Des 1700162 and Des 1700161 CE-2

Appendix F

Water Resources

LiKang 01-07-2021

Waters Report
US 50 at CR 1225 E and CR 1250 E Intersection Improvement Project Jackson County, Indiana Des. No. 1700162 and 1700161

Note - repeat maps have been removed.

Report Completed on: January 6, 2021

Prepared for:
Burgess and Niple

Prepared By:
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Field Investigation Date: October 13, 2020

Site Location:
Section 13, Township 6 North, Range 6 East
Chestnut Ridge 1:24,000 Quadrangle
Jackson County, Indiana
Latitude 38.966262, Longitude -85.809195

Project Description:
Des 1700162 and 1700161 involves the widening of US 50 at CR 1225 E and CR 1250 E in Jackson County. The widened roadway will accommodate the existing two-lane cross section and will add a dedicated left turn lane at the intersections in order to allow traffic to be unimpeded on US 50 during peak traffic hours. The existing roadway provides a two-lane cross section for traffic. Various existing drainage pipes will be removed and replaced as a result of this project and new drainage structures will be installed. The roadway will be widened to the north side of US 50 to avoid impacts to the Muscatatuck National Wildlife Refuge. The existing 4-foot by 3-foot concrete box culvert to the west of CR 1225 E will not be altered.

The investigated area is in east-central Jackson County, east of the City of Seymour. Land use in the vicinity of the project area is residential, commercial, and agricultural to the north, and the Muscatatuck National Wildlife Refuge is located immediately south of the project area. The investigated area stops at the southern edge of US 50 because this project is avoiding impacts to that side of the roadway and the Muscatatuck National Wildlife Refuge. The major features in the investigated area are US 50, CR 1225 E, CR 1250 E, and the drainage culvert near the eastern project terminus that carries a drainage under US 50. The investigated area is generally rural and level, with some steep slopes within the roadside ditches along US 50. The investigated area was chosen because it encompasses the proposed right of way limits, which will contain within them the construction area. The investigated area occurs entirely within the US Army Corps of Engineers (USACE) Midwest region.

Vegetation in the project area is primarily herbaceous vegetation that is common within roadside ditches and within waste places. A small portion of wooded vegetation forms a riparian area on the north side of US 50 at the concrete box culvert. The Muscatatuck National Wildlife Refuge contains forested land south of US 50 and outside of the investigated area. Hydrology in the project area is influenced primarily by runoff from US 50 and the surrounding agricultural fields and residential properties. The nearest major hydrological feature is Storm Creek, which is east of the project area. The attached floodplains map indicates that there is not a mapped floodplain within the investigated area.

Soils:
According to the Soil Survey Geographic (SSURGO) Database for Jackson County, Indiana, the investigated area does contain soil areas with nationally listed hydric soils. Soils within and near the investigated area are characterized by well drained non-hydric soils to poorly drained hydric soils.

Table 1. Soil Types Within the Investigated Area

Soil Name	Map Abbreviation	Hydric Range
Dubois silt loam, 0 to 2 percent slopes	DfnA	1-32 (Hydric)
Haubstadt silt loam, 2 to 6 percent slopes, eroded	HccB2	0 (Non-hydric)
Otwell silt loam, 6 to 12 percent slopes, eroded	OmkC2	0 (Non-hydric)
Otwell silt loam, 6 to 12 percent slopes, severely eroded	OmkC3	0 (Non-hydric)

National Wetlands Inventory (NWI) Information:
There are six mapped wetlands and linear water features within 0.25 mile of the investigated area. These include one labeled PEM1A (Freshwater emergent wetland), one labeled as PUBGh (Freshwater pond, impounded), two labeled R4SBC (Riverine, intermittent), one labeled R5UBH (Riverine, perennial, permanently flooded), and one labeled PFO1A (Freshwater forested wetland).

Table 2. Mapped NWI Features Near the Investigated Area

Wetland/Water Feature Type	Location
PEM1A	West of investigated area
PUBGh	Southeast of investigated area
R4SBC	North and south of investigated area
R5UBH	Within investigated area
PFO1A	Southeast of investigated area

HUC 12:
Mutton Creek (051202070704) and Storm Creek (051202070703)

Attached Documents:
- Maps (Project Location, Topographic, Aerial Imagery, NWI Map, Floodplain Map, LiDAR Map, Soil Series Map, Watershed Map, Water Resources Map)
- Photographs and Photograph Location and Orientation Map
- Wetland Data Sheets
- Preliminary Jurisdictional Determination Form

Field Reconnaissance:
Prior to the field investigation, the USGS topographic map, aerial imagery, the U.S. Geological Survey's (USGS) National Hydrography Dataset (NHD), U.S. Fish and Wildlife Service (USFWS) NWI map, the Natural Resources Conservation Service (NRCS) Web Soil Survey for Jackson County, and the Indiana Geological Survey (IGS) LiDAR data were reviewed to identify potential water resources on the site.

The entire investigated area, as shown on the attached project graphics, was visually surveyed during the site visit for potential water features. Areas that were identified during the preliminary desktop review and in the field visit were investigated to determine the potential jurisdictional status of these features. Delineation of wetlands and water features was completed using the *Corps of Engineers Wetland Delineation Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (2010).* Soils in the project area were evaluated using the *2017 Pocket Guide to Hydric Soil Field Indicators* and a Munsell soil chart. Vegetation in the investigated area was evaluated using various plant identification guides and the USACE *State of Indiana 2018 Wetland Plant List*. Sample points were collected at potential wetland features and associated upland areas to verify the presence or absence of wetland indicators. Jurisdictional recommendations were made according to the *US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*. Water features that were identified within the investigated area were documented using GPS location.

Streams:
No streams were identified during the site visit. There is a stream mapped on the NWI map and in the NHD hydrography data set at the location of the concrete box culvert west of the intersection of US 50 and CR 1250 E. This site exhibited vegetation that is commonly found in disturbed areas along stream banks, however, there was no apparent Ordinary High Water Mark (OHWM) or defined bed and bank. The feature shown on the USGS *Streamstats* application indicated that there is an upstream drainage area of 0.096 square miles from the upstream side of the box culvert. It is likely that water flows through this culvert during high water events but never enough to develop characteristics of a stream. The drainage that flows through this culvert likely comes from runoff from the steep slopes of US 50, adjacent residential properties, and nearby fields and roadside ditches. The attached topographic imagery and LiDAR imagery suggest that there may be a defined bed and bank south of US 50 but beyond the investigated area based on elevation changes. A sample point was collected at this location that was representative of the area immediately outside of the culvert and surrounding. This sample point did not exhibit hydric soil or wetland hydrology indicators, which would suggest that water does not flow regularly through this location. The details of this sample point can be found in Sample Point 4 (SP4) below. This feature is an ephemeral drainage feature that does not exhibit features of a wetland or a defined bed and bank. Additionally, this feature does not connect to any other likely jurisdictional water features; therefore, it is not considered a jurisdictional water feature. Photos of this area are shown in photos 19 through 24 in the attached photo log.

Wetlands:
No suspected wetlands were identified in the investigated area during the desktop review of the site. No wetlands were identified during the October 13, 2020 site visit.

Sample Point 1
Sample Point 1 (SP1) was within a roadside ditch on the north side of US 50 near its intersection with CR 1225 E. Vegetation at this sample point was dominated by Yellow Foxtail (*Setaria pumila,* FAC) and Barnyard Grass (*Echinochloa crus-galli*, FACW). This vegetation community passed the dominance test and prevalence index for hydrophytic vegetation. Hydrology indicators observed at this point included Saturation (A3), Geomorphic Position (D2), and FAC-Neutral Test (D5). Soils at SP1 were 10 YR 6/1 (70%) with redox features of 10 YR 5/6 (30%) and a texture of silty clay loam from 0-16 inches. This meets the criteria for Depleted Matrix (F3). This sample point met the criteria for hydrophytic vegetation, wetland hydrology, and hydric soils, however, it was an isolated feature contained within the roadside ditch. Therefore, it is considered a roadside ditch and not a jurisdictional water feature. This feature is approximately 0.039 acre in size and appears to extend west of the investigated area but remains within the roadside ditch.

