imagery



0 0.01 0.03  
Miles

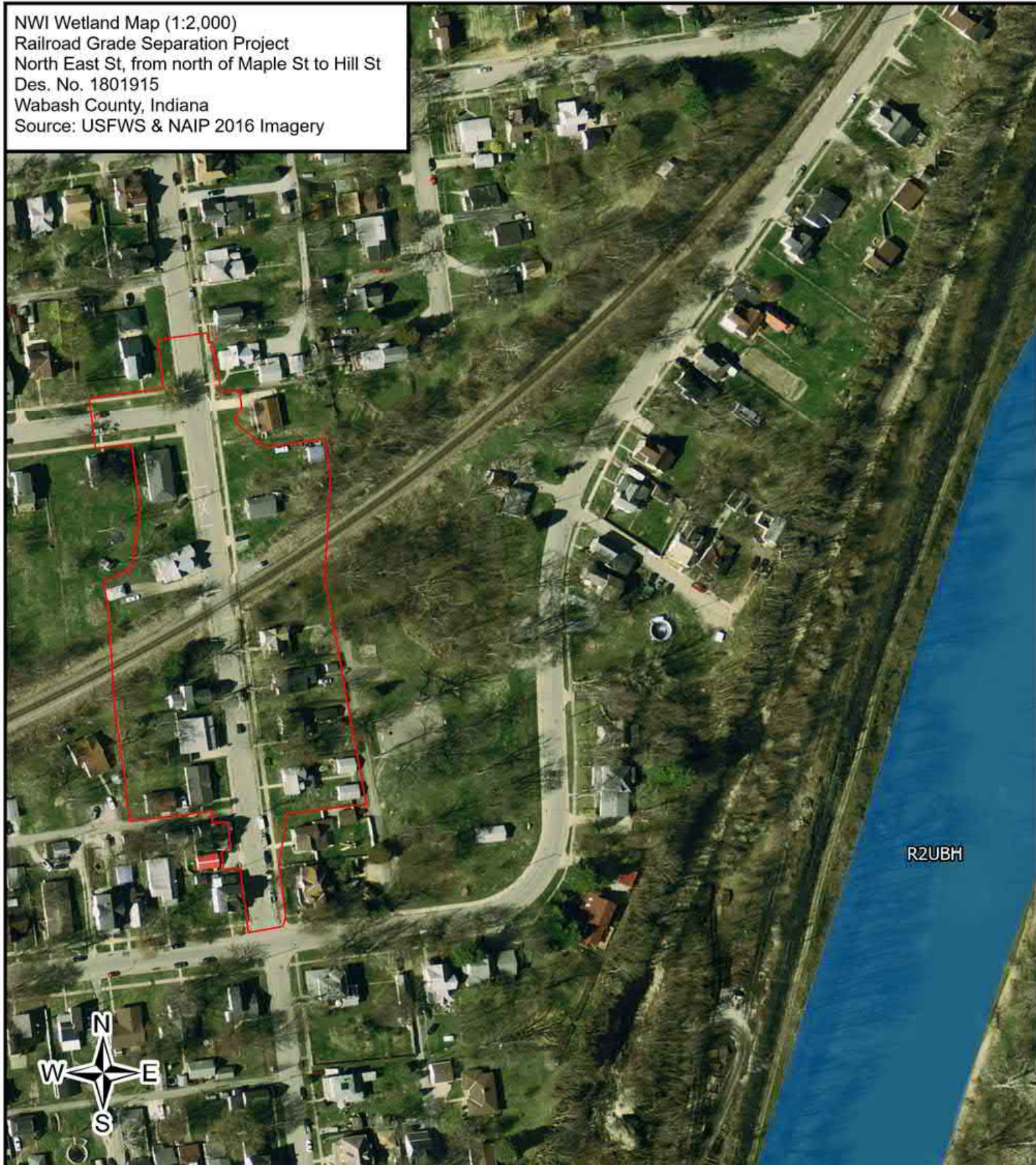
-  Investigated Area
-  NHD Flowline - Classified
-  NHD Flowline - Unclassified



