

Jacob Burskey
Approved 8/2/2022

**“WATERS OF THE U.S.” DETERMINATION REPORT
US 31 in Town of Sellersburg, Clark County, Indiana
Pavement Maintenance
DES. NO. 1700111**

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Butler, Fairman & Seufert, Inc.
Completed Date: July 28, 2022

Date(s) of Field Reconnaissance: June 2, 2020, October 28, 2020 and May 17, 2022*

*Field work for Investigation Areas 1 and 2 were completed in 2020. The scope of the project was later expanded to include Investigation Areas 3, 4 and 5, resulting in additional field work that was completed in 2022.

Project Location: The project is located within the Town of Sellersburg, Clark County, Indiana. More specifically, the project is located along US 31 from 1.53 miles N. of SR 60 (Foothill Road) to 3.28 miles N. of SR 60. The project is also located in Sections 110, 111, and 130, Township 1 South, Range 6 East on the USGS Speed, Indiana Quadrangle (see Attachment 2).

LAT 38.40344 N; LONG -85.75364 W (Investigation Area 1)
LAT 38.39147 N; LONG -85.75525 W (Investigation Area 2)
LAT 38.39452 N; LONG -85.76042 W (Investigation Area 3)
LAT 38.39478 N; LONG -85.76186 W (Investigation Area 4)
LAT 38.39566 N; LONG -85.76155 W (Investigation Area 5)

Project Description:

The proposed project is approximately 1.75 miles long. No work to existing bridges / culverts / pipes is proposed. The project proposes the following (see Attachment 3 for map showing project segments):

Segment 1- Foothill Road to Triangle Drive:

- Mill and repave US 31.

Segment 2- US 31/SR 311/Prather Lane Intersection:

- Full-depth pavement replacement with underdrains;
- Replace non-ADA-compliant curb ramps;
- Potential detention basin improvements.

Segment 3- Bucheit Street to CR 403 (Old SR 403):

- Full-depth pavement replacement with underdrains;
- Install new curb inlets and storm sewer;
- Replace non-ADA-compliant curb ramps;
- Replace traffic signal at Utica Street and CR 403 (Old SR 403) intersections;
- Remove mid-block crosswalk near Silver Creek Elementary and Silver Creek Middle School entrances and relocate to US 31/CR 403 (Old SR 403) intersection with ADA-compliant pushbuttons and pedestrian countdown heads;
- Revise pavement markings from Utica Street to Silver Creek Elementary and Silver Creek Middle School entrances.

Segment 4- CR 403 (Old SR 403) to St. Joe Road (just south of Muddy Fork):

- Mill and repave US 31;
- Replace non-compliant curb ramps;
- Replace segments of sidewalk disturbed by project;
- Replace inlet castings and adjust to grade;
- Add curb inlets and connect to existing storm sewer.

The majority of the project is located within a previously disturbed urban setting with either no roadside drainage features present, or existing curb and gutter present (see photographs 1-6 on Attachments 14-17). Therefore, it was determined that five (5) specific areas along the project should be the focus of this investigation (see locations on Attachment 3).

Investigation Area 1 is located near the central portion the overall project where US 31 crosses an unnamed tributary (UNT) to Silver Creek. The footprint of Investigation Area 1 consisted of the area that has the potential to be impacted based on all possible design scenarios, specifically the proposed construction of a new storm water outlet in the southeast quadrant of the crossing and associated riprap placement for scour protection. The area of investigation was evaluated for the presence or absence of wetlands and streams. Approximately 0.17 acre was investigated. The study limits extend a total of 150 linear feet along US 31, starting at the stream crossing and continuing south, and extending 50 feet east from the edge of pavement of US 31. This area was investigated by walking transects north to south within the study limits for the project and looking for any visual evidence of stream or wetland characteristics.

Investigation Area 2 is located near the south terminus of the overall project where US 31 crosses Camp Run. The footprint of Investigation Area 2 consisted of the area along US 31 between Foothill Road and Fern Street (approximately 150 linear feet along US 31) and the existing 90-foot-wide right-of-way width around the crossing, which extends from the roadway centerline 40 feet to the east and 50 feet to the west. Approximately 0.31 acre was investigated.

Investigation Area 3 is located in the southern portion of the overall project, south of where Highway (Hwy) 331 crosses Camp Run. The total area studied was approximately 80 feet along Hwy 311 (northeast to southwest) and approximately 90 feet southeast to northwest (approximately 0.17 acre).

Investigation Area 4 is roughly bound by Hwy 311 to the south, I-65 to the west and the exit ramp from southwest bound Hwy 311 to northbound I-65 to the east. The northern study limits extend approximately 250 feet north of Hwy 331. Approximately 1.6 acre was investigated.

Investigation Area 5 is roughly bound by Hwy 311 and the exit ramp from southwest bound Hwy 311 to northbound I-65 to the south and west, and commercial properties to the north and east. Approximately 3.6 acre was investigated.

All areas mapped as wetlands on the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) map were investigated and sampling points (also referred to as data points) were taken where wetland characteristics were observed and in any potential problem areas. Any drainage features that displayed a defined channel and ordinary high water mark (OHWM) were considered potentially jurisdictional streams. Any water features that did not meet these criteria were not considered as streams.

Desktop Reference:

Prior to the field investigation, several reference materials were consulted to gain information about the site. The USGS Speed, Indiana quadrangle map was used to determine contours of the site and locate any water bodies in the area, as well as to provide a legal description of the area (see Attachment 2). The Natural Resources Conservation Service (NRCS) Web Soil Survey (<https://websoilsurvey.nrcs.usda.gov/app/>) was consulted to determine if the project area contained any soils listed in either the *Hydric Soils of the United States* manual or the state list of hydric soils publication, along with a description of characteristics displayed by the mapped soil types of the area (see Attachment 6-8). The USFWS NWI map was used to find and classify any previously catalogued wetlands in the project area (see Attachment 4). The FEMA-FIRM floodplain map was consulted to gain an understanding of historic flood locations and

frequency. Investigation Areas 1 and 2 are located within a mapped floodplain (see Attachment 5). The USGS National Hydrography Dataset (NHD) map was used to evaluate the potential for streams within the project area (see Attachments 9-11). All of this information provided a background for the hydrologic regime of the investigation areas.

Soils:

According to the NRCS Web Soil Survey website¹ for Clark County, Indiana (see Attachments 8-10), the following table summarizes the soil types found in the investigation area, including characteristics such as Flooding Frequency, Drainage Class, Hydric Soil Category, and Hydric Rating.

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Haymond silt loam, 0-2 percent slopes, frequently flooded, very brief duration	HcgAV	Frequent	Well Drained	Nonhydric	0
Udorthents, cut and filled	Uaa	None	Not Specified	Nonhydric	0
Urban land-Udarents, fragipan Substratum, complex, till plain0 to 12 percent slopes	UngB	None	Not Specified	Nonhydric	0
Wilbur silt loam, 0 to 2 percent slopes occasionally flooded, very brief duration	WokAW	Occasional	Somewhat poorly drained	Nonhydric	0

National Wetlands Inventory (NWI) Information:

The following is a list of mapped wetlands located either within or near the proposed project limits (see Attachment 4).

- An intermittent stream is mapped, classified by Cowardin et. al.¹ as a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland, as crossing US 31 near the central portion of the overall project. This stream is an unnamed tributary (UNT) to Silver Creek.
- An intermittent stream is mapped, classified by Cowardin et. al.¹ as a riverine, intermittent, streambed, seasonally flooded (R4SBC) wetland, as crossing US 31 near the southern terminus of the project. This stream is identified as Camp Run on the USGS Speed, Indiana quadrangle map (Attachment 2).

USGS National Hydrography Dataset (NHD) Map:

According to the USGS NHD map for Investigation Area 1, UNT to Silver Creek is shown as an intermittent flowline flowing east through the study area (see Attachment 9).

According to the USGS NHD map for Investigation Area 2, Camp Run (Reach 1) is shown as an intermittent flowline flowing northeast through the study area, and roadside ditch (RSD) 1 is shown as a canal/ditch that flows southeast through the project area (see Attachment 10).

According to the USGS NHD map for Investigation Area 3, Camp Run (Reach 2) is shown as a pipeline flowing southeast through the study area (see Attachment 11).

¹ <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

According to the USGS NHD map for Investigation Area 4, Camp Run (Reach 3) is shown as an intermittent flowline flowing east through the study area, UNT 1 to Camp Run (Reach 1) is shown as an intermittent flowline flowing southwest through the project area, and UNT 3 to Camp Run is shown as a canal/ditch flowing northeast through the project area (see Attachment 11).

According to the USGS NHD map for Investigation Area 5, UNT 1 to Camp Run (Reach 2) is shown as an intermittent flowline and a canal/ditch flowing southwest through the study area, and UNT 2 to Camp Run is shown as a canal/ditch flowing southeast through the study area (see Attachment 11).

USGS 14-digit hydrologic unit code (HUC): 05140101140110 (Silver Creek-Camp Run)

Attached documentation:

- Maps of the project area (state, road, quad, aerial, NWI, floodplain, soil, NHD, StreamStats): Attachments 1 - 13
- Photographs of the project area with orientation maps: Attachments 14 - 43
- Wetland Data Sheets: Attachments 44 - 55
- Preliminary Jurisdictional Determination (PJD) Form: Attachments 56 – 58

Field Reconnaissance:

The sites were investigated during growing seasons on June 2, 2020, October 28, 2020 (Investigation Areas 1 and 2) and May 17, 2022 (Investigation Areas 3, 4 and 5). The areas were investigated by walking transects within the study limits for the project and looking for any visual evidence of stream or wetland characteristics. Wetland boundaries and sampling point locations were recorded in the field using a handheld Global Positioning System (GPS) unit. Ordinary high-water mark (OHWM) and bankfull measurements were taken, when present, at a water feature and dominant substrate material was also noted. If present, roadside ditches were examined for possible jurisdictional status. Any areas that exhibited wetland characteristics (hydrophytic vegetation, hydrology, and hydric soils) were investigated to determine if the area should be classified as wetland. Field data collection was based on the methodologies presented in the 1987 U.S Army Corps of Engineers (USACE) Wetlands Delineation Manual ('87 Manual) and the 2012 Regional Supplement to the USACE Wetlands Delineation Manual: Midwest Region Version 2.0 (Regional Supplement). Field methods did not deviate from the standard methods found in the '87 Manual or the Regional Supplement.

Stream Features:

Investigation Area 1 / UNT to Silver Creek:

UNT to Silver Creek is illustrated as a dashed blue line on the Speed, Indiana quadrangle map (see Attachment 2) that flows east through the investigation area and discharges into Silver Creek approximately 1.3 miles downstream of the US 31 crossing. This stream has a drainage area upstream of the study limits of approximately 0.52 square mile (as calculated using the web-tools on the USGS *Indiana StreamStats* website²). UNT to Silver Creek is classified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) waterway. It is of average quality due to the presence of a mostly intact riparian corridor and moderate sinuosity. No riffle-pool complexes were noted in the stream near the project area. The substrate is primarily silt and gravel. The stream has an approximate average 22-foot bankfull width and approximate average 3.5-foot bankfull depth. The OHWM depth is approximately 2.5 feet and width is approximately 18.0 feet. All stream measurements were taken at LAT/LONG 38.40344/-85.75364. UNT to Silver Creek should be considered a "Waters of the United States".

² <https://streamstats.usgs.gov/ss/>

Investigation Area 2 / Camp Run (Reach 1):

Camp Run (Reach 1) is illustrated as a dashed blue line on the Speed, Indiana quadrangle map (see Attachment 2) that flows east through the investigation area and discharges into Silver Creek approximately 1.7 miles downstream of the US 31 crossing. This stream has a drainage area upstream of the study limits of approximately 0.97 square mile (as calculated using the web-tools on the USGS *Indiana StreamStats* website²). Camp Run (Reach 1) is classified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) waterway. It is of average quality due to the narrow riparian corridor and absence of riffle-pool complexes. The substrate is primarily silt. The stream has an approximate average 18-foot bankfull width and approximate average 4.5-foot bankfull depth. The OHWM depth is approximately 1.3 feet and width is approximately 6.0 feet. All stream measurements were taken at LAT/LONG 38.40344/-85.75364. Camp Run (Reach 1) should be considered a “Waters of the United States”.