Sample Point 2
Sample Point 2 (SP2) was an upland point adjacent to SP1 in a terrace on the north side of US 50. Vegetation at this sample point was dominated by Red Fescue (*Festuca rubra,* FACU). This vegetation community did not pass the rapid test, dominance test, or prevalence index for hydrophytic vegetation. Hydrology indicators were not observed at SP2. Soils at SP2 were 10 YR 4/3 (100%) with a texture of silt from 0-16 inches. This does not meet any hydric soil criteria. This sample point did not meet the criteria for hydrophytic vegetation, wetland hydrology or hydric soils; therefore, it was not within a wetland.

Sample Point 3
Sample Point 3 (SP3) was taken in a roadside ditch on the north side of US 50 and west of the concrete box culvert. Vegetation at this sample point was dominated by Yellow Foxtail (*Setaria pumila,* FAC). This vegetation community passed the dominance test for hydrophytic vegetation. No hydrology indicators were observed at SP3. This site does not appear to meet the criteria for Geomorphic Position (D2) because there is a gentle slope that drains the water to the east where it is carried by a drainage culvert towards the concrete box culvert. Soils at SP3 were 10 YR 5/2 (98%) with redox features of 5 YR 5/6 (2%) and a texture of silt

loam from 0-10 inches and 10 YR 6/1 (75%) with redox concentrations of 5 YR 5/8 (25%) with a texture of silty clay loam from 10-16 inches. This meets the hydric soil criteria for Depleted Matrix (F3). This sample point met the criteria for hydrophytic vegetation and hydric soils, but it did not meet the criteria for wetland hydrology; therefore, it is not within a wetland.

Sample Point 4

Sample Point 4 (SP4) was an upland point taken adjacent to the concrete box culvert and the mapped stream. Vegetation at this sample point was dominated by Sugar Maple (*Acer saccharum,* FACU), Amur Honeysuckle (*Lonicera mackii*, Not Indicated (NI)), Paw Paw (*Asimina triloba,* FAC), and Reed Canary Grass (*Phalaris arundinacea*, FACW). This vegetation community passed the Dominance Test and prevalence index for hydrophytic vegetation. Hydrology indicators observed included Geomorphic Position (D2). This does not meet wetland hydrology criteria. Soil at SP4 was 10 YR 4/3 (100%) with a texture of silt from 0-12 inches. A restrictive layer of fill was encountered at 12 inches; this does not meet any hydric soil criteria. This sample point met the criteria for hydrophytic vegetation but did not meet the criteria for wetland hydrology or hydric soils; therefore, it was not within a wetland.

Table 3. Sample Point Summary Table

Data Point	Photos	Vegetation	Soils	Hydrology	Wetland
SP1	3-6	Yes	Yes	Yes	No
SP2	7-9	No	No	No	No
SP3	15-17	Yes	Yes	No	No
SP4	21-24	Yes	No	No	No

Open Water:

No open water bodies were identified within or immediately adjacent to the investigated area in the desktop review. The field visit confirmed that no open water features are within the investigated area.

Other Features and Roadside Ditches:

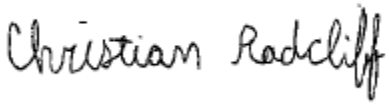
The investigated area was assessed for the presence of other water features. Other water features include roadside ditches, areas of concentrated flow, or other unusual drainage features. These features may be considered jurisdictional if they exhibit a Significant Nexus to a Traditionally Navigable Waterway. Four roadside ditches were observed on the north side of US 50 and were investigated for the presence of wetland features or characteristics of a stream. No roadside ditches exhibited jurisdictional wetland characteristics, an OHWM, or Significant Nexus to a Traditionally Navigable Waterway.

Conclusions:

The site investigation did not identify any jurisdictional water features. One feature that was mapped on the NHD dataset and on the NWI map was investigated and it was determined to be an ephemeral drainage feature that has no connectivity to any likely jurisdictional water features and does not exhibit wetland characteristics. Every effort should be taken to avoid and minimize impacts to these waterways. If impacts are necessary, then mitigation may be required. The USACE should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the US Army Corps of Engineers. 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.

Christian Radcliff



Ecologist
SJCA Inc.
Date: January 6, 2021

Supporting Documentation:

- Maps
- Photos
- Wetland Delineation Data Sheets
- Preliminary Jurisdictional Determination Form

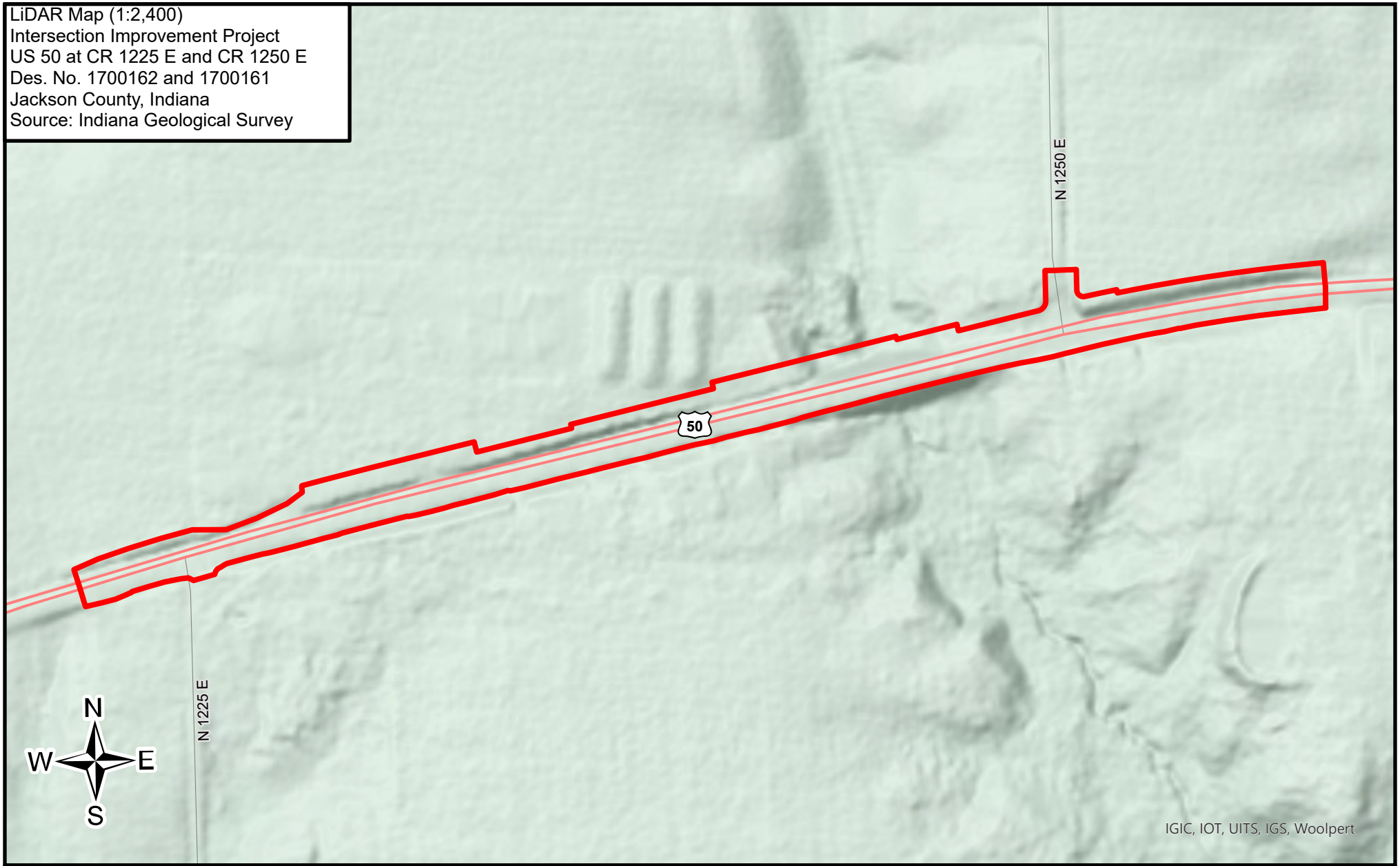
NHD Flowlines Map (1:6,000)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: NAIP 2016 Imagery