7/20/2021



NWI Wetland Map (1:2,000)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash County, Indiana  
 Source: USFWS & NAIP 2016 Imagery



R2UBH

0 0.02 0.04  
 Miles

Investigated Area

NWI Wetlands

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Riverine

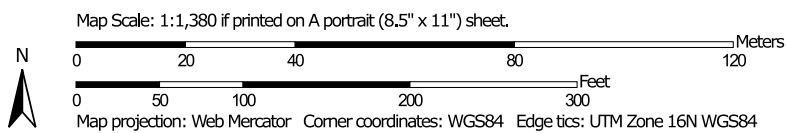
Other



7/20/2021



Soil Map  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. 1801915  
 Wabash County, Indiana




Natural Resources  
 Conservation Service

Web Soil Survey  
 National Cooperative Soil Survey







## MAP LEGEND

### Area of Interest (AOI)







 Area of Interest (AOI)

### Soils







#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available


#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available






#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

-  Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Wabash County, Indiana  
Survey Area Data: Version 25, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 12, 2013—Feb 16, 2017

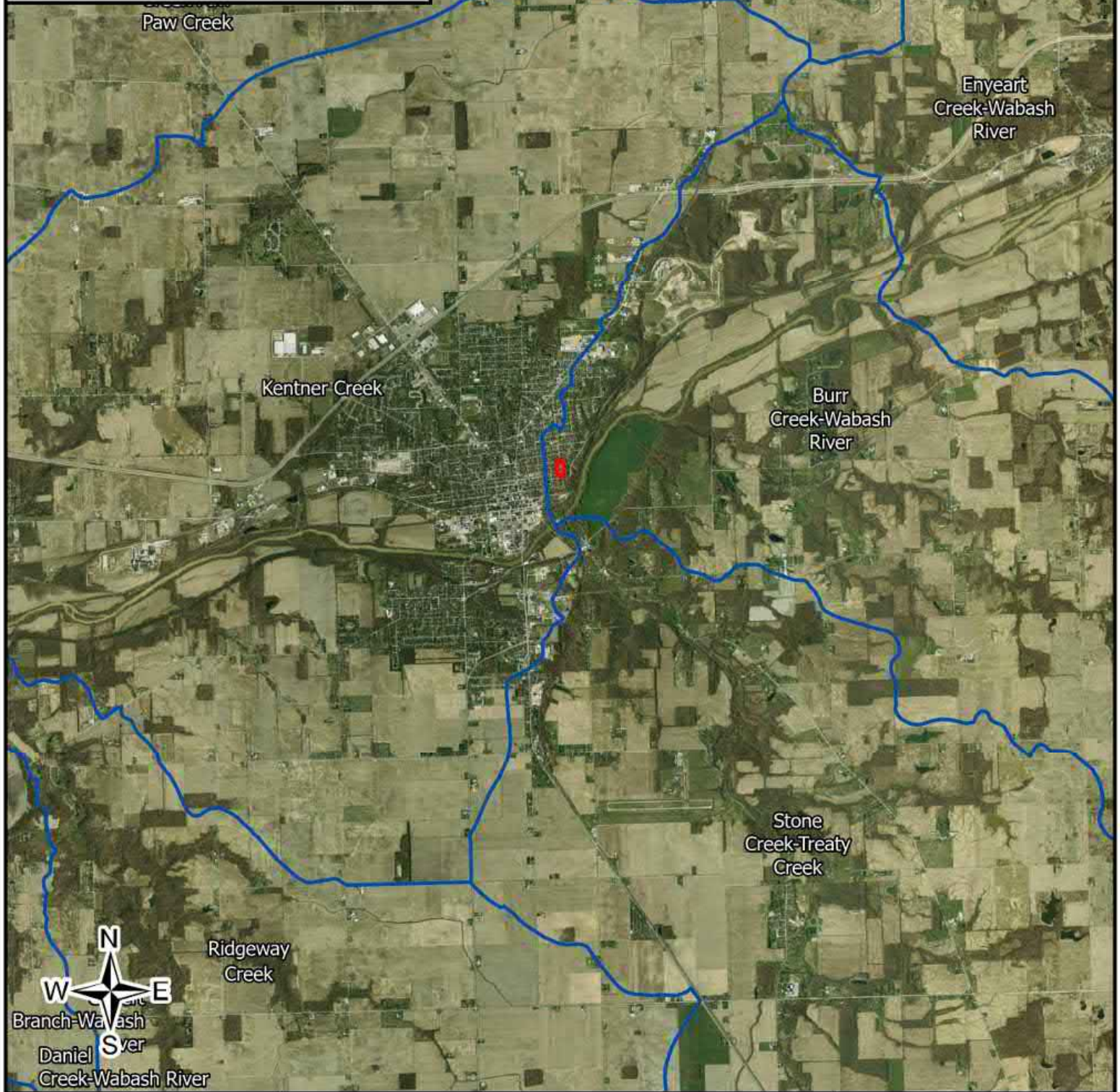
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MsB2	Milton silt loam, 2 to 6 percent slopes, eroded	0	3.2	86.8%
MvC2	Morley silt loam, 6 to 12 percent slopes, eroded	3	0.5	13.2%
<b>Totals for Area of Interest</b>			<b>3.7</b>	<b>100.0%</b>