Investigation Area 3 / Camp Run (Reach 2):

Camp Run (Reach 2) is illustrated as a dashed blue line on the Speed, Indiana quadrangle map (see Attachment 2) that flows southeast through the investigation area and discharges into Silver Creek approximately 2.1 miles downstream of the Hwy 311 crossing. This stream has a drainage area upstream of the study limits of approximately 0.85 square mile (as calculated using the web-tools on the USGS *Indiana StreamStats* website²). Camp Run (Reach 2) is classified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) waterway. It is of average quality due to the limited riparian corridor and absence of riffle-pool complexes. The substrate is primarily silt and riprap. The stream has an approximate average 16-foot bankfull width and approximate average 2.5-foot bankfull depth. The OHWM depth is approximately 1.3 feet and width is approximately 13.5 feet. All stream measurements were taken at LAT/LONG 38.394534 / -85.760410. Camp Run (Reach 2) should be considered a “Waters of the United States”.

Investigation Area 4 / Camp Run (Reach 3):

Camp Run (Reach 3) is illustrated as a dashed blue line on the Speed, Indiana quadrangle map (see Attachment 2) that flows east through the investigation area and discharges into Silver Creek approximately 1.7 miles downstream of the Hwy 311 crossing. This stream has a drainage area upstream of the study limits of approximately 0.85 square mile (as calculated using the web-tools on the USGS *Indiana StreamStats* website²). Camp Run (Reach 3) is classified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) waterway. It is of average quality due to its proximity to surrounding highways and absence of riffle-pool complexes. The substrate is primarily silt and gravel. The stream has an approximate average 13-foot bankfull width and approximate average 1.5-foot bankfull depth. The OHWM depth is approximately 0.8 feet and width is approximately 9.0 feet. All stream measurements were taken at LAT/LONG 38.394746/-85.761651. Camp Run (Reach 3) should be considered a “Waters of the United States”.

Investigation Area 4 / UNT 1 to Camp Run (Reach 1):

UNT 1 to Camp Run (Reach 1) is not shown as a blue line feature on the Speed, Indiana quadrangle map (see Attachment 2); however, it flows southwest through the investigation area and discharges into Camp Run on the north side of Hwy 331. UNT to Camp Run (Reach 1) is classified as a riverine, intermittent, streambed, seasonally flooded (R4SBC) waterway. It is of poor quality due to its proximity to surrounding highways and absence of riffle-pool complexes. The substrate is primarily silt and gravel. The stream has an approximate average 8.5-foot bankfull width and approximate average 1.5-foot bankfull depth. The OHWM depth is approximately 1.0-foot and width is approximately 5.3 feet. All stream measurements were taken at LAT/LONG 38.394819/-85.761460. UNT 1 to Camp Run (Reach 1) should be considered a “Waters of the United States”.

Investigation Area 4 / UNT 3 to Camp Run:

UNT 3 to Camp Run is not shown as a blue line feature on the Speed, Indiana quadrangle map (see Attachment 2); however, it flows northeast through the investigation area and discharges into Camp Run on the north side of Hwy 331. UNT to Camp Run (Reach 1) is classified as a riverine, ephemeral (R6) waterway. It is of poor quality due to its proximity to surrounding highways and absence of riffle-pool complexes. The substrate is primarily silt and riprap. The stream has an approximate average 8.1-foot bankfull width and approximate average 1.5-foot bankfull depth. The OHWM depth is approximately 1.0 feet and width is approximately 5.3 feet. All stream measurements were taken at LAT/LONG 38.394819/-85.761460. UNT 3 to Camp Run should be considered a “Waters of the United States”.

Investigation Area 5 / UNT 1 to Camp Run (Reach 2):

UNT 1 to Camp Run (Reach 2) is not shown as a blue line feature on the Speed, Indiana quadrangle map (see Attachment 2); however, it flows southwest through the investigation area into UNT 1 to Camp Run (Reach 1) which discharges into Camp Run on the north side of Hwy 331. UNT to Camp Run (Reach 1) is classified as a riverine, ephemeral (R6) waterway. It is of poor quality due to its proximity to surrounding highways and absence of riffle-pool complexes. The substrate is primarily silt. The stream has an approximate average 7.4-foot bankfull width and approximate average 1.5-foot bankfull depth. The OHWM depth is approximately 0.5 feet and width is approximately 3.0 feet. All stream measurements were taken at LAT/LONG 38.395263/-85.760571. UNT 1 to Camp Run (Reach 2) should be considered a “Waters of the United States”.

Investigation Area 5 / UNT 2 to Camp Run:

UNT 2 to Camp Run is not shown as a blue line feature on the Speed, Indiana quadrangle map (see Attachment 2); however, it flows southeast through the investigation area and discharges into UNT 1 to Camp Run which outlets to Camp Run on the north side of Hwy 331. UNT to Camp Run (Reach 1) is classified as a riverine, ephemeral (R6) waterway. It is of poor quality due to its proximity to surrounding highways and absence of riffle-pool complexes. The substrate is primarily silt and riprap. The stream has an approximate average 8.5-foot bankfull width and approximate average 2.0-foot bankfull depth. The OHWM depth is approximately 1.0 feet and width is approximately 5.3 feet. All stream measurements were taken at LAT/LONG 38.394819/-85.761460. UNT 1 to Camp Run (Reach 1) should be considered a “Waters of the United States”.

Table 1. Stream Summary Table

Stream Name	Photo Numbers	Latitude/ Longitude (UTM NAD 83)	OHWM width/depth (feet)	USGS ID	Presence of Riffles/Pools	Channel Substrate	Functional Quality	Likely Water of the U.S.	Linear Ft. in Study Area
UNT to Silver Creek	7-10	38.40344 / -85.75364	18.0 / 2.5	Dashed blue line (intermittent)	No	Silt and various gravel sizes	Average	Yes	50
Camp Run Reach 1	13-16	38.39147 / -85.75525	6.0 / 1.3	Dashed blue line (intermittent)	No	Silt	Average	Yes	90
Camp Run Reach 2	21-23	38.394534 / -85.760410	13.5 / 1.3	Dashed blue line (intermittent)	No	Silt and riprap	Average	Yes	20
Camp Run Reach 3	25-27	38.394746 / -85.761651	9.0 / 0.8	Dashed blue line (intermittent)	No	Silt and various gravel sizes	Average	Yes	240
UNT 1 to Camp Run (Reach 1)	35-38	38.394819 / -85.761460	5.3 / 1.0	Not mapped (intermittent)	No	Silt and various gravel sizes	Poor	Yes	110
UNT 1 to Camp Run (Reach 2)	45-48	38.395263 / -85.760571	3.0 / 0.5	Not mapped (ephemeral)	No	Silt	Poor	Yes	530
UNT 2 to Camp Run	43-46	38.396051 / -85.762656	3.5 / 0.5	Not mapped (ephemeral)	No	Silt and riprap	Poor	Yes	630
UNT 3 to Camp Run	33-34	38.394588 / -85.761841	6.3 / 0.3	Not mapped (ephemeral)	No	Silt and riprap	Poor	Yes	170

Wetlands:

Investigation Area 1

There are no mapped wetlands in the study area; however, the southeast quadrant of the US 31 crossing of UNT to Silver Creek (Investigation Area 1) was investigated for potential wetland conditions due to proposed outfall work in this area. One (1) sampling point was taken in the field during the site visit on October 28, 2020 (see Attachments 10 and 11).

Sample Point 1 was taken in a relatively flat floodplain area in the immediate southeast quadrant of the US 31 crossing of UNT to Silver Creek (see Attachment 18). The sample point is located east of what is sloped US 31 roadway fill. The soil type mapped at this location is Wilbur silt loam. The soil sample from 0-8 inches was 10YR 4/3 (100%), and from 8-20 inches was 10YR 5/3 (100%). The soil sample contained no hydric soil indicators. Sample Point 1 was found to be dominated by mostly upland vegetation. Documented dominant species in this area include common hackberry (*Celtis occidentalis*, FAC), red mulberry (*Morus rubra*, FACU), bush honeysuckle (*Lonicera maackii*, UPL) and wintercreeper (*Euonymus fortunei*, UPL). Sample Point 1 did not contain any primary wetland hydrology indicators and one secondary indicator (Geomorphic Position (D2)). As a result, Sample Point 1 is a non-wetland data point (see Attachments 44-45).

Investigation Area 2

There are no mapped wetlands in the study area, and no potential wetland conditions were observed during the field investigation.

Investigation Area 3

There are no mapped wetlands in the study area, and no potential wetland conditions were observed during the field investigation.

Investigation Area 4

There are no mapped wetlands in the study area; however, sampling points were taken on May 17, 2022 in two potential wetland areas observed during the field reconnaissance (see Attachment 26).

Sample Point 2 was taken in an elevated, relatively flat area north of Hwy 311 and east of I-65 that separates Camp Run (Reach 3) from UNT 3 to Camp Run (see Attachment 26). Sample Point 2 is not located within a mapped floodplain (see Attachment 5). The soil type mapped at this location is Udorthents, cut and filled. The soil sample from 0-10 inches was 10YR 4/3 (100%), and from 10-20 inches was 10YR 3/3 (100%). The soil sample contained no hydric soil indicators. The vegetation within the sampling area consisted of a dominant hydrophytic community consisting of black elderberry (*Sambucus nigra*, FAC) and boxelder (*Acer negundo*, FAC) in the shrub stratum, and ground ivy (*Glechoma hederacea*, FACU), meadow garlic (*Allium canadense*, FACU), and stickywilly (*Galium aparine*, FACU) in the herbaceous stratum. Sample Point 2 did not contain any primary or secondary indicators of wetland hydrology. As a result, Sample Point 2 is a non-wetland data point (see Attachments 46-47).

Sample Point 3A was taken in a gently sloping terrace north of UNT 1 to Camp Run (Reach 1) located north of Hwy 311 and west of the westbound Hwy 311 exit ramp to northbound I-65 (see Attachment 26). The soil type mapped at this location is Udorthents, cut and filled. The soil sample from 0-5 inches was 10YR 3/1 (100%), from 5-8 inches was 10YR 4/2 (100%), and from 8-20 inches was 10YR 4/2 (90%) and 10YR 4/6 (10%), which meets the criteria for depleted

matrix³. The vegetation within the sampling area consisted of dominant hydrophytic community, including eastern woodland sedge (*Carex blanda*, FAC), earlyleaf brome (*Bromus latiglumis*, FACW), and Cherokee sedge (*Carex cherokeensis*, FACW) in the herbaceous layer. The sample point location was found to meet one (1) positive primary hydrology indicator (Saturation (A3)) and one (1) positive secondary wetland hydrology indicator (FAC-Neutral Test (D5)). As a result, Sampling Point 3A was determined a wetland data point. This 0.07-acre wetland is classified as palustrine emergent wetland (PEM, Cowardin, et.al.). This wetland (Wetland 1) is likely a “Waters of the United States” due to its adjacency to UNT 1 to Camp Run (Reach 1), which is a relatively permanent waterway (see Attachments 48-49).

Sample Point 3B was taken directly north and upslope of Sampling Point 3A (see Attachment 26). The soil type mapped at this location is Udorthents, cut and filled. The soil sample from 0-5 inches was 10YR 3/1 (100%), and from 5-12 inches was 10YR 4/3 (100%). The soil sample contained no hydric soil indicators. A hardpan restrictive layer was encountered at 12 inches. The vegetation within the sampling area consisted of an upland community dominated by strict blue-eyed grass (*Sisyrinchium montanum*, FAC) and broomsedge bluestem (*Andropogon virginicus*, FACU) in the herbaceous stratum. Sampling Point 3B did not contain any primary or secondary indicators of wetland hydrology, which is likely due in part to the 2-4% slope of the area allowing precipitation to run off to the south towards Wetland 1. As a result, Sample Point 3B is a non-wetland data point (see Attachments 50-51).

Investigation Area 5

There are no mapped wetlands in the study area; however, sampling points were taken on May 17, 2022 in one potential wetland area observed during the field reconnaissance.