0 345 690 Feet

Investigated Area
NHD Flowline

SJCA

12/18/2020


LiDAR Map (1:2,400)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: Indiana Geological Survey
N 1250 E
50
N 1225 E
N
W
E
S
IGIC, IOT, UITS, IGS, Woolpert
0
137.5
275
Feet
Investigated Area
12/16/2020
SJCA

National Wetlands Inventory Map (1:2,400)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: USFWS National Wetlands Inventory

0 137.5 275 Feet

Investigated Area
NWI Wetlands

12/16/2020

SJCA

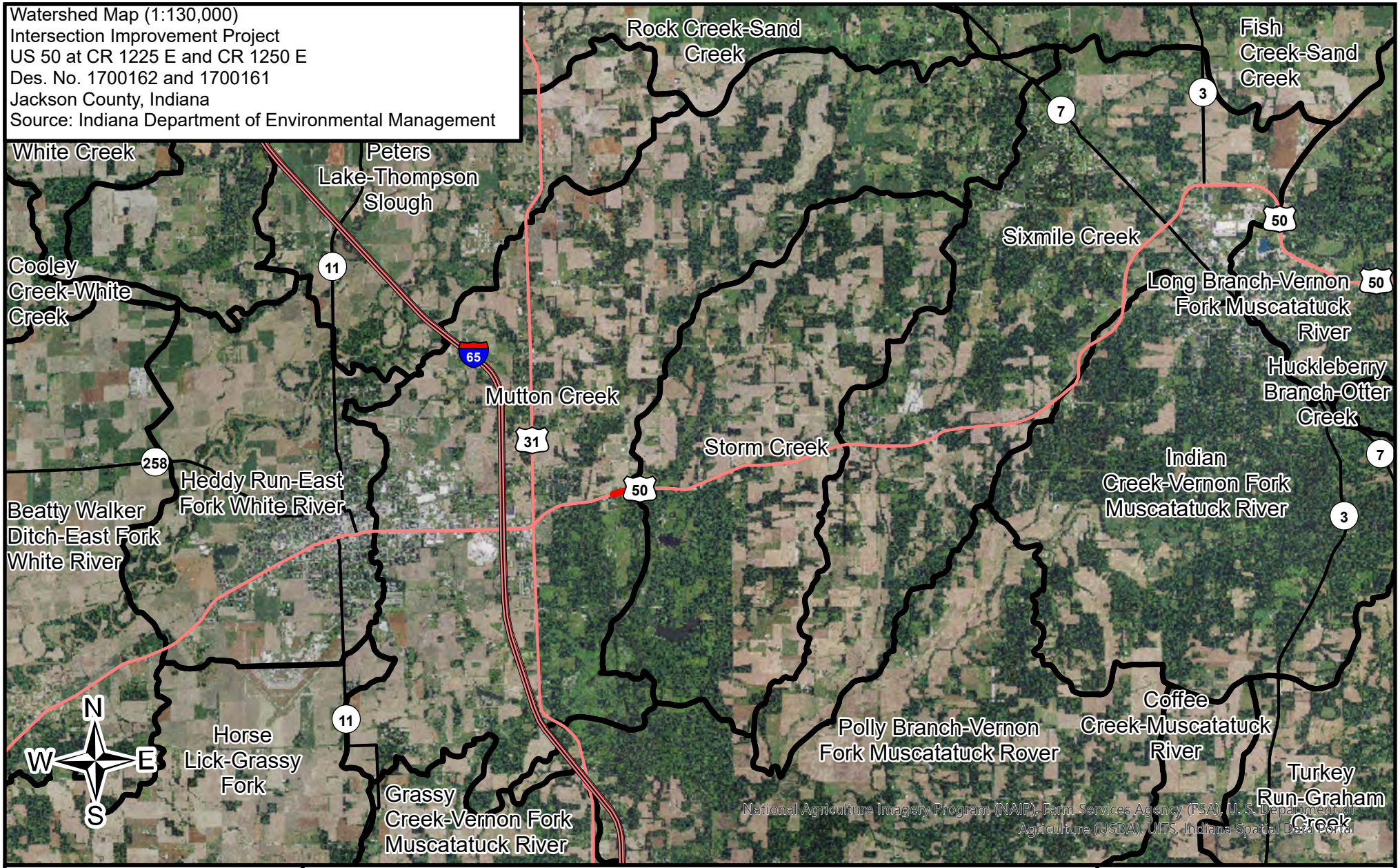
Floodplains Map (1:2,400)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: FEMA FIRM