Watersheds Map (1:70,000)  
Railroad Grade Separation Project  
North East St, from north of Maple St to Hill St  
Des. No. 1801915  
Wabash County, Indiana  
Source: USGS & NAIP 2016 Imagery



N  
W E  
Branch-Wabash River  
Daniel Creek-Wabash River

0 0.75 1.5  
Miles

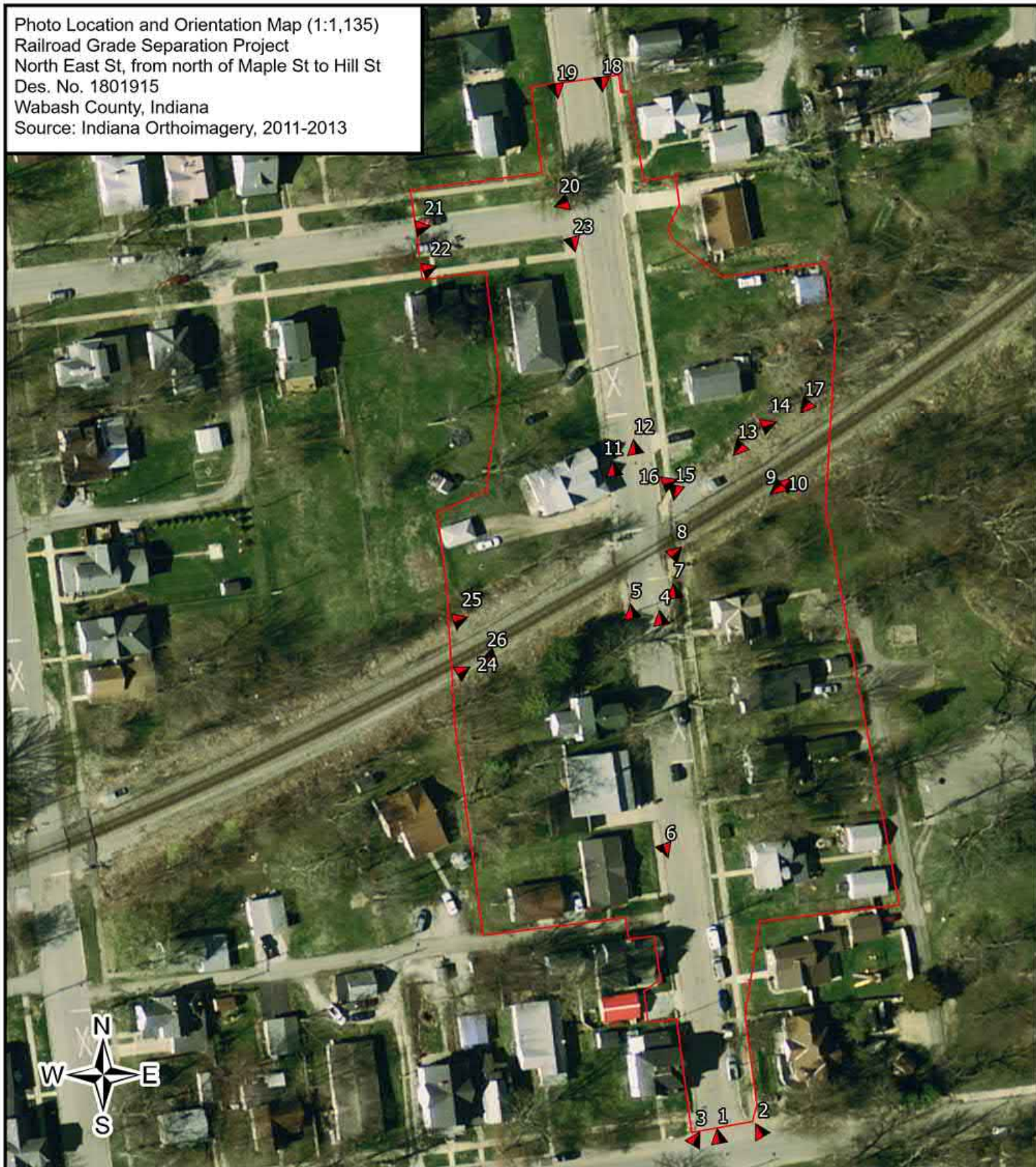
Investigated Area  
HUC 12 Watersheds



7/20/2021



Photo Location and Orientation Map (1:1,135)  
 Railroad Grade Separation Project  
 North East St, from north of Maple St to Hill St  
 Des. No. 1801915  
 Wabash County, Indiana  
 Source: Indiana Orthoimagery, 2011-2013