Sample Point 4A was taken in a relatively flat terrace north of UNT 1 to Camp Run (Reach 2) located north of Hwy 311 and east of the westbound Hwy 311 exit ramp to northbound I-65 (see Attachment 26). The soil type mapped at this location is Udorthents, cut and filled. The soil sample from 0-8 inches was 10YR 4/2 (90%) and 10YR 4/6 (10%), and from 8-20 inches was 10YR 4/3 (95%) and 10YR 4/6 (5%), which meets the criteria for depleted matrix³. The vegetation within the sampling area consisted of dominant hydrophytic community, including sweetflag (*Acorus calamus*, OBL) and Indianhemp (*Apocynum cannabinum*, FACW) in the herbaceous layer. The sample point location was found to meet one (1) positive primary hydrology indicator (Saturation (A3)) and one (1) positive secondary wetland hydrology indicator (FAC-Neutral Test (D5)). As a result, Sampling Point 4A was determined a wetland data point. This 1.8-acre wetland is classified as palustrine emergent wetland (PEM, Cowardin, et.al.). This wetland (Wetland 2) is likely a “Waters of the United States” due to its adjacency to UNT 1 to Camp Run (Reach 2) and UNT 2 to Camp Run, which are relatively permanent waterways (see Attachments 52-53).

Sample Point 4B was taken directly north and upslope of Sampling Point 4A (see Attachment 26). The soil type mapped at this location is Udorthents, cut and filled. The soil sample from 0-20 inches was 10YR 4/3 (100%). The soil sample contained no hydric soil indicators. The vegetation within the sampling area consisted of an upland community dominated by broomsedge bluestem (*Andropogon virginicus*, FACU) in the herbaceous stratum and Russian olive (*Elaeagnus angustifolia*, FACU) in the shrub stratum. Sampling Point 4B did not contain any primary or secondary indicators of wetland hydrology. As a result, Sampling Point 4B is a non-wetland data point (see Attachments 54-55).

³ United States Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.2*. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (Eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

Table 2: Data Point Summary Table

Data Point ID	Photo Numbers	Latitude/ Longitude (UTM NAD 83)	Hydrophytic Vegetation Present	Hydric Soil Present	Wetland Hydrology Present	Is the Sampled Area within a Wetland?
SP 1	11-12	38.40340 / -85.75364	Yes	Yes	Yes	Yes
SP 2	31-32	38.394578 / -85.761968	No	No	No	No
SP 3A	39-40	38.394929 / -85.761474	Yes	Yes	Yes	Yes
SP 3B	41-42	38.394973 / -85.761530	No	No	No	No
SP 4A	49-50	38.395337 / -85.760599	Yes	Yes	Yes	Yes
SP 4B	51-52	38.395400 / -85.760559	No	No	No	No

Table 3: Wetland Summary Table

Wetland ID	Photo #	Latitude/ Longitude (UTM NAD 83)	Type	Area Reviewed (Acres)	Functional Quality	Likely Water of the U.S.	Estimated Number of Wetlands within Review Area (Acres)
Wetland 1	39-40	38.394929 / -85.761474	PEM	0.07	Average	Yes	0.07
Wetland 2	49-50	38.395337 / -85.760599	PEM	1.80	Average	Yes	1.80

Open Water:

No open water areas were observed in the investigated area.

Roadside Ditches:

Roadside ditch 1 (RSD1) was observed within Investigation Area 2. Specifically, this feature parallels the east side of US 31 and conveys stormwater runoff south to Camp Run. This feature has a defined channel but does not contain an ordinary high water mark. During the site visit conducted on October 28, 2020, RSD1 did not contain any flowing water. Therefore, it should not be considered a jurisdictional feature.

No other potential roadside ditches were observed within the investigation areas.

Table 4. Roadside Ditch Summary Table

Name	Photo Numbers	Latitude/ Longitude (UTM NAD 83)	USGS ID	Channel Substrate	Linear Ft. in Study Area
RSD1	17-18	38.39160, -85.75525	Not mapped	Veg/Silt	90

Conclusions:

Field observations revealed eight (8) waterways (UNT to Silver Creek, Camp Run (Reach 1), Camp Run (Reach 2), Camp Run (Reach 3), UNT 1 to Camp Run (Reach 1), UNT 1 to Camp Run (Reach 2), UNT 2 to Camp Run and UNT 3 to Camp Run) within the study area that exhibited a defined channel and OHWM characteristics. Two (2) wetlands were identified within the study limits of the project area in the northwest (Wetland 1) and northeast (Wetland 2) quadrants of Hwy 311 and its exit ramp to northbound I-65. The waterways (UNT to Silver Creek, Camp Run (Reach 1), Camp Run (Reach 2), Camp Run (Reach 3), UNT 1 to Camp Run (Reach 1), UNT 1 to Camp Run (Reach 2), UNT 2 to Camp Run and UNT 3 to Camp Run) and its adjacent wetlands (Wetland 1 and Wetland 2) are the only jurisdictional features identified in the investigation. Every effort should be taken to avoid and minimize impacts to these features. If impacts are necessary, then mitigation may be required. INDOT Environmental Services should be contacted immediately if impacts occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgement based on the guidelines set forth by the Corps.

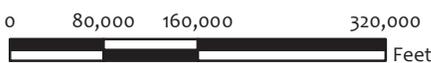
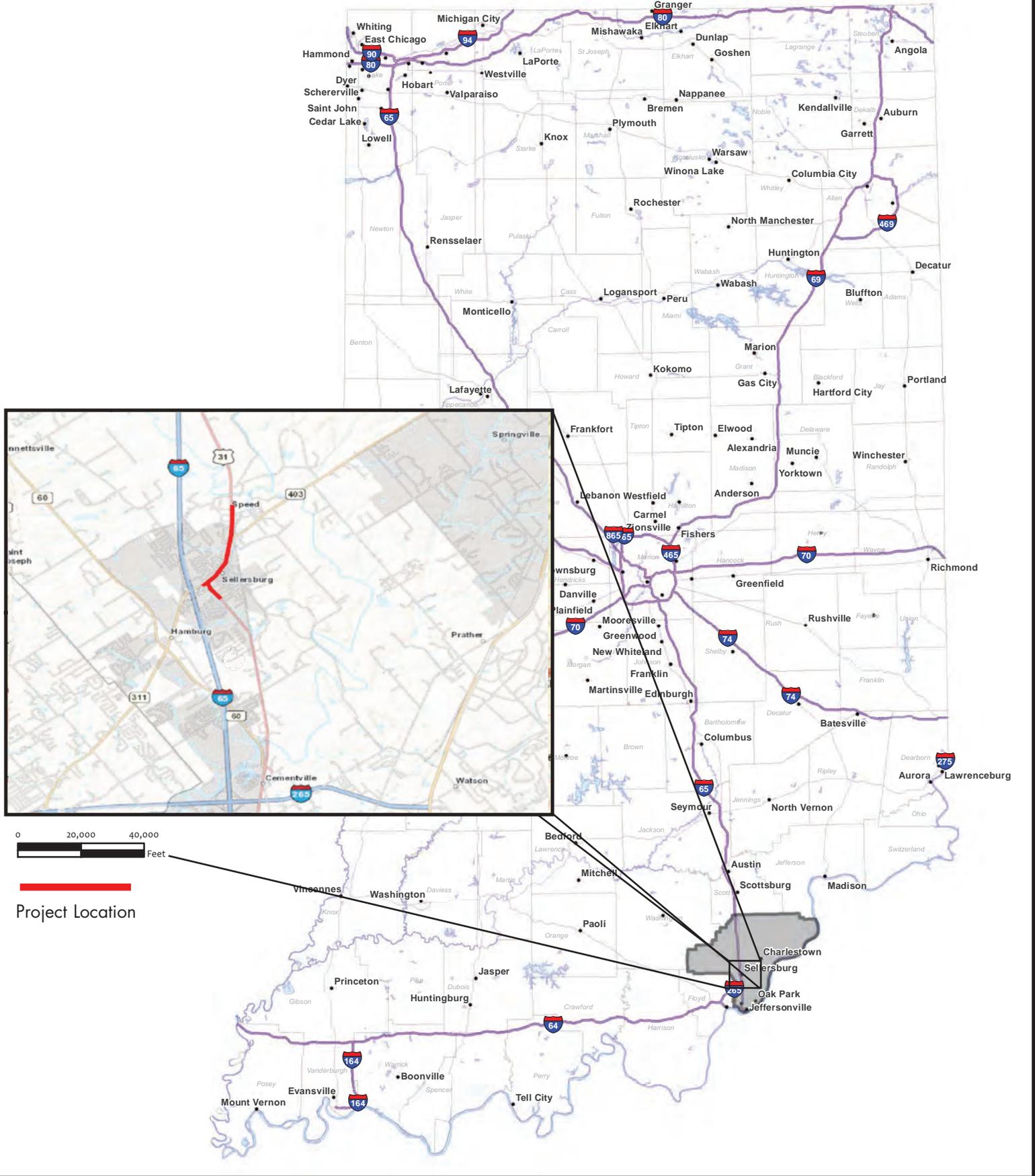
Acknowledgement:

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.

Ryan L. Scott



Environmental Services
Butler, Fairman and Seufert, Inc.



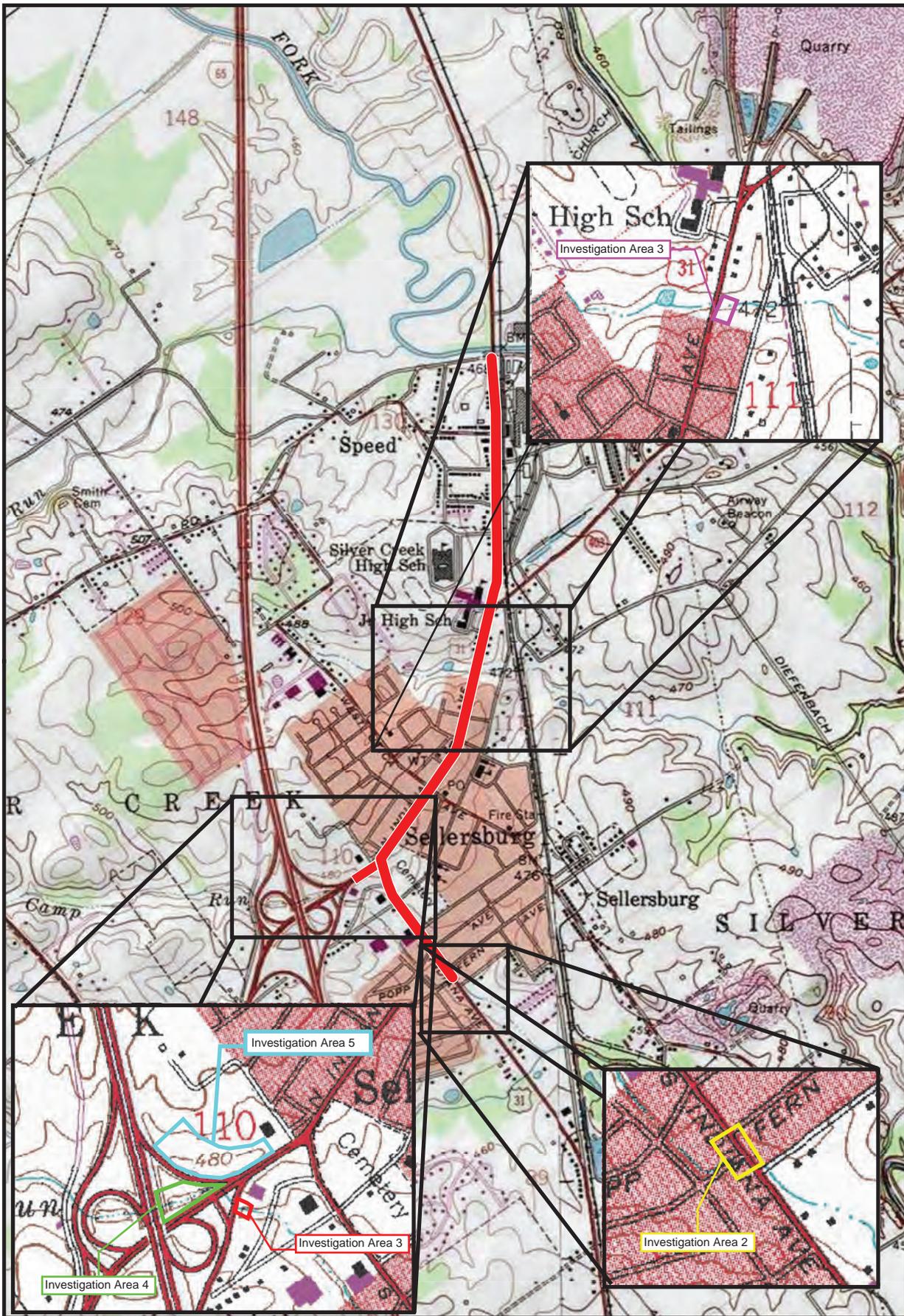
State Map
 US 31 Preventative Pavement Maintenance
 Sellersburg, Clark County, IN
 Des. No. 1700111