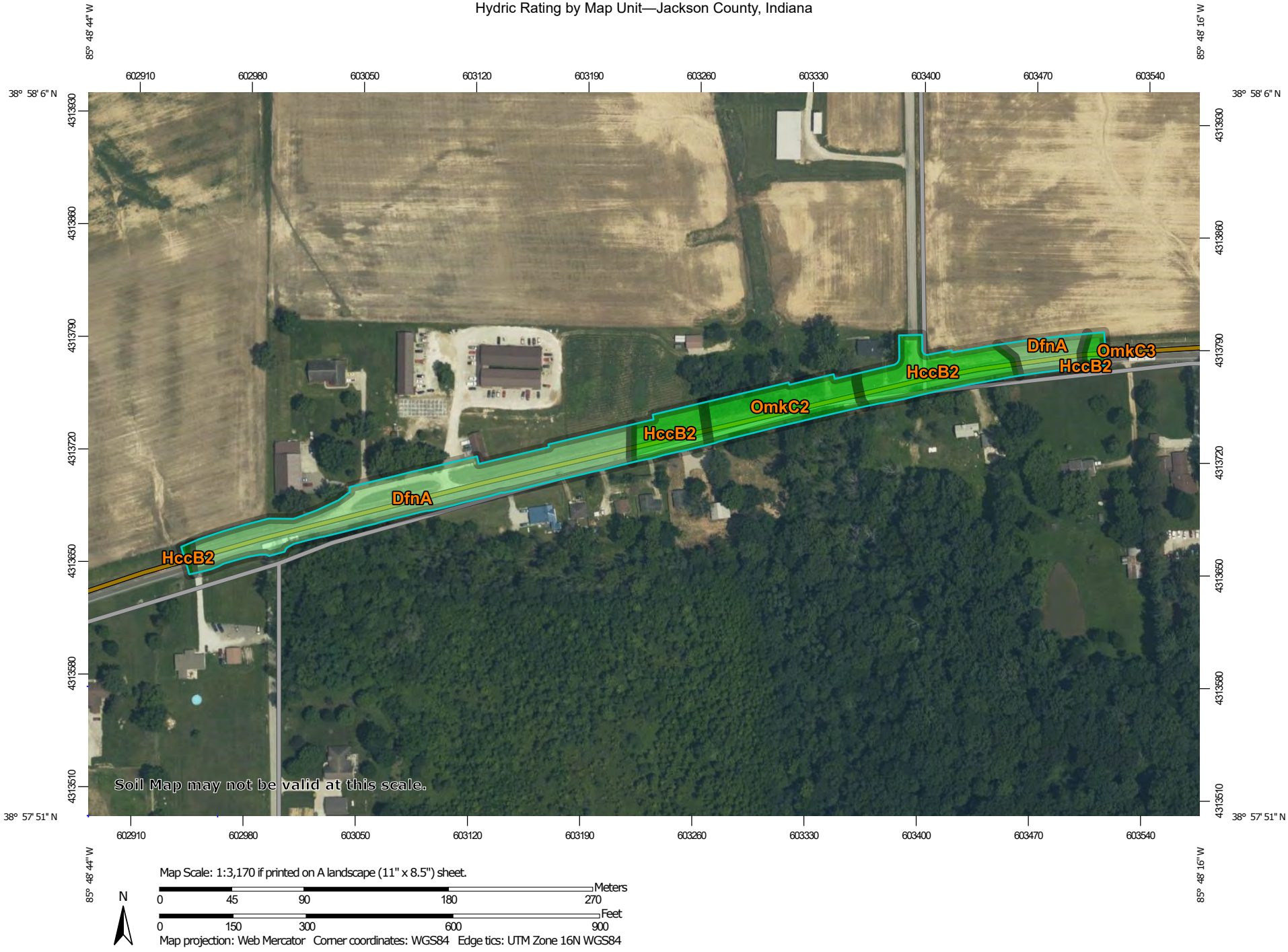
0 137.5 275
Feet

Investigated Area
1% Annual Chance Flood Hazard

12/16/2020

SJCA


Watershed Map (1:130,000)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: Indiana Department of Environmental Management
Rock Creek-Sand Creek
Fish Creek-Sand Creek
White Creek
Peters Lake-Thompson Slough
Sixmile Creek
Cooley Creek-White Creek
Long Branch-Vernon Fork Muscatatuck River
Huckleberry Branch-Otter Creek
Mutton Creek
Storm Creek
Indian Creek-Vernon Fork Muscatatuck River
Heddy Run-East Fork White River
Beatty Walker Ditch-East Fork White River
Horse Lick-Grassy Fork
Polly Branch-Vernon Fork Muscatatuck Rover
Coffee Creek-Muscatatuck River
Turkey Run-Graham Creek
Grassy Creek-Vernon Fork Muscatatuck River
N
W
E
S
National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal
0 1.25 2.5
Miles
Investigated Area
HUC - 12
12/16/2020
SJCA


85° 48' 44" W
85° 48' 16" W
602910
602980
603050
603120
603190
603260
603330
603400
603470
603540
38° 58' 6" N
38° 57' 51" N
4313930
4313860
4313790
4313720
4313650
4313580
4313510
DfnA
HccB2
OmkC2
HccB2
DfnA
HccB2
OmkC3
Soil Map may not be valid at this scale.
Map Scale: 1:3,170 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 45 90 180 270
Feet
0 150 300 600 900
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

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: Jackson County, Indiana
Survey Area Data: Version 26, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 17, 2019—Jun 28, 2019

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
DfnA	Dubois silt loam, 0 to 2 percent slopes	5	1.8	53.3%
HccB2	Haubstadt silt loam, 2 to 6 percent slopes, eroded	0	0.9	27.0%
OmkC2	Otwell silt loam, 6 to 12 percent slopes, eroded	0	0.6	17.6%
OmkC3	Otwell silt loam, 6 to 12 percent slopes, severely eroded	0	0.1	2.0%
Totals for Area of Interest			**3.4**	**100.0%**

Water Resources Map (1:2,400)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 1700161
Jackson County, Indiana
Source: SJCA Inc Field Survey

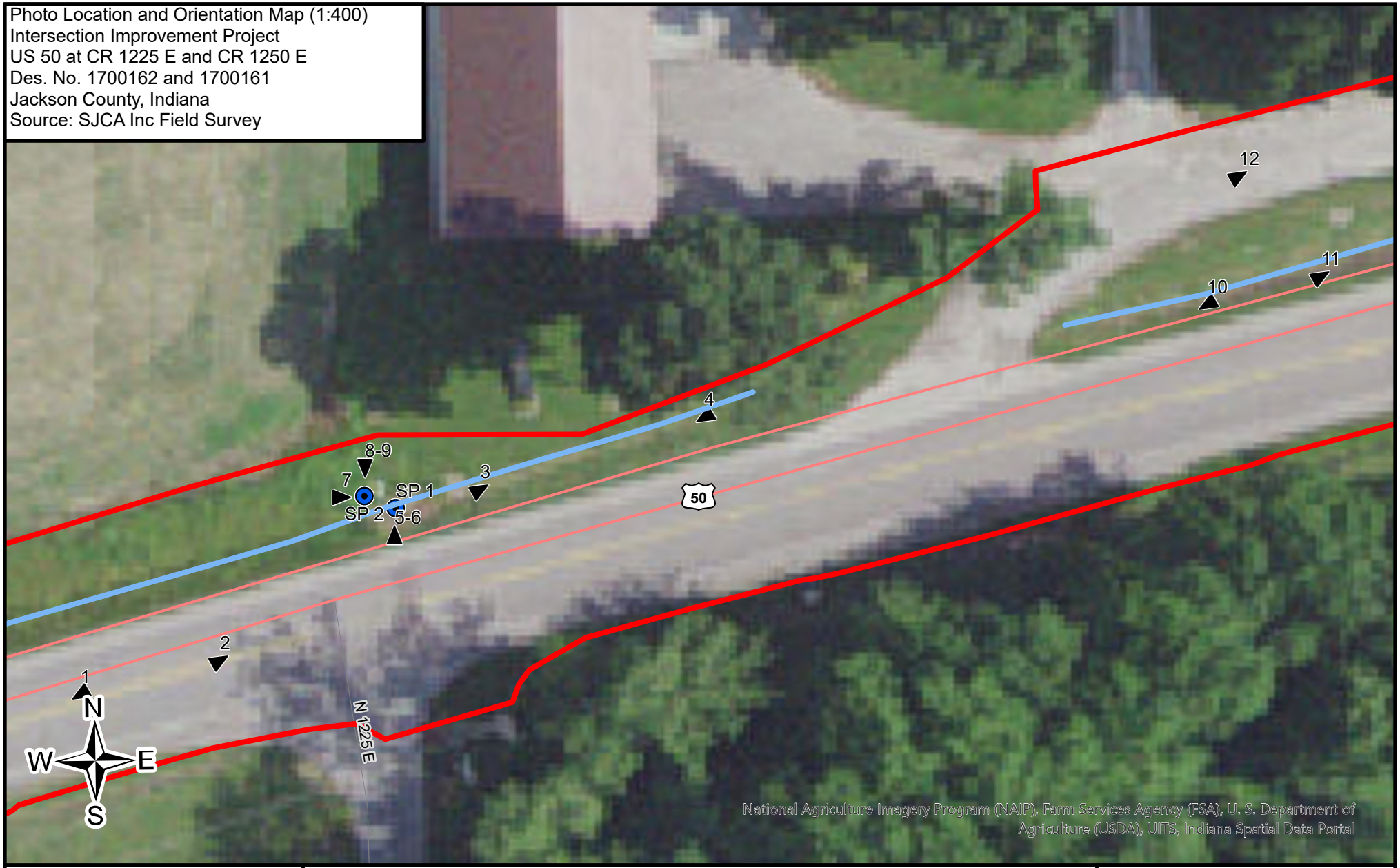
0 137.5 275
Feet

Investigated Area
Sample Point
Roadside Ditch

1/6/2021

SJCA

Photo Location and Orientation Map (1:400)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: SJCA Inc Field Survey