0 0.01 0.03  
 Miles

▲ Photo Location  
 Investigated Area



7/27/2021





*Photo 1. Facing north from south end of investigated area along East St.*



*Photo 3. Facing northeast from west side of East St.*



*Photo 2. Facing northwest from east side of East St.*



*Photo 4. Facing north toward railroad crossing along East St.*





*Photo 5. Facing north toward railroad crossing from west side of East St.*



*Photo 7. Facing north toward railroad crossing from east side of East St.*



*Photo 6. Facing south along west side of East St.*



*Photo 8. Facing east along railroad corridor.*





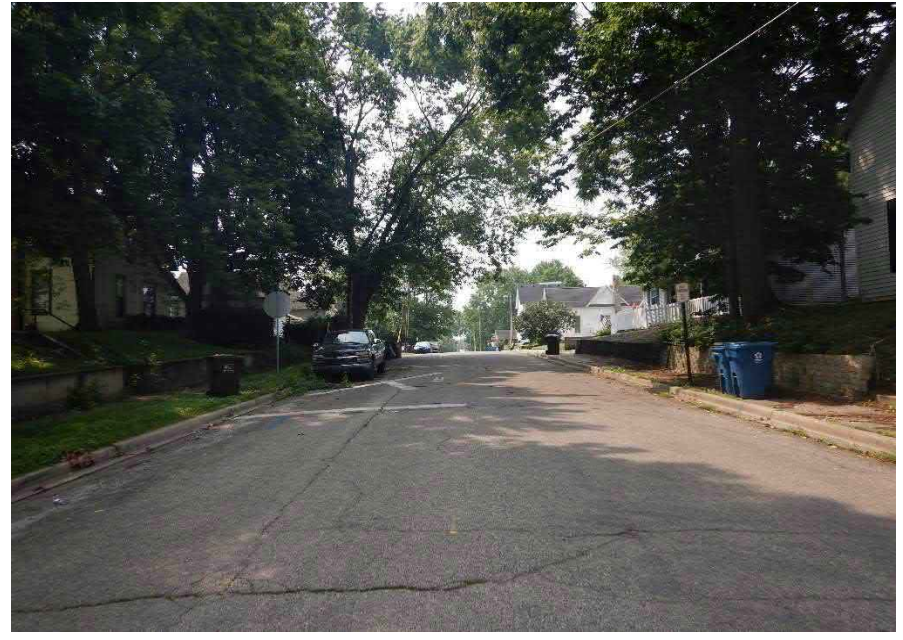
*Photo 9. Facing east along railroad corridor.*



*Photo 11. Facing north from west side of East St.*



*Photo 10. Facing west along railroad corridor.*



*Photo 12. Facing north along East St.*

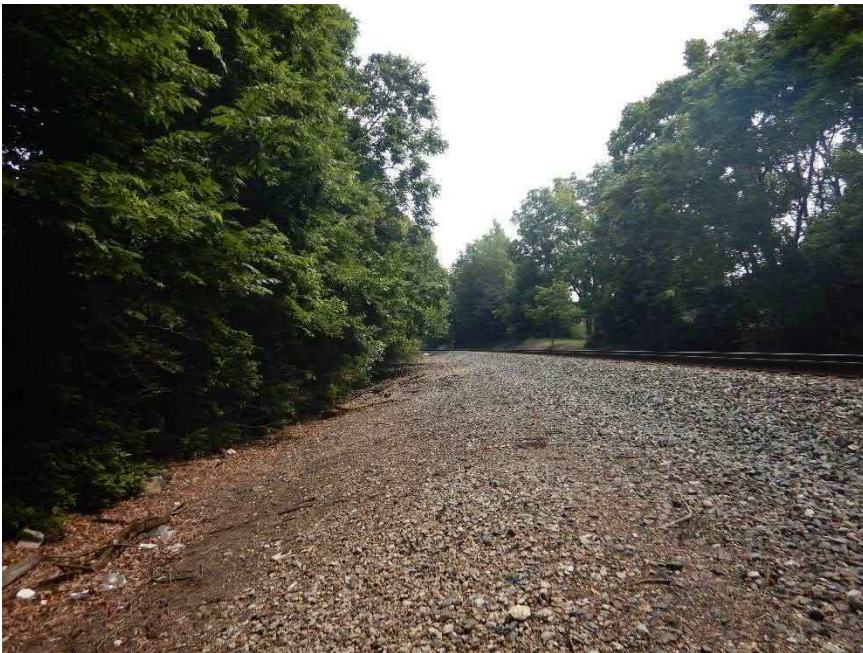




*Photo 13. Facing west toward railroad crossing from railroad corridor.*



*Photo 15. Facing south across railroad crossing on east side of East St.*



*Photo 14. Facing east along railroad corridor.*



*Photo 16. Facing east along railroad from railroad crossing.*





Photo 17. Facing west along railroad corridor.



Photo 19. Facing southwest along east side of East St. from north end of investigated area.



Photo 18. Facing southeast along East St. from north end of investigated area.



Photo 20. Facing west along Maple St. from west side of East St.





*Photo 21. Facing east toward East St. along north side of Maple St.*



*Photo 23. Facing south from East St. & Maple St.*



*Photo 22. Facing east toward East St. along south side of Maple St.*



*Photo 24. Facing east along railroad corridor.*





*Photo 25. Facing east along railroad corridor.*



*Photo 26. Facing west along railroad corridor.*