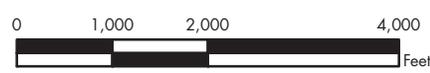
Map Source: Indiana Map



Legend
Project Area



Map Source: Indiana Geological Survey (IGS), IndianaMap, ArcGIS Online (ESRI) USA Topo Maps



USGS Speed Quadrangle

US 31 Preventative Pavement Maintenance
Sellersburg, Clark County, IN
Section (CMG) 110, 111, 130, Township 1 S, Range 6 E
Des. No. 1700111





Legend

Project Area



SEGMENT 1:

Mill and Repave US 31

SEGMENT 2:

Full-depth pavement replacement and underdrain work; curb ramp replacement; potential detention basin improvements

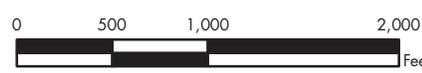
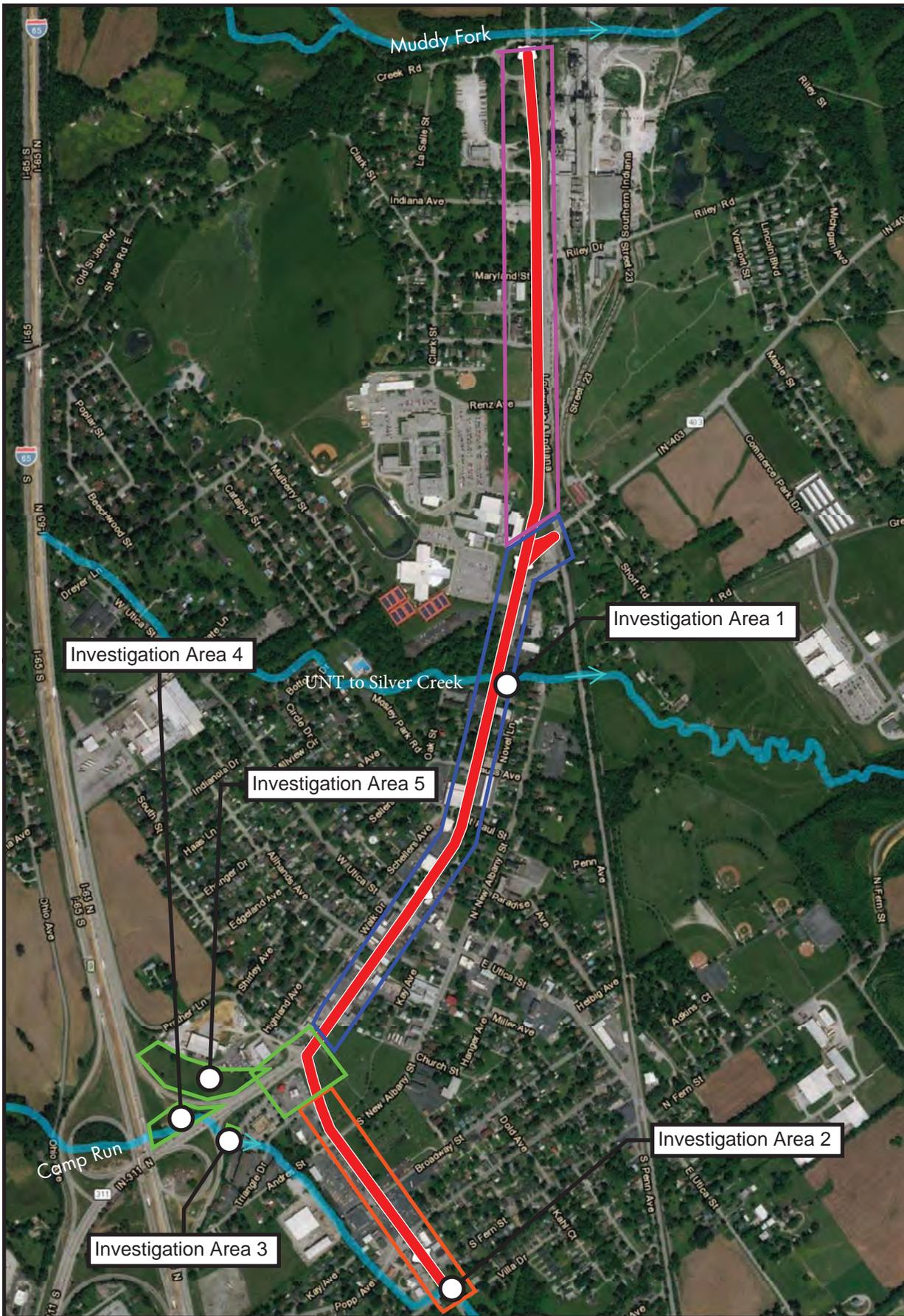
SEGMENT 3:

Full-depth pavement replacement; new curb inlets and storm sewer; traffic signal replacement; crosswalk improvements; pavement marking improvements

SEGMENT 4:

Mill and Repave US 31; Curb ramp improvements; Add curb inlets and connect to existing storm sewer

Map Source: Indiana Geological Survey (IGS), IndianaMap, ArcGIS Online (ESRI) World Imagery.



PROJECT SEGMENT LOCATION Aerial Map

US 31 Preventative Pavement Maintenance
Sellersburg, Clark County, IN
Des No. 1700111





U.S. Fish and Wildlife Service, National Standards and Support Team,
 wetlands_team@fws.gov

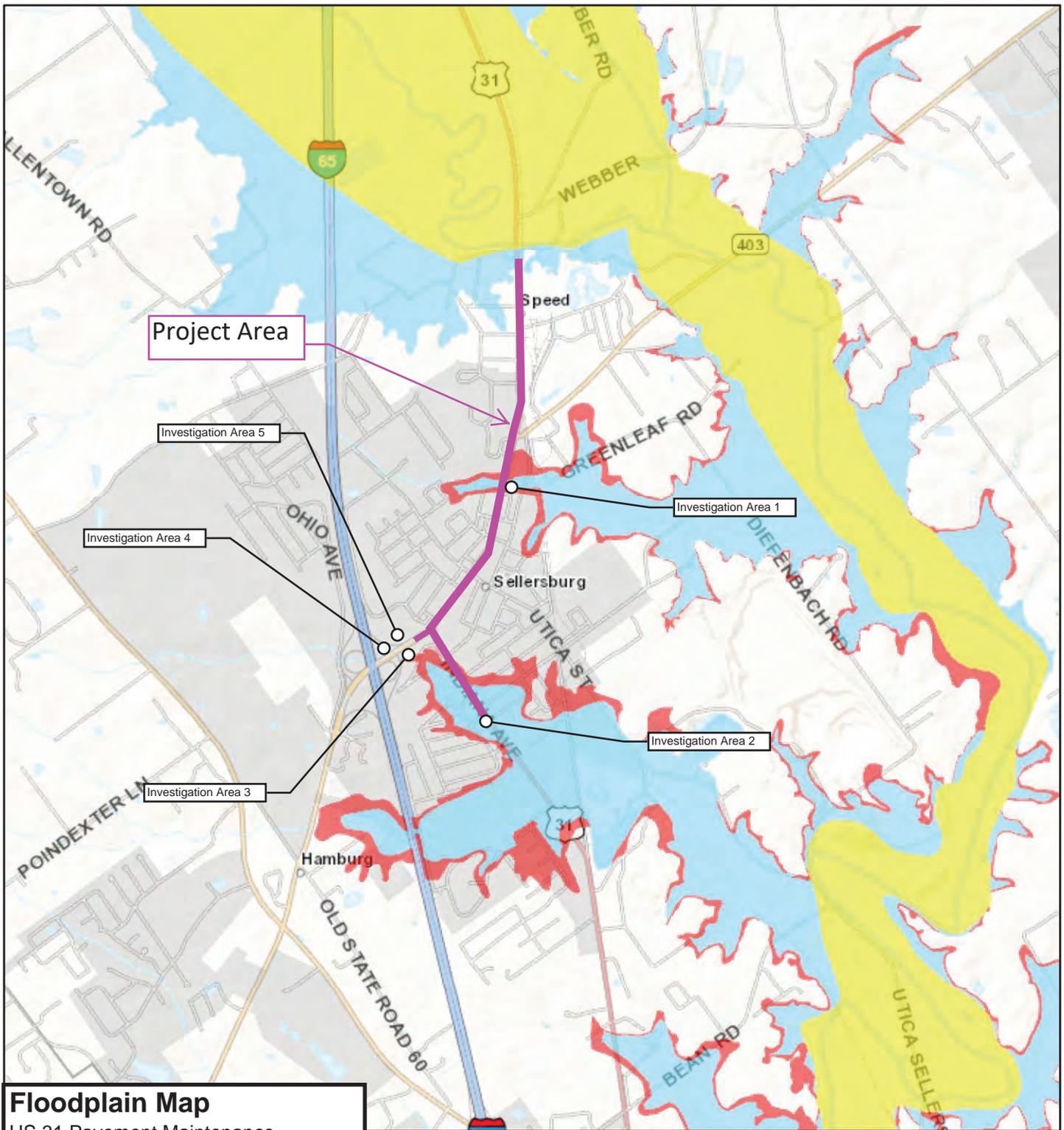
Wetlands

- | | | |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland |  Lake |
|  Estuarine and Marine Wetland |  Freshwater Forested/Shrub Wetland |  Other |
|  Project Area |  Freshwater Pond |  Riverine |

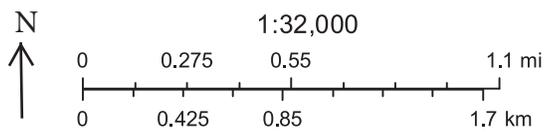


This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
 This page was produced by the NWI mapper