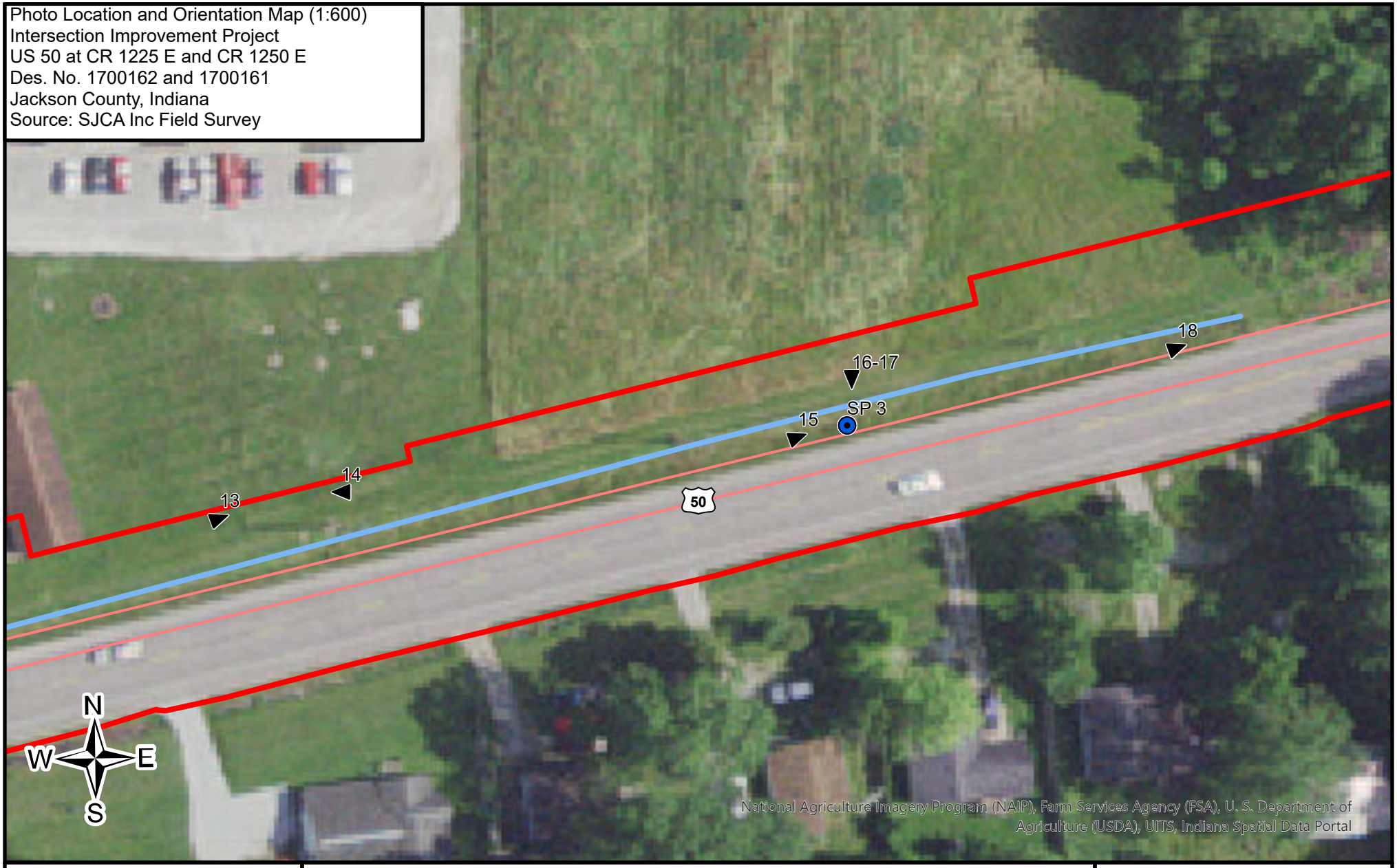
0 20 40 Feet

Investigated Area
Photo Location
Sample Point
Roadside Ditch

1/6/2021

SJCA

Photo Location and Orientation Map (1:600)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: SJCA Inc Field Survey



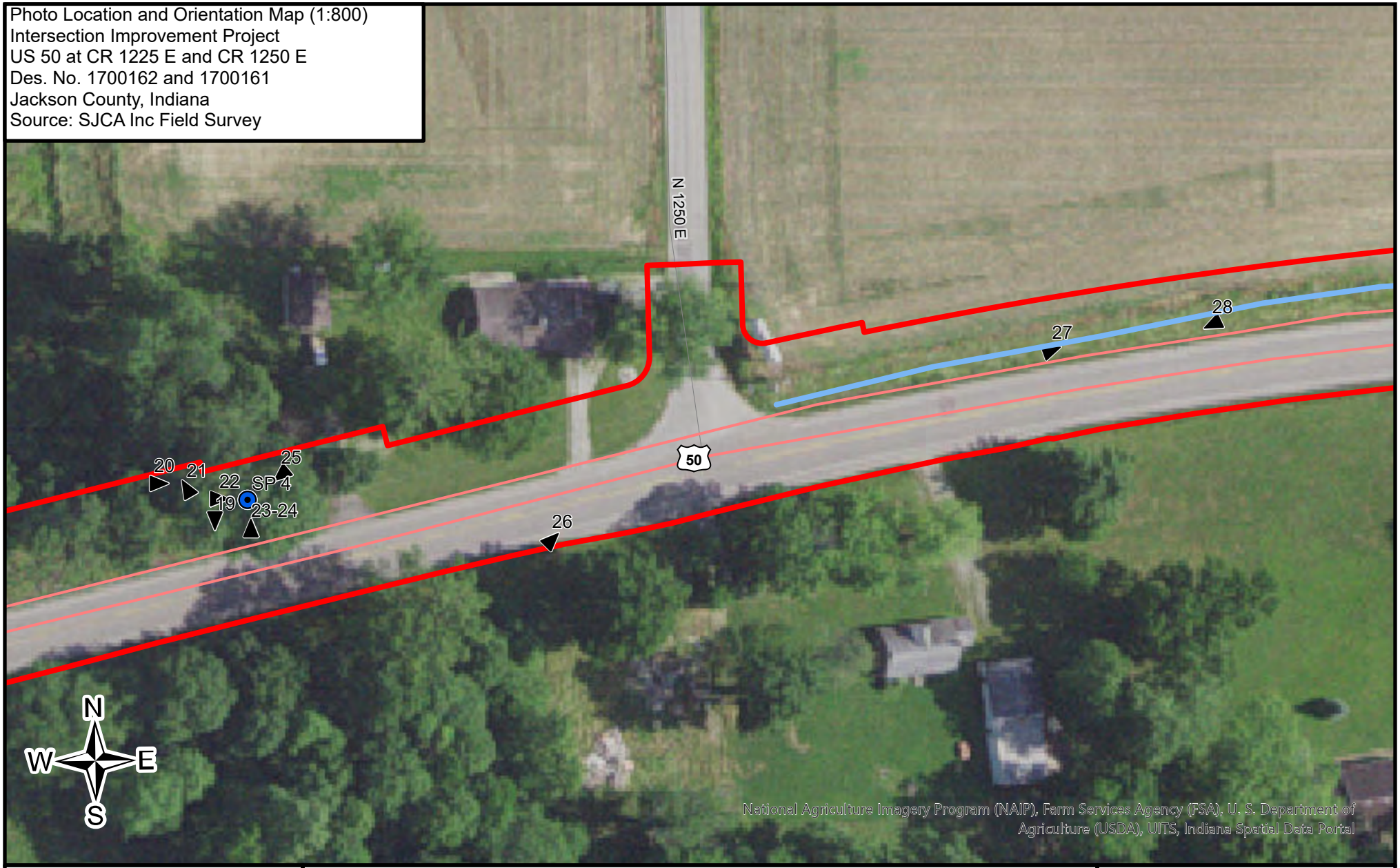
0 30 60 Feet

Investigated Area
Photo Location
Sample Point
Roadside Ditch

1/6/2021

SJCA

Photo Location and Orientation Map (1:800)
Intersection Improvement Project
US 50 at CR 1225 E and CR 1250 E
Des. No. 1700162 and 1700161
Jackson County, Indiana
Source: SJCA Inc Field Survey



0 45 90 Feet

Investigated Area
Photo Location
Sample Point
Roadside Ditch

1/6/2021

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Photo 1: West Project Terminus Facing Southwest

Photo 2: West Project Terminus Facing Northeast

Photo 3: Roadside Ditch Near Western Project Terminus Facing Northeast

Photo 4: Roadside Ditch Near Western Project Terminus Facing Southwest

Photo 5: SP1 Pit

Photo 6: SP1 Soil

Photo 7: SP2 Facing East

Photo 8: SP2 Pit

Photo 9: SP2 Soil

Photo 10: Facing Southwest Towards Culvert (Shovel is in front of culvert)

Photo 11: Facing Northeast Away From Culvert

Photo 12: Parking Lot Area North of US 50 Facing Northeast

Photo 13: Open Field Facing Northeast

Photo 14: Open Field Facing West

Photo 15: SP3 Facing Northeast

Photo 16: SP3 Pit

Photo 17: SP3 Soil

Photo 18: Drainage Culvert Facing Northeast

Photo 19: Box Culvert North Side of US 50 Facing South

Photo 20: Facing Northwest Away From Box Culvert on North Side of US 50

Photo 21: Area Outside of Box Culvert. Note the Lack of a Defined Bed and Bank.

Photo 22: SP4 Facing East

Photo 23: SP4 Pit

Photo 24: SP4 Soil

Photo 25: SP 4 Facing Southwest Towards Culvert

Photo 26: US 50 at CR 1250 E Facing Northeast

Photo 27: Facing Northeast Along North Side of US 50

Photo 28: Facing Southwest Along North Side of US 50

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des 1700161 and 1700162 US 50 City/County: Jackson County Sampling Date: 10/13/2020

Applicant/Owner: INDOT State: IN Sampling Point: 1

Investigator(s): Christian Radcliff, Laney Walstra Section, Township, Range: S 13, T 6 N, R 6 E

Landform (hillslope, terrace, etc.): Roadside ditch Local relief (concave, convex, none): Concave

Slope (%): 25-30% Lat: 38.965967 Long: -85.811157 Datum: WGS 84

Soil Map Unit Name: Dubois silt loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?** Yes [✓] No [ ]
Hydric Soil Present?	Yes [✓] No [ ]	
Wetland Hydrology Present?	Yes [✓] No [ ]	

Remarks:

Roadside Ditch wetland on the north side of US 50 near CR 1225 E.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 feet)			
1. *Setaria pumila*	40	X	FAC
2. *Echinochloa crus-galli*	35	X	FACW
3. *Phalaris arundinacea*	15		FACW
4. *Persicaria pensylvanica*	10		FACW
5.			
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		240 (B)

Prevalence Index = B/A = 2.4

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [✓] 2 - Dominance Test is >50%
- [✓] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [✓] No [ ]

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation was present at SP1.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 6/1	70	10 YR 5/6	30	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Hydric soil was present at SP2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 10 inches

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was present at SP1.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des 1700161 and 1700162 US 50 City/County: Jackson County Sampling Date: 10/13/2020

Applicant/Owner: INDOT State: IN Sampling Point: 2

Investigator(s): Christian Radcliff, Laney Walstra Section, Township, Range: S 13, T 6 N, R 6 E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave

Slope (%): 2-5% Lat: 38.965976 Long: -85.811183 Datum: WGS 84

Soil Map Unit Name: Dubois silt loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [ ] No [✓]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ] No [✓]	
Wetland Hydrology Present?	Yes [ ] No [✓]	

Remarks:

Upland point immediately north of Wetland 1.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Festuca rubra*	80	X	FACU
2. *Calystegia sepium*	20		FAC
3. *Setaria pumila*	5		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	105 (A)		395 (B)

Prevalence Index = B/A = 3.76

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [ ] No [✓]

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation was not present at SP2.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 4/3	100					Si	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Hydric soil was not present at SP2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was not present at SP2.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des 1700161 and 1700162 US 50 City/County: Jackson County Sampling Date: 10/13/2020

Applicant/Owner: INDOT State: IN Sampling Point: 3

Investigator(s): Christian Radcliff, Laney Walstra Section, Township, Range: S 13, T 6 N, R 6 E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave

Slope (%): 5-10% Lat: 38.966448 Long: -85.808567 Datum: WGS 84

Soil Map Unit Name: Haubstadt silt loam, 2 to 6 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [✓] No [ ]	
Wetland Hydrology Present?	Yes [ ] No [✓]	

Remarks:

Sample point collected in a roadside ditch on the north side of US 50.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 feet)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 feet)			
1. *Setaria pumila*	90	X	FAC
2. *Festuca rubra*	10		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	100 (A)		310 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [✓] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [✓] No [ ]

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation was present at SP3.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 5/2	98	5 YR 5/6	2	C	M	SiL	
10-16	10 YR 6/1	75	5 YR 5/8	25	C	M	SiCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

Hydric soil was present at SP3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was not present at SP3.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Des 1700161 and 1700162 US 50 City/County: Jackson County Sampling Date: 10/13/2020

Applicant/Owner: INDOT State: IN Sampling Point: 4

Investigator(s): Christian Radcliff, Laney Walstra Section, Township, Range: S 13, T 6 N, R 6 E

Landform (hillslope, terrace, etc.): Roadside ditch Local relief (concave, convex, none): Concave

Slope (%): 0-2% Lat: 38.966729 Long: -85.807336 Datum: WGS 84

Soil Map Unit Name: Otwell silt loam, 6 to 12 percent slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks.)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✓] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes [✓]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✓]
Hydric Soil Present?	Yes [ ]	No [✓]	
Wetland Hydrology Present?	Yes [ ]	No [✓]	

Remarks:

Sample point adjacent to the box culvert on the north side of US 50.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	45	X	FACU
2.			
3.			
4.			
5.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *Lonicera mackii*	10	X	NI
2. *Asimina triloba*	5	X	FAC
3. *Tilia americana*	2		FACU
4.			
5.			
	17	= Total Cover	
Herb Stratum (Plot size: 5 feet)			
1. *Phalaris arundinacea*	95	X	FACW
2. *Pilea pumila*	5		FACW
3. *Ageratina altissima*	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 30 feet)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	5	x 3 =	15
FACU species	52	x 4 =	208
UPL species	0	x 5 =	0
Column Totals:	157 (A)		423 (B)

Prevalence Index = B/A = 2.69

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [✓] 2 - Dominance Test is >50%
- [✓] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes [✓] No [ ]

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic vegetation was present at SP4.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 4/3	100					Si	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Fill

Depth (inches): 12 inches

Hydric Soil Present? Yes ☐ No ☑

Remarks:

Hydric soil was not present at SP4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology was not present at SP4.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 1/06/2021

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Christian Radcliff, 1104 Prospect Street, Indianapolis, Indiana 46203

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

Des 1700162 and 1700161 involves the widening of US 50 at CR 1225 E and CR 1250 E in Jackson County. The widened roadway will accommodate the existing two-lane cross section and will add a dedicated left turn lane at the intersections in order to allow traffic to be unimpeded on US 50 during peak traffic hours. The existing roadway provides a two-lane cross section for traffic. Various existing drainage pipes will be removed and replaced as a result of this project and new drainage structures will be installed. The roadway will be widened to the north side of US 50 to avoid impacts to the Muscatatuck National Wildlife Refuge. The existing 4-foot by 3-foot concrete box culvert to the west of CR 1225 E will not be altered as a result of this project.

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

State: Indiana County/parish/borough: Jackson City: Seymour

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

Lat.: 38.966262 Long.: -85.809195

Universal Transverse Mercator: 16T

Name of nearest waterbody: Storm Creek

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

☐ Office (Desk) Determination. Date:

☐ Field Determination. Date(s):

TABLE OF AQUATIC 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)
N/A	N/A	N/A	N/A	N/A	N/A

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:

- [x] Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
  Map: Project location map.
- [x] 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: _____.
- [x] U.S. Geological Survey Hydrologic Atlas: NHD map and HUC 12 watershed map.
  - [x] USGS NHD data.
  - [x] USGS 8 and 12 digit HUC maps.
- [x] U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 - Chestnut Ridge Quadrangle.
- [x] Natural Resources Conservation Service Soil Survey. Citation: 2019 Web Soil Survey data.
- [x] National wetlands inventory map(s). Cite name: 2014 NWI Data.
- [ ] State/local wetland inventory map(s): _____.
- [x] FEMA/FIRM maps: 2019 Floodplain Data.
- [ ] 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- [x] Photographs: [x] Aerial (Name & Date): 2016 NAIP Aerial Imagery.
  or [x] Other (Name & Date): Site photos: October 13, 2020.
- [ ] 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.