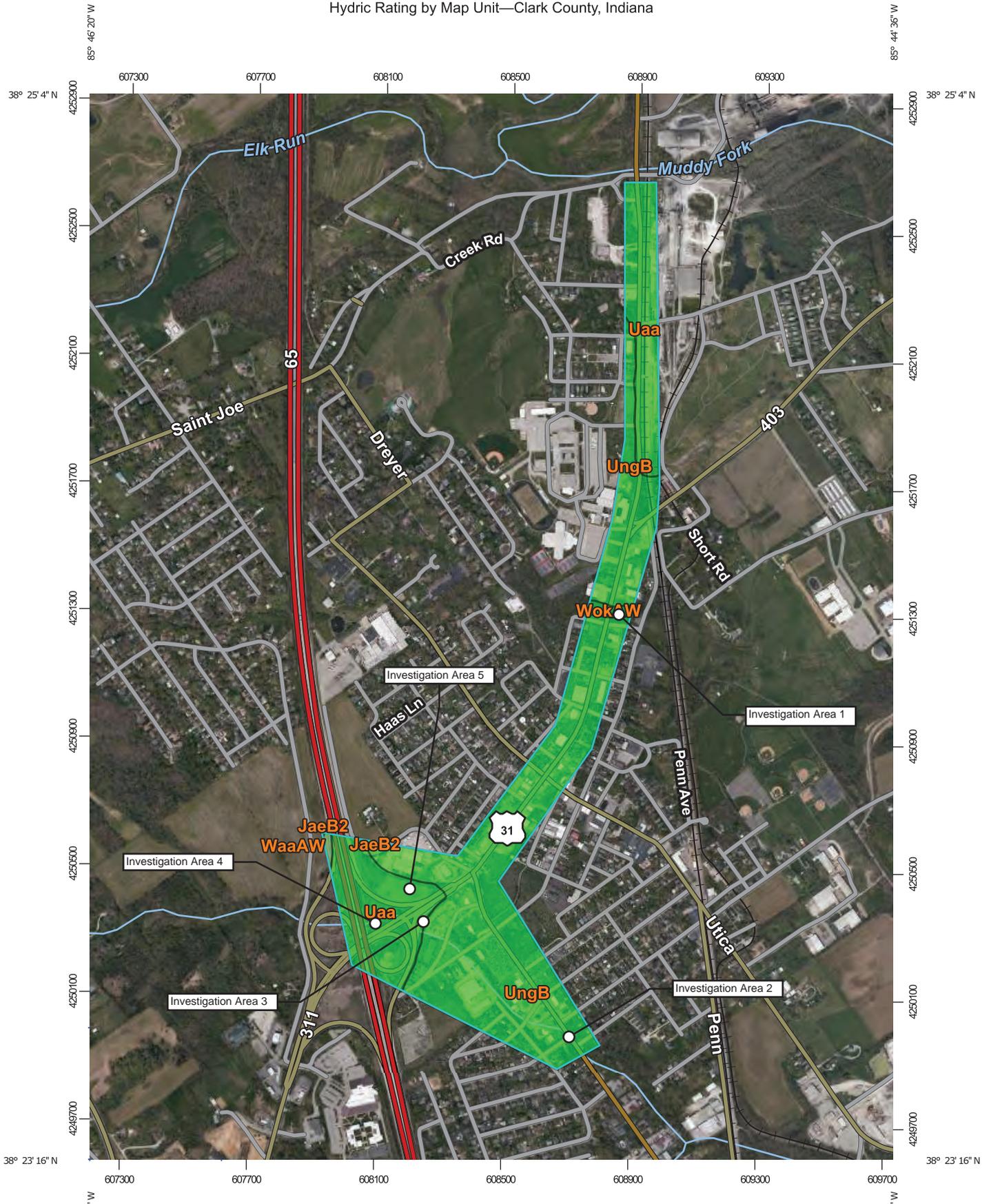
Floodplain Map
 US 31 Pavement Maintenance
 Town of Sellersburg, Clark County, IN
 Des. No. 1700111



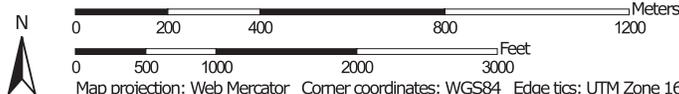
- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard

Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB), Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data Portal, Federal Emergency Management Agency (FEMA), Indiana Department of Natural Resources (IDNR)

Hydric Rating by Map Unit—Clark County, Indiana



Map Scale: 1:16,300 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 16N WGS84

Soil Map

US 31 Pavement Maintenance
Town of Sellersburg, Clark County, IN
Des. No. 1700111



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 1:12,000.

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: Clark County, Indiana
 Survey Area Data: Version 24, Sep 3, 2021

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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
JaeB2	Jennings silt loam, 2 to 6 percent slopes, eroded	0	0.2	0.1%
Uaa	Udorthents, cut and filled	0	44.5	29.4%
UngB	Urban land-Udarents, fragipan substratum, complex, till plain, 0 to 12 percent slopes	0	105.1	69.3%
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	10	0.4	0.3%
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	0	1.4	0.9%
Totals for Area of Interest			151.6	100.0%

USGS National Hydrography Dataset Map



US 31 Pavement Maintenance
Town of Sellersburg, Clark County, Indiana
DES. NO. 1700111

Waterbody - Large Scale	Area to be Submerged	Inundation Area	Wash	Coastline
Estuary	BayInlet	Lock Chamber	Water Intake/Outflow	Connector
Ice Mass	Bridge	Rapids	Flowline - Large Scale	Pipeline
Lake Pond	Canal/Ditch	Sea/Ocean	Perennial	
Playa	Dam/Weir	Special Use Zone	Intermittent	
Reservoir	Flume	Spillway	Ephemeral	
Swamp Marsh	Foreshore	Stream/River	Artificial Path	
Area - Large Scale	Hazard Zone	Submerged Stream	Canal Ditch	
Area of Complex Channels				

Investigation Area 1

N

1:2,257

0 0.02 0.04 0.08 mi
0 0.03 0.07 0.13 km

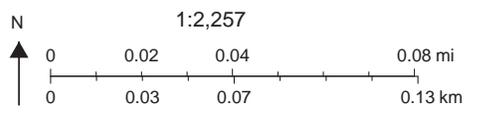
USGS TNM - National Hydrography Dataset. Data Refreshed April, 2022. Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

2021 USGS

USGS National Hydrography Dataset Map

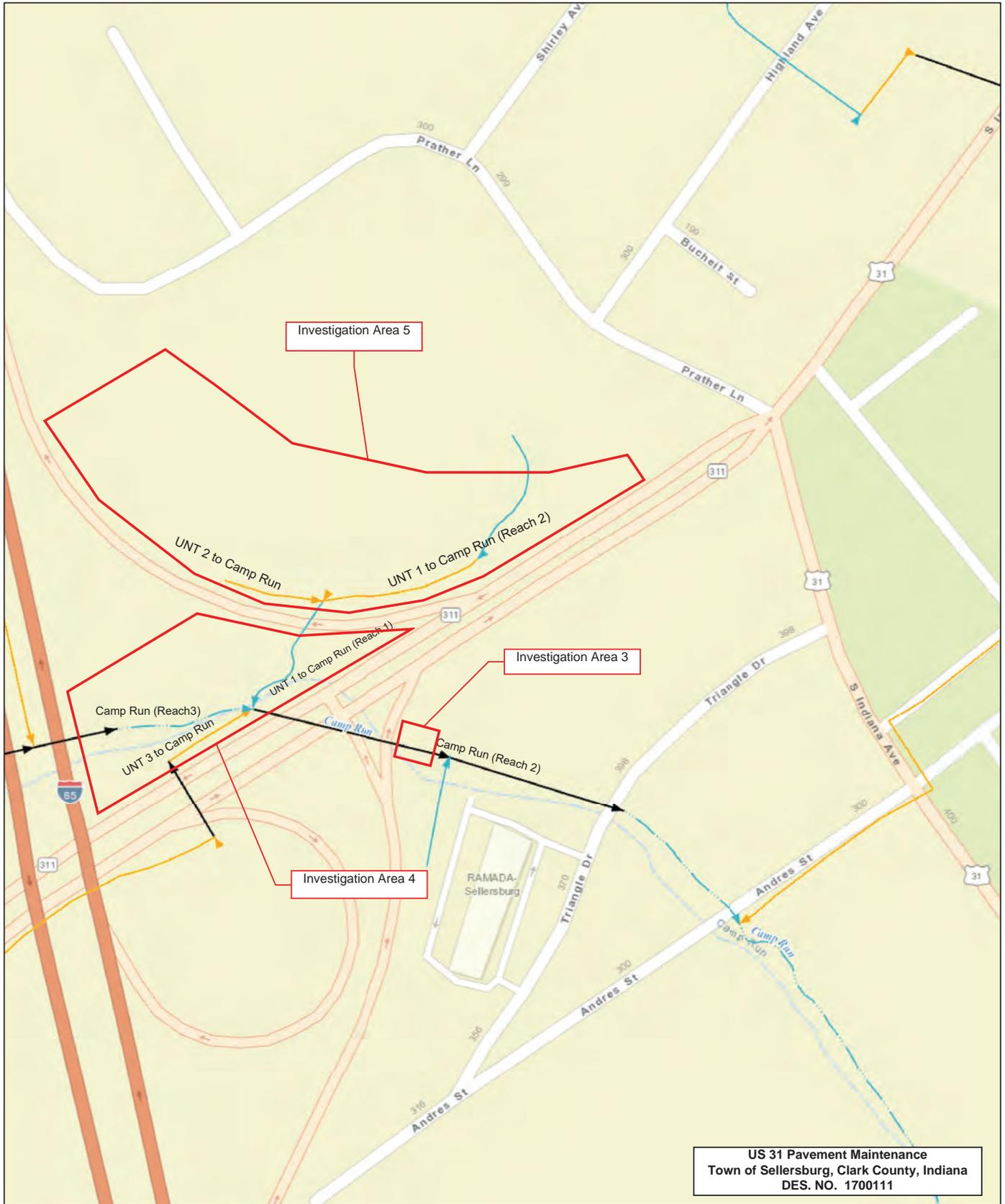


- | | | | | |
|--------------------------|----------------------|------------------|------------------------|----------------------|
| Waterbody - Large Scale | Area to be Submerged | Inundation Area | Wash | Coastline |
| Estuary | BayInlet | Lock Chamber | Water Intake/Outflow | Connector |
| Ice Mass | Bridge | Rapids | Flowline - Large Scale | Pipeline |
| Lake Pond | Canal/Ditch | Sea/Ocean | Perennial | |
| Playa | Dam/Weir | Special Use Zone | Intermittent | |
| Reservoir | Flume | Spillway | Ephemeral | |
| Swamp Marsh | Foreshore | Stream/River | Artificial Path | |
| Area - Large Scale | Hazard Zone | Submerged Stream | Canal Ditch | |
| Area of Complex Channels | | | | Investigation Area 2 |



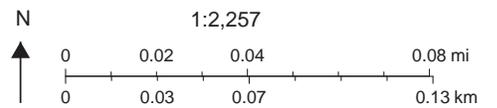
USGS TNM - National Hydrography Dataset. Data Refreshed April, 2022. Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community 2021 USGS

USGS National Hydrography Dataset Map



US 31 Pavement Maintenance
Town of Sellersburg, Clark County, Indiana
DES. NO. 1700111

- | | | | | |
|--------------------------|----------------------|------------------|------------------------|---------------------|
| Waterbody - Large Scale | Area to be Submerged | Inundation Area | Wash | Coastline |
| Estuary | BayInlet | Lock Chamber | Water Intake/Outflow | Connector |
| Ice Mass | Bridge | Rapids | Flowline - Large Scale | Pipeline |
| Lake Pond | Canal/Ditch | Sea/Ocean | Perennial | |
| Playa | Dam/Weir | Special Use Zone | Intermittent | |
| Reservoir | Flume | Spillway | Ephemeral | |
| Swamp Marsh | Foreshore | Stream/River | Artificial Path | |
| Area - Large Scale | Hazard Zone | Submerged Stream | Canal Ditch | |
| Area of Complex Channels | | | | Investigation Areas |



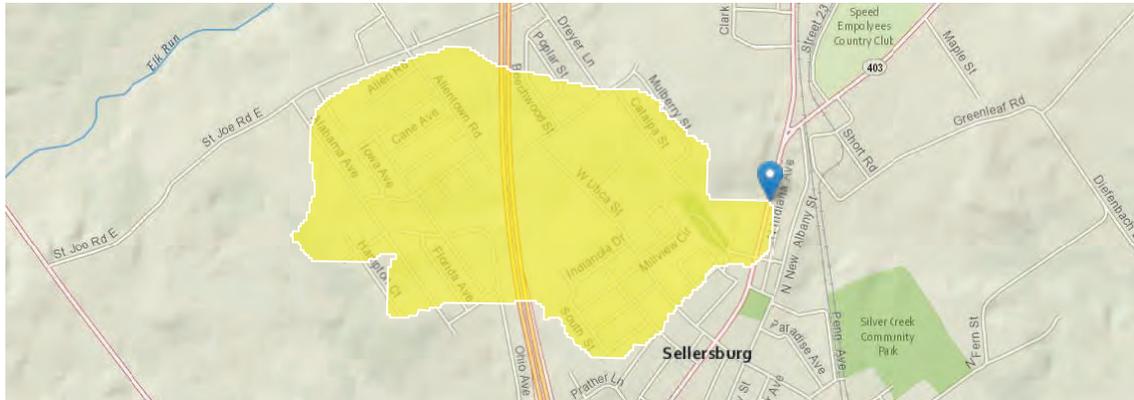
USGS TNM - National Hydrography Dataset. Data Refreshed April, 2022. Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community 2021 USGS

UNT to Silver Creek

StreamStats Report

Region ID:
 Workspace ID:
 Clicked Point (Latitude, Longitude):
 Time:

IN
 IN20220516161712076000
 38.40345, -85.75363
 2022-05-16 12:17:32 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BFREGNO	BFREGNO	1567	dimensionless
BSLDEM10M	Mean basin slope computed from 10 m DEM	2.57	percent
CONTDA	Area that contributes flow to a point on a stream	0.516	square miles
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	38.1	feet per mi
DRNAREA	Area that drains to a point on a stream	0.516	square miles
HIGHREG	HIGHREG	1007	dimensionless
K1INDNR	Average hydraulic conductivity (ft/d) for the top 70 ft of unconsolidated deposits from InDNR well database.	4	ft per day
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	3	ft per day
LAT_OUT	Latitude of Basin Outlet	38.403445	degrees
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	11.2	percent
LOWREG	Low Flow Region Number	1730	dimensionless
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	25	dimensionless
ST2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits within 1000 ft of stream channel from InDNR well database.	undefined	square feet per day
T2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits from InDNR well database.	1358	square feet per day

Peak-Flow Statistics Parameters [Region 3 Peak Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	0.516	square miles	0.07	284
CSL10_85	Stream Slope 10 and 85 Method	38.1	feet per mi	3.8	253
HIGHREG	High flow region number	1007	dimensionless	1005	1012

Peak-Flow Statistics Flow Report [Region 3 Peak Flow]

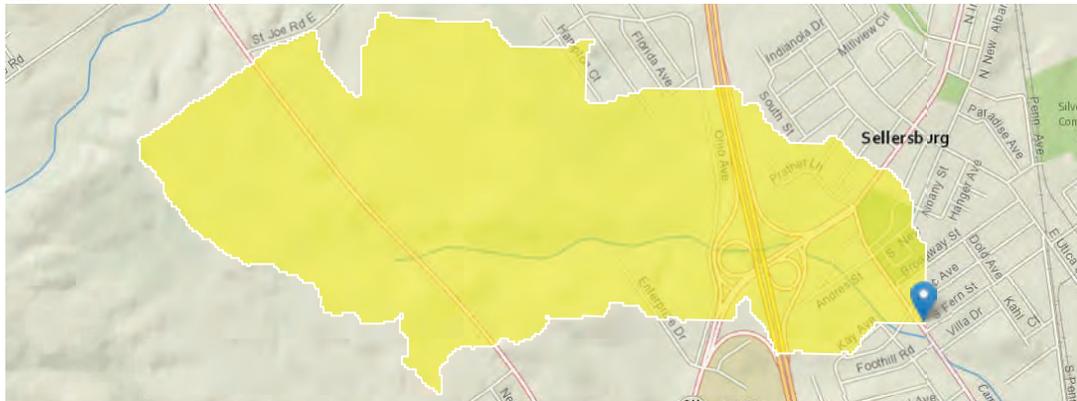
PIL: Prediction Interval-Lower, PIU: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Camp Run

StreamStats Report

Region ID:
 Workspace ID:
 Clicked Point (Latitude, Longitude):
 Time:

IN
 IN20220516161417794000
 38.39211, -85.75561
 2022-05-16 12:14:37 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BFREGNO	BFREGNO	1567	dimensionless
BSLDEM10M	Mean basin slope computed from 10 m DEM	3.63	percent
CONTDA	Area that contributes flow to a point on a stream	0.973	square miles
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	33.3	feet per mi
DRNAREA	Area that drains to a point on a stream	0.973	square miles
HIGHREG	HIGHREG	1007	dimensionless
K1INDNR	Average hydraulic conductivity (ft/d) for the top 70 ft of unconsolidated deposits from InDNR well database.	4	ft per day
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	4	ft per day
LAT_OUT	Latitude of Basin Outlet	38.392111	degrees
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	15.8	percent
LOWREG	Low Flow Region Number	1730	dimensionless
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	25	dimensionless
ST2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits within 1000 ft of stream channel from InDNR well database.	1124	square feet per day
T2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits from InDNR well database.	1107	square feet per day

Peak-Flow Statistics Parameters [Region 3 Peak Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	0.973	square miles	0.07	284
CSL10_85	Stream Slope 10 and 85 Method	33.3	feet per mi	3.8	253
HIGHREG	High flow region number	1007	dimensionless	1005	1012

Peak-Flow Statistics Flow Report [Region 3 Peak Flow]

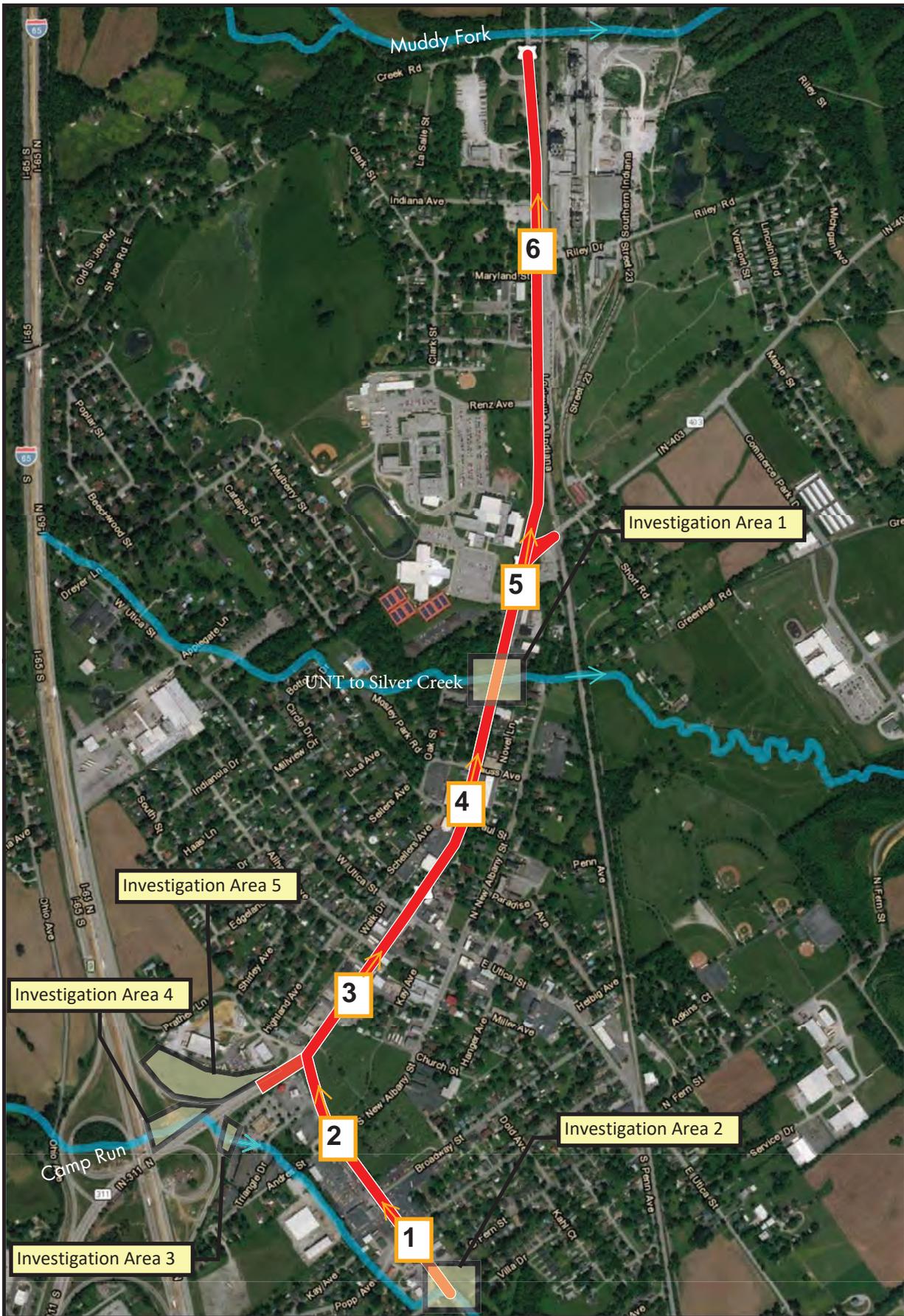
PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)



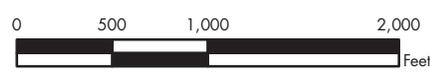
Legend

Project Area

Photo Location



Map Source: Indiana Geological Survey (IGS), IndianaMap, ArcGIS Online (ESRI) World Imagery.



Aerial Map

US 31 Preventative Pavement Maintenance
Sellersburg, Clark County, IN
Des No. 1700111





Photo 1: General Project Corridor View; looking northwest along US 31 near the south terminus of the overall project; no roadside drainage features noted



Photo 2: General Project Corridor View; looking northwest along US 31 towards the SR 311 / Charlestown Road Junction; no roadside drainage features noted



Photo 3: General Project Corridor View; looking northeast along US 31 between the SR 331/Charlestown Road Junction and Utica Street; storm water is managed by existing curb and gutter in this area



Photo 4: General Project Corridor View; looking northeast along US 31 near Hauss Avenue; storm water is managed by existing curb and gutter in this area



Photo 5: General Project Corridor View; looking northeast along US 31 at the intersection of Old SR 403; no roadside drainage features noted



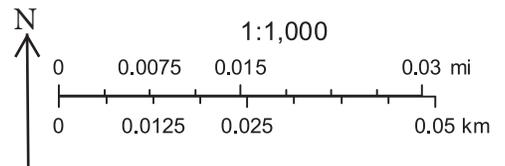
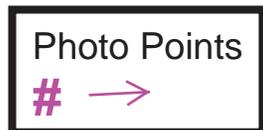
Photo 6: General Project Corridor View; looking north along US 31 near the north project terminus; no roadside drainage features noted



INVESTIGATION AREA 1



US 31 Preventative Pavement Maintenance
 Town of Sellersburg, Clark County, IN
 Des. No. 1700111



Indiana Office of Information Technology, Indiana University Spatial Data Portal, UITS, Woolpert Inc.
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB), Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data Portal



Photo 7: Investigation Area 1; looking northeast along the east side of US 31; culvert shown on the left carries US 31 over UNT to Silver Creek (downstream side pictured); no culvert work is proposed



Photo 8: Investigation Area 1; looking east (downstream) along UNT to Silver Creek from the outlet of the US 31 culvert

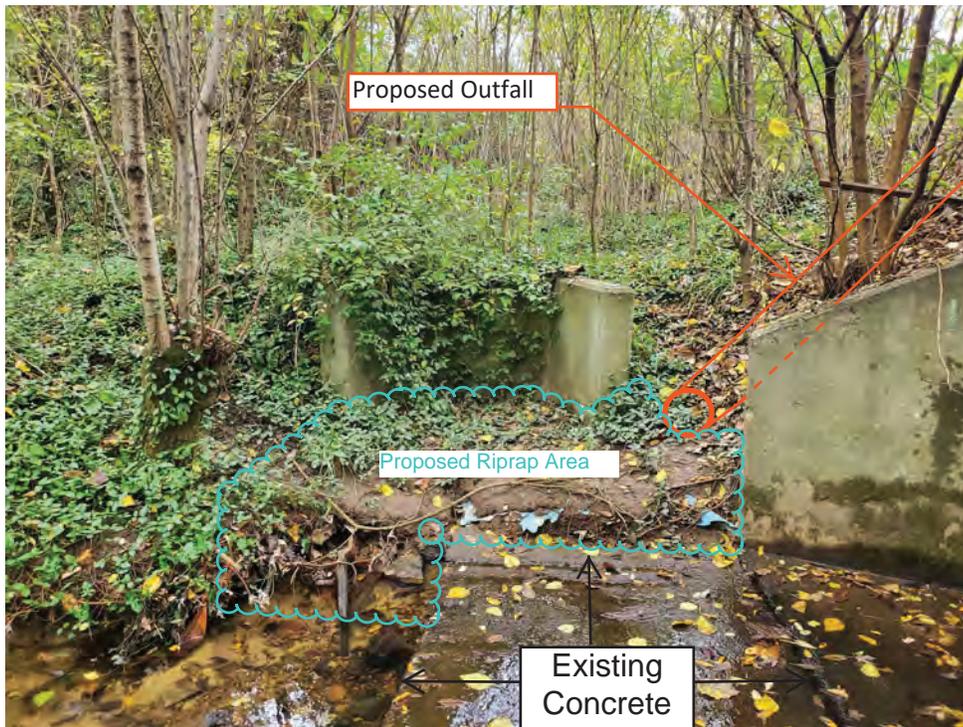


Photo 9: Investigation Area 1; looking southwest at the southeast quadrant of the US 31 crossing of UNT to Silver Creek; proposed new storm water outfall and riprap area noted