_____	Christian Radcliff _____ 1/06/2021
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.

Des 1700162 and Des 1700161 CE-2

Appendix G

Public Involvement

Appendix G will be updated after completion of Public Involvement.

Sample Notice of Survey Letter

Date: January 7, 2019

NOTICE OF SURVEY

RE: U. S. 50 from its intersection with Co. Rd. 1225 E to the intersection of Co. Rd. 1250 E

[redacted]

Our company has been contracted by the Indiana Department of Transportation to perform a survey for this proposed highway project. Our employees will be doing a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is allowed by IC 8-23-7-26. They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or if it is occupied by someone else, please let us know the name and address of the new owner or current occupant so we can contact them about the survey.

At this stage we generally do not know what effect, if any, this project may eventually have on your property. If we determine later that your property is involved, we will contact you with additional information.

The survey work will include mapping the location of features such as trees, buildings, fences, drives and property boundary information, and obtaining ground elevations. It will also involve certain environmental work needed for the project. The survey is needed for the proper planning and design of the highway project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If you have any questions, please contact myself at the phone number or address shown below.

Sincerely,

Mark W. Teepe PLS / Survey Manager
BURGESS & NIPLE
www.burgessniple.com
251 N. Illinois Street
Indianapolis, IN 46204
Capital Center Suite 920
Indianapolis, IN 46204
317 237-2760 X 4431
www.burgessniple.com
mark.teepe@burgessniple.com

Des 1700162 and Des 1700161 CE-2

Appendix H

Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Indiana Department of Transportation	41258 / 1298633	Init.	SR 258	Sight Distance Improvement	From Base Road to County Rd 100 E	Seymour	.994	STBG		Safety Construction	CN	$1,694,090.40	$423,522.60		$2,117,613.00			
Performance Measure Impacted: Safety																		
Indiana Department of Transportation	41282 / 1800642	Init.	I 65	ITS Traffic Management Systems	CCTV/DMS from 2.6 miles south of SR 56 to US 31 (Exit 76)	Seymour	50.953	NHPP		Statewide Construction	CN	$3,217,890.60	$357,543.40			$3,575,434.00		
										Statewide Consulting	PE	$292,500.00	$32,500.00		$325,000.00			
Performance Measure Impacted: Congestion Mitigation and Air Quality (CMAQ)																		
Seymour	41382 / 1801601	Init.	ST 1025	Road Reconstruction (3R/4R Standards)	Reconstruction of Airport Road from G Ave to US50	Seymour	.9	STBG		Group III Program	CN	$1,112,400.00	$0.00	$1,112,400.00				
										Local Funds	CN	$0.00	$278,100.00	$278,100.00				
Seymour	41382 / 1801601	M 02	ST 1025	Road Reconstruction (3R/4R Standards)	Reconstruction of Airport Road from G Ave to US50	Seymour	.9	STBG	$2,012,156.00	Local Funds	CN	$0.00	$148,618.55	$148,618.55				
										Group III Program	CN	$594,474.20	$0.00	$594,474.20				
Comments:Adding CN Phase for $743,092.75 FY 2020. No MPO																		
Indiana Department of Transportation	41445 / 1800276	Init.	SR 250	Bridge Replacement, Concrete	1.5 mi W of SR 11, at Horse Lick Creek	Seymour	0	STBG		Bridge Construction	CN	$3,290,758.40	$822,689.60				$4,113,448.00	
										Bridge Consulting	PE	$837,760.00	$209,440.00	$1,028,000.00			$19,200.00	
										Bridge ROW	RW	$96,000.00	$24,000.00		$120,000.00			
Indiana Department of Transportation	41458 / 1800287	Init.	SR 135	Replace Superstructure	2.68 mi N of SR 58, at Branch Kiper Creek	Seymour	0	STBG		Bridge Construction	CN	$2,985,464.00	$746,366.00				$3,731,830.00	
										Bridge Consulting	PE	$1,058,320.00	$264,580.00	$1,310,000.00			$12,900.00	
										Bridge ROW	RW	$112,000.00	$28,000.00		$140,000.00			
Performance Measure Impacted: Bridge Condition																		
Indiana Department of Transportation	41582 / 1700162	Init.	US 50	Truck/Auxillary Lane Construction	At the intersection of CR 1225 E	Seymour	0	NHPP		Mobility Construction	CN	$605,256.80	$151,314.20				$756,571.00	
										Mobility ROW	RW	$44,000.00	$11,000.00		$55,000.00			

*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

Des 1700162 and Des 1700161 CE-2

Appendix I

Additional Studies

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated July 2020)

ProjectNumber	SubProjectCode	County	Property
1800171	1800171BB	Jackson	Starve Hollow
1800230	1800230	Jackson	Jackson-Washington State Forest and Starve Hollow
1800305	1800305C	Jackson	Starve Hollow State Recreation Area
1800327	1800327J	Jackson	Starve Hollow State Recreation Area
1800363	1800363EE	Jackson	Starve Hollow State Recreation Area
1800447	1800447	Jackson	Starve Hollow State Recreation Area

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Des. No. 1700161

Legend:

Your Selections

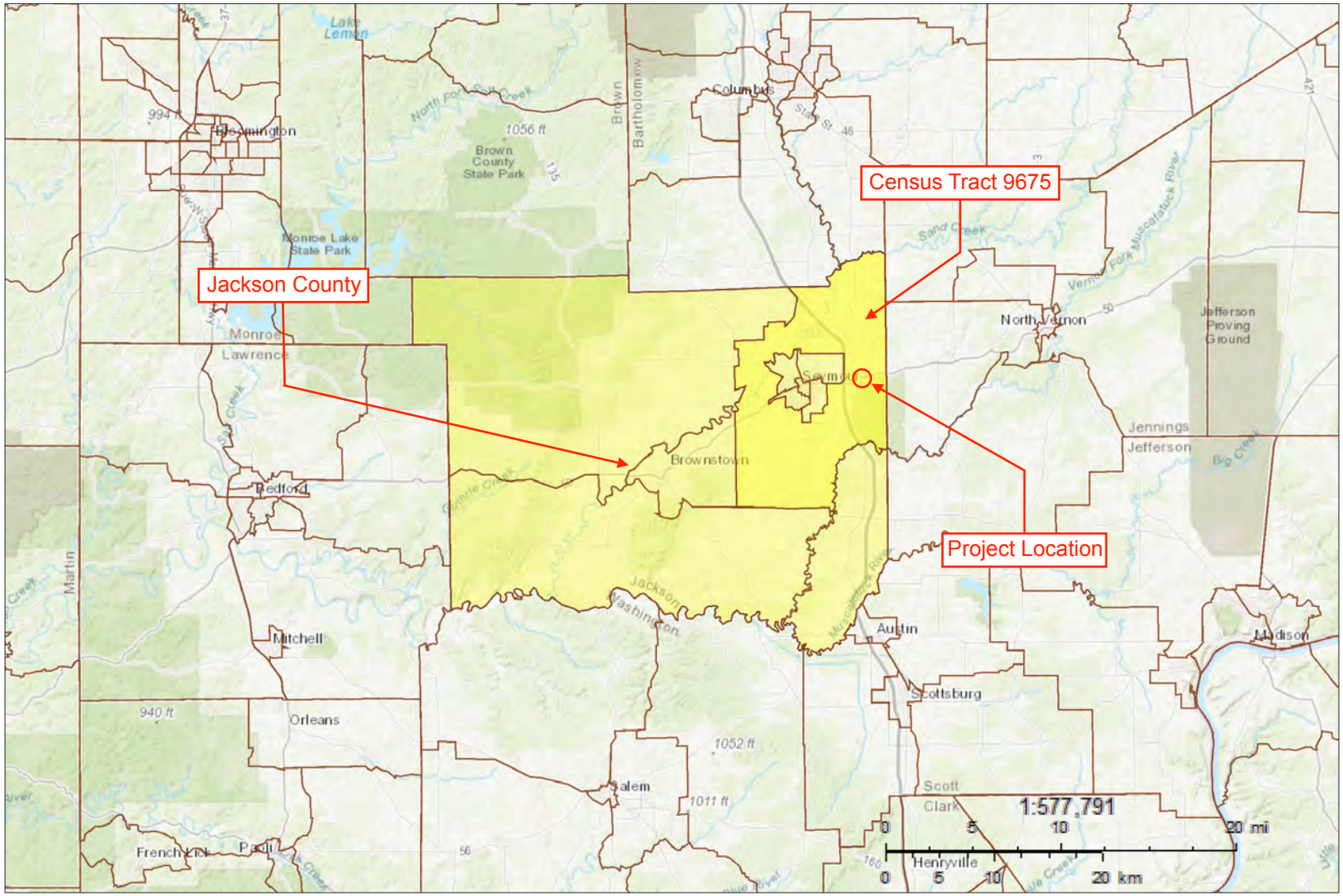
- ☐ 2017 boundaries were used to map 'Your Selections'

Selection Results

No Legend

2010 Boundaries

- ☐ Census Tract



EJ Analysis for CR 1250 and CR 1225 at US 50 (Des 1700162 and 1700161)

		COC	AC1
		Jackson County, Indiana	Census Tract 9675, Jackson County, Indiana
	LOW-INCOME		
B 17001001	Population for whom poverty status is determined: Total	42,740	8,372
B 17001002	Population for whom poverty status is determined:Income in past 12 months below povert	6,650	745
	Percent Low-Income	**15.6%**	**8.9%**
	125 Percent of COC	**19.4%**	**AC<125% COC**
	Potential Low-Income EJ Impact?		**No**
	MINORITY		
B 03002001	Total population: Total	43,779	8,577
B 03002002	Total population: Not Hispanic or Latino	40,960	8,232
B 03002003	Total population: Not Hispanic or Latino; White alone	39,093	7,554
B 03002004	Total population: Not Hispanic or Latino; Black or African American alone	472	116
B 03002005	Total population: Not Hispanic or Latino; American Indian and Alaska Native alone	135	45
B 03002006	Total population: Not Hispanic or Latino; Asian alone	812	517
B 03002007	Total population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander	0	0
B 03002008	Total population: Not Hispanic or Latino; Some other race alone	10	0
B 03002009	Total population: Not Hispanic or Latino; Two or more races	382	0
B 03002010	Total population: Hispanic or Latino	2,819	345
B 03002011	Total population: Hispanic or Latino; White alone	1,171	345
B 03002012	Total population: Hispanic or Latino; Black or African American alone	0	0
B 03002013	Total population: Hispanic or Latino; American Indian and Alaska Native alone	27	0
B 03002014	Total population: Hispanic or Latino; Asian alone	0	0
B 03002015	Total population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B 03002016	Total population: Hispanic or Latino; Some other race alone	1,579	0
B 03002017	Total population: Hispanic or Latino; Two or more races	72	0
	Number Non-White/Minority (P007001-P007003)	**4,686**	**1,023**
	Percent Non-White/Minority	**10.7%**	**11.9%**
	125 Percent of COC	**13.4%**	**AC<125% COC**
	Potential Minority EJ Impact?		**No**

Des 1700162 and 1700162 US 50 at CR 1225 and CR 1250 Minority Popoulations

	Jackson County, Indiana		Census Tract 9675,	
	Estimate	Margin of Error	Estimate	Margin of
Total:	43,779	*****	8,577	+/-495
Not Hispanic or Latino:	40,960	*****	8,232	+/-536
White alone	39,093	+/-85	7,554	+/-542
Black or African American alone	472	+/-102	116	+/-141
American Indian and Alaska Native	135	+/-36	45	+/-40
Asian alone	812	+/-89	517	+/-229
Native Hawaiian and Other Pacific	0	+/-24	0	+/-16
Some other race alone	56	+/-77	0	+/-16
Two or more races:	392	+/-138	0	+/-16
Two races including Some other race	10	+/-18	0	+/-16
Two races excluding Some other	382	+/-138	0	+/-16
Hispanic or Latino:	2,819	*****	345	+/-199
White alone	1,171	+/-255	345	+/-199
Black or African American alone	0	+/-24	0	+/-16
American Indian and Alaska Native	27	+/-48	0	+/-16
Asian alone	0	+/-24	0	+/-16
Native Hawaiian and Other Pacific	0	+/-24	0	+/-16
Some other race alone	1,549	+/-261	0	+/-16
Two or more races:	72	+/-58	0	+/-16
Two races including Some other race	72	+/-58	0	+/-16
Two races excluding Some other	0	+/-24	0	+/-16

Des 1700162 and 1700161 US 50 at CR 1225 and CR 1250 Low Income Populations

	Jackson County, Indiana		Census Tract 9675,	
	Estimate	Margin of	Estimate	Margin of
Total:	42,740	+/-207	8,372	+/-496
Income in the past 12 months below	6,650	+/-842	745	+/-349
Male:	2,754	+/-399	279	+/-169
Under 5 years	352	+/-121	0	+/-16
5 years	42	+/-38	14	+/-22
6 to 11 years	353	+/-117	55	+/-43
12 to 14 years	92	+/-50	0	+/-16
15 years	30	+/-31	0	+/-16
16 and 17 years	89	+/-55	0	+/-16
18 to 24 years	283	+/-103	34	+/-45
25 to 34 years	423	+/-150	48	+/-70
35 to 44 years	376	+/-142	94	+/-114
45 to 54 years	276	+/-112	0	+/-16
55 to 64 years	215	+/-79	22	+/-34
65 to 74 years	172	+/-70	12	+/-21
75 years and over	51	+/-40	0	+/-16
Female:	3,896	+/-568	466	+/-208
Under 5 years	270	+/-129	0	+/-16
5 years	67	+/-46	0	+/-16
6 to 11 years	367	+/-149	24	+/-26
12 to 14 years	216	+/-107	37	+/-30
15 years	48	+/-40	0	+/-16
16 and 17 years	76	+/-39	0	+/-16
18 to 24 years	500	+/-165	185	+/-128
25 to 34 years	476	+/-138	16	+/-26
35 to 44 years	449	+/-145	86	+/-79
45 to 54 years	410	+/-123	32	+/-46
55 to 64 years	433	+/-127	43	+/-42
65 to 74 years	246	+/-100	43	+/-40
75 years and over	338	+/-115	0	+/-16
Income in the past 12 months at or	36,090	+/-907	7,627	+/-640
Male:	18,601	+/-454	3,868	+/-365
Under 5 years	1,166	+/-132	270	+/-114
5 years	216	+/-83	12	+/-19
6 to 11 years	1,515	+/-165	202	+/-94
12 to 14 years	751	+/-175	81	+/-64
15 years	208	+/-95	73	+/-59
16 and 17 years	630	+/-107	93	+/-65
18 to 24 years	1,434	+/-121	232	+/-124
25 to 34 years	2,226	+/-174	372	+/-138
35 to 44 years	2,694	+/-201	671	+/-191
45 to 54 years	2,665	+/-139	651	+/-137
55 to 64 years	2,441	+/-104	571	+/-152
65 to 74 years	1,609	+/-88	405	+/-88
75 years and over	1,046	+/-54	235	+/-77
Female:	17,489	+/-630	3,759	+/-396
Under 5 years	1,003	+/-154	241	+/-101
5 years	218	+/-80	86	+/-65
6 to 11 years	1,200	+/-184	299	+/-146
12 to 14 years	679	+/-140	176	+/-94
15 years	355	+/-83	35	+/-40
16 and 17 years	397	+/-97	29	+/-33
18 to 24 years	1,182	+/-175	254	+/-153
25 to 34 years	2,169	+/-162	513	+/-170
35 to 44 years	2,339	+/-141	443	+/-98
45 to 54 years	2,524	+/-136	530	+/-121
55 to 64 years	2,414	+/-153	520	+/-129
65 to 74 years	1,765	+/-109	431	+/-92
75 years and over	1,244	+/-125	202	+/-75