Photo 10: Investigation Area 1; looking southeast at the south bank of UNT to Silver Creek east (downstream) of the proposed outfall/riprap location

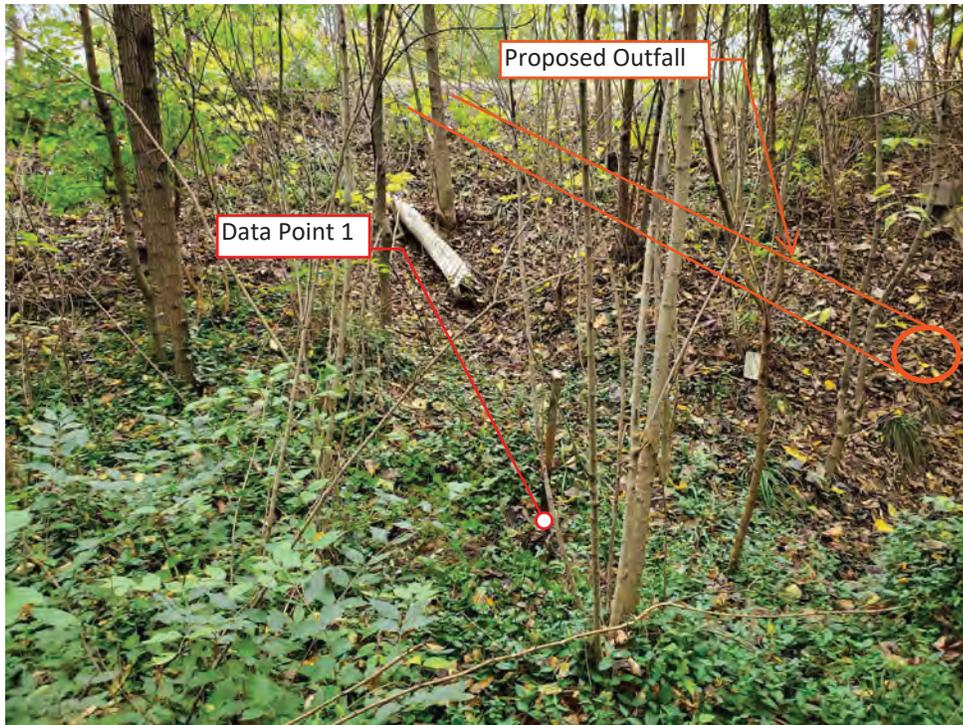


Photo 11: Investigation Area 1; Data Point 1 (non-wetland); looking west towards US 31 and the proposed new storm water outfall structure



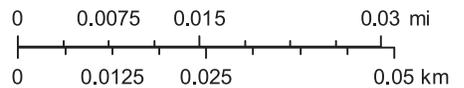
Photo 12: Investigation Area 1; Data Point 1 (non-wetland); view of sample location



INVESTIGATION AREA 2



1:1,000



US 31 Preventative Pavement Maintenance
 Town of Sellersburg, Clark County, IN
 Des. No. 1700111

Photo Points

→

Indiana Office of Information Technology, Indiana University Spatial Data Portal, UITS, Woolpert Inc.
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB), Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data Portal



Photo 13: Investigation Area 2; Looking northeast (downstream) along Camp Run (Reach 1); US 31 is carried by the culvert shown in the background



Photo 14: Investigation Area 2; Looking southwest (upstream) along Camp Run (Reach 1) from the US 31 crossing



Photo 15: Investigation Area 2; looking northeast (downstream) along Camp Run (Reach 1) from US 31



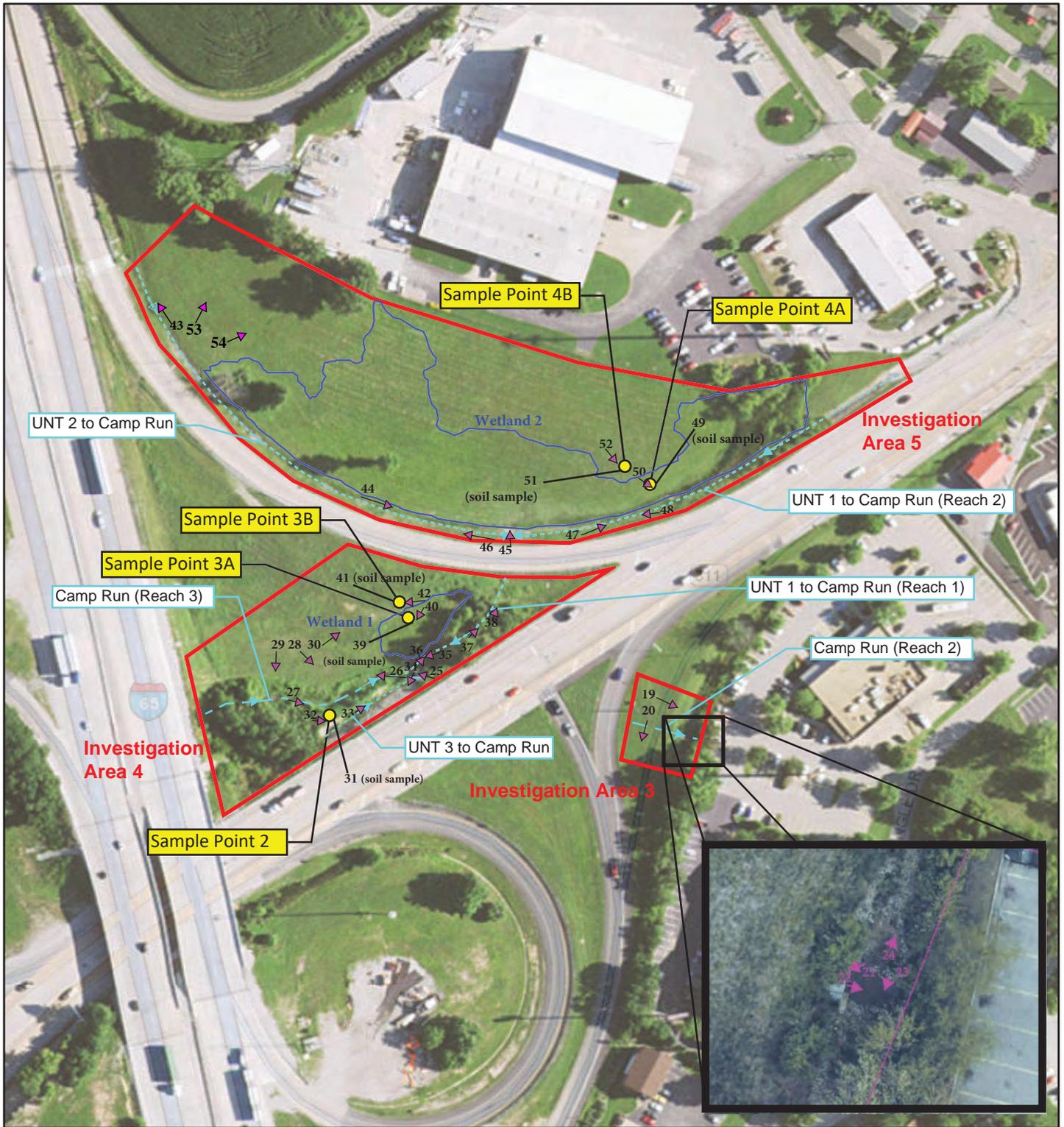
Photo 16: Investigation Area 2; looking southeast along the east side of US 31 towards the outlet of Camp Run (Reach 1)



Photo 17: Investigation Area 2; looking northwest at a roadside ditch (RSD 1) located along the east side of US 31 approximately 50 feet north of Camp Run (Reach 1)



Photo 18: Investigation Area 2; looking southeast from Fern Street at a roadside ditch (RSD1) long the east side of US 31; culvert carrying US 31 over Camp Run (Reach 1) shown in the background



INVESTIGATION AREAS 3, 4 and 5

US 31 Preventative Pavement Maintenance
 Town of Sellersburg, Clark County, IN
 Des. No. 1700111

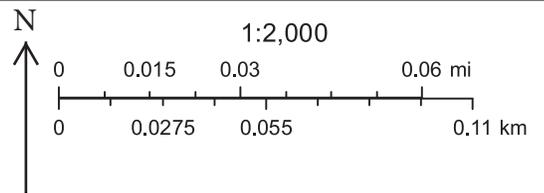


Photo Points

→

U.S. Geological Survey
 Indiana Department of Transportation (INDOT), U.S. Census Bureau (USCB),
 Indiana Geographic Information Council (IGIC), UITS, Indiana Spatial Data
 Portal
 National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA).



Photo 19: Investigation Area 3; looking southeast north of Camp Run (Reach 2) at upland area dominated by Amur honeysuckle (*Lonicera maackii*, UPL) and field brome (*Bromus arvensis*, FACU)



Photo 20: Investigation Area 3; looking southwest north of Camp Run (Reach 2) (not pictured due to being piped)



Photo 21: Investigation Area 3; looking southwest at Camp Run (Reach 2) existing pipe outlet under Highway 311.



Photo 22: Investigation Area 3; looking southeast (downstream) along Camp Run (Reach 2) from the existing pipe outlet under Highway 311.

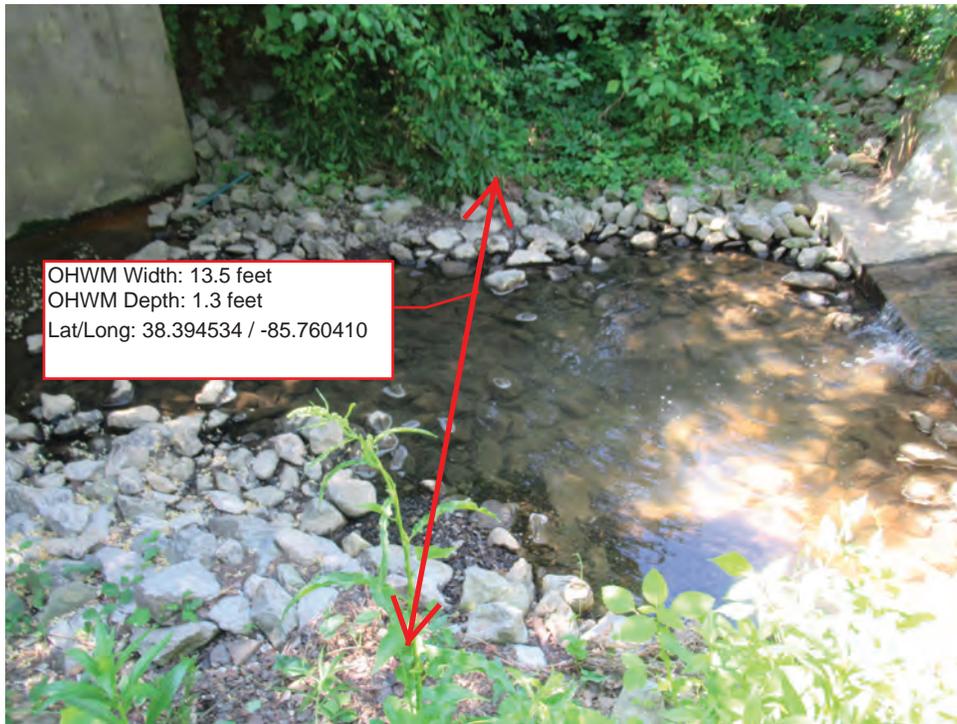


Photo 23: Investigation Area 3; looking southwest across Camp Run (Reach 2) between the Hwy 311 pipe outlet (on right) and a concrete culvert inlet under commercial properties (on left)



Photo 24: Investigation Area 3; looking northeast from Camp Run (Reach 2) at steeply sloped bank



Photo 25: Investigation Area 4; looking northwest (upstream) along Camp Run (Reach 3) from inlet of pipe under Hwy 311



Photo 26: Investigation Area 4; looking northwest (upstream) along Camp Run (Reach 3)



Photo 27: Investigation Area 4; looking southeast (downstream) along Camp Run (Reach 3)



Photo 28: Investigation Area 4; looking southeast north of Camp Run (Reach 3) at upland area dominated by Amur honeysuckle (*Lonicera maackii*, UPL) and field brome (*Bromus arvensis*, FACU)



Photo 29: Investigation Area 4; looking south from north of Camp Run (Reach 3) at upland area dominated by Amur honeysuckle (*Lonicera maackii*, UPL) and field brome (*Bromus arvensis*, FACU)



Photo 30: Investigation Area 4; looking northeast from north of Camp Run (Reach 3) at upland area dominated by Amur honeysuckle (*Lonicera maackii*, UPL) and field brome (*Bromus arvensis*, FACU)



Photo 31: Investigation Area 4; view of soil sample collected for Sample Point 2 (upland) located between Camp Run (Reach 3) and UNT 3 to Camp Run



Photo 32: Investigation Area 4; looking southeast at Sample Point 2 (upland) located between Camp Run (Reach 3) and UNT 3 to Camp Run; area is dominated by black elderberry (*Sambucus nigra*, FAC), boxelder (*Acer negundo*, FAC), ground ivy (*Glechoma hederacea*, FACU), meadow garlic (*Allium canadense*, FACU) and stickywilly (*Galium aparine*, FACU)

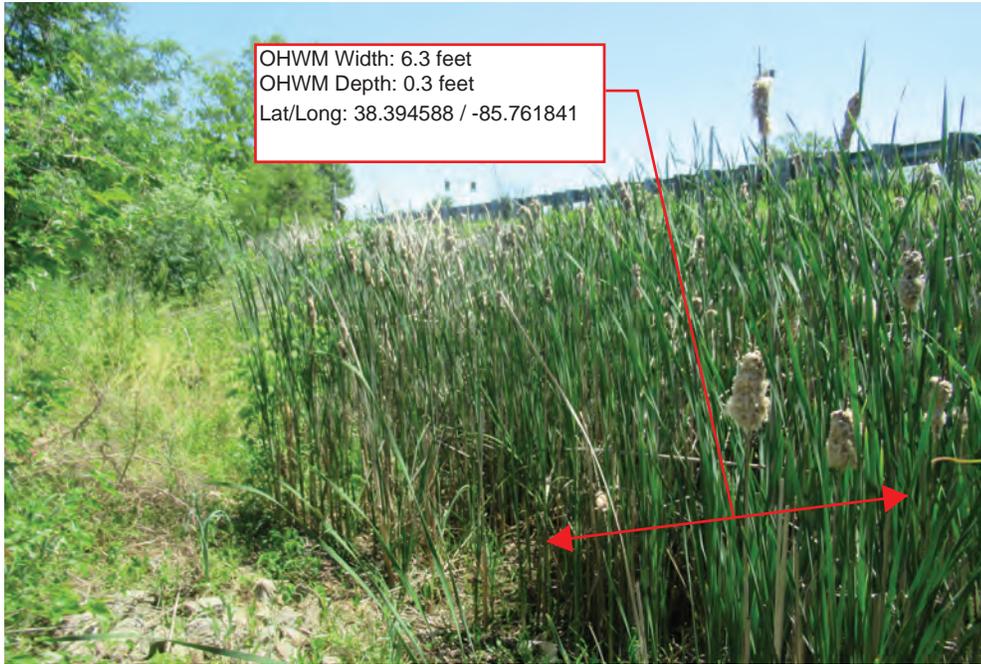


Photo 33: Investigation Area 4; looking northeast (downstream) along UNT 3 to Camp Run



Photo 34: Investigation Area 4; looking southwest at the outlet of UNT 3 to Camp Run



Photo 35: Investigation Area 4; looking southwest (downstream) along UNT 1 to Camp Run (Reach 1)

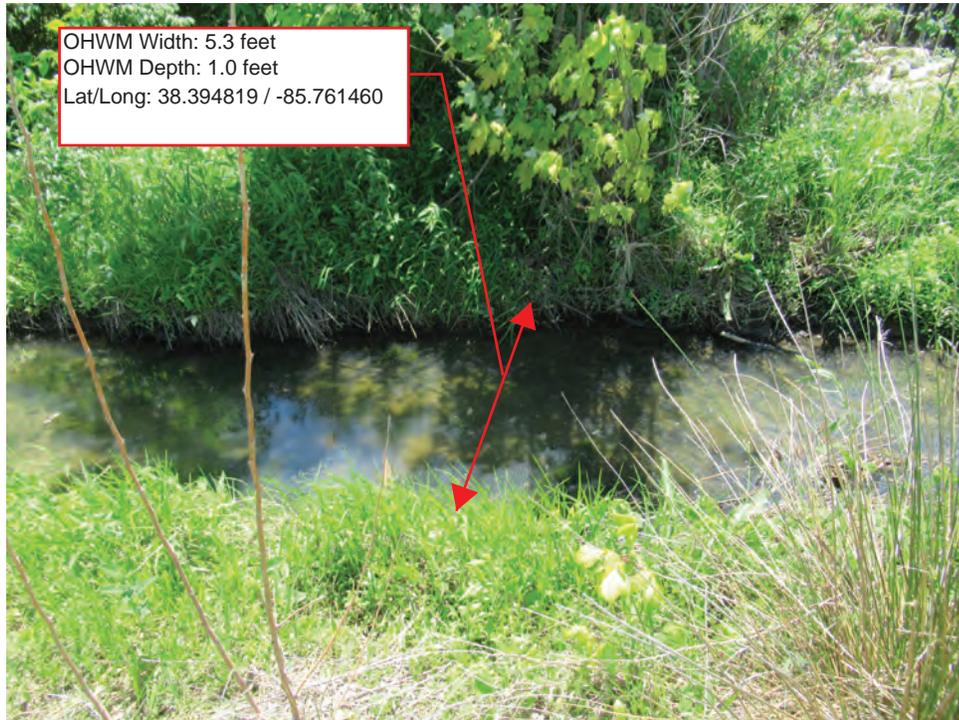


Photo 36: Investigation Area 4; looking southeast across UNT 1 to Camp Run (Reach 1)



Photo 37: Investigation Area 4; looking northeast (upstream) along UNT 1 to Camp Run (Reach 1)



Photo 38: Investigation Area 4; looking northeast (upstream) along UNT 1 to Camp Run (Reach 1); arrow notes pipe outlet from under Hwy 311 exit ramp to northbound I-65



Photo 39: Investigation Area 4; view of soil sample collected at Sample Point 3A (Wetland 1)



Photo 40: Investigation Area 4; looking southwest at Sample Point 3A; this area is dominated by eastern woodland sedge (*Carex blanda*, FAC), earlyleaf brome (*Bromus latiglumis*, FACW), and Cherokee sedge (*Carex cherokeensis*, FACW)



Photo 41: Investigation Area 4; view of soil sample collected at Sample Point 3B (upland)



Photo 42: Investigation Area 4; looking west at Sample Point 3B (upland); this area is dominated by strict blue-eyed grass (*Sisyrinchium montanum*, FAC) and broomsedge bluestem (*Andropogon virginicus*, FACU)

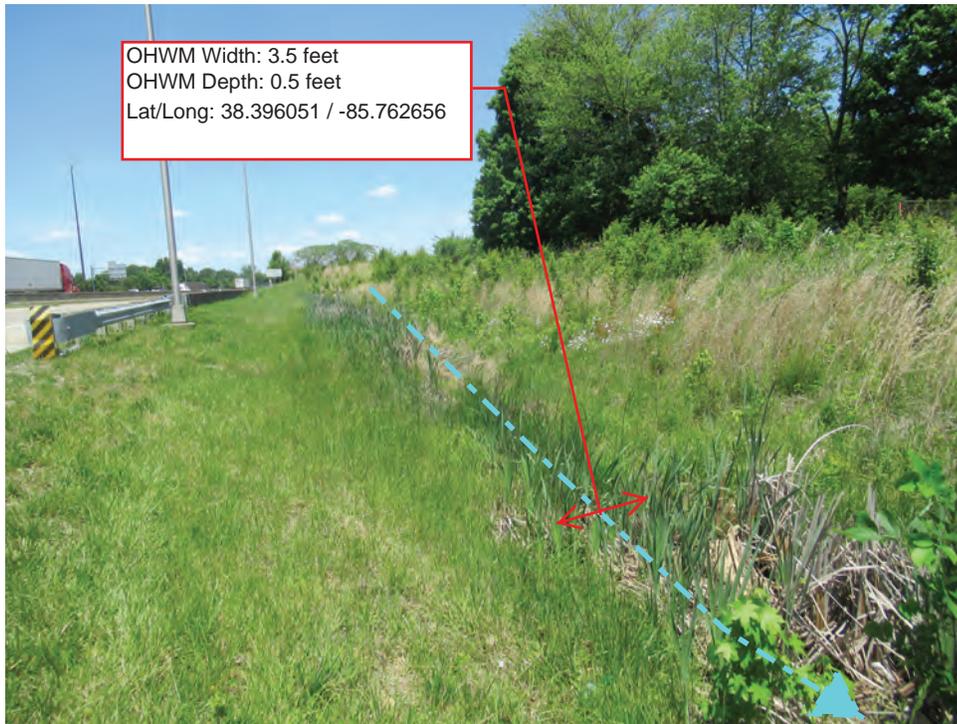


Photo 43: Investigation Area 5; looking northwest (upstream) along UNT 2 to Camp Run



Photo 44: Investigation Area 5; looking southeast (downstream) along UNT 2 to Camp Run



Photo 45: Investigation Area 5; looking north at confluence of UNT 2 to Camp Run and UNT 1 to Camp Run (Reach 2); red arrow notes location of pipe under Hwy 311 exit ramp to northbound I-65



Photo 46: Investigation Area 5; looking northwest at confluence of UNT 2 to Camp Run and UNT 1 to Camp Run (Reach 2); red arrow notes location of pipe under Hwy 311 exit ramp to northbound I-65



Photo 47: Investigation Area 5; looking northeast (upstream) along UNT 1 to Camp Run (Reach 2)



Photo 48: Investigation Area 5; looking southwest (downstream) at UNT 1 to Camp Run (Reach 2)



Photo 49: Investigation Area 5; view of soil sample collected at Sample Point 4A (Wetland 2)



Photo 50: Investigation Area 5; looking southeast at Sample Point 4A (Wetland 2); the area is dominated by sweet flag (*Acorus calamus*, OBL) and Indian hemp (*Apocynum cannabinum*, FACW)



Photo 51: Investigation Area 5; view of soil sample collected at Sample Point 4B (upland)



Photo 52: Investigation Area 5; looking southeast at Sample Point 4B (upland); area is dominated by Russian olive (*Elaeagnus angustifolia*, FACU) and broomsedge bluestem (*Andropogon virginicus*, FACU)



Photo 53: Investigation Area 5; looking northeast at upland area is dominated by Japanese honeysuckle (*Lonicera japonica*, FACU) and broomsedge bluestem (*Andropogon virginicus*, FACU)



Photo 54: Investigation Area 5; looking northeast at upland area is dominated by Japanese honeysuckle (*Lonicera japonica*, FACU) and broomsedge bluestem (*Andropogon virginicus*, FACU)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 10/28/2020
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 1
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, 111, 130, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none
 Slope (%): <1% Lat: 38.40340 Long: -85.75364 Datum: NAD83
 Soil Map Unit Name: Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Celtis occidentalis</u>	30	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)	
2. <u>Morus rubra</u>	30	Y	FACU		
3. <u>Ulmus americana</u>	10	N	FACW		
4. _____					
5. _____					
	70 = Total Cover			Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>90</u> x 5 = <u>450</u> Column Totals: <u>165</u> (A) <u>695</u> (B) Prevalence Index = B/A = <u>4.21</u>	
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Lonicera maackii</u>	20	Y	UPL		
2. <u>Acer negundo</u>	5	N	FAC		
3. _____					
4. _____					
5. _____					
	25 = Total Cover				
Herb Stratum (Plot size: <u>5-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Euonymus fortunei</u>	70	Y	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
	70 = Total Cover				
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>None observed</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
2. _____					
	_____ = Total Cover				

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

Photos 11 and 12

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 4/3	100					Silt loam	<1/2 inch ribbon
8-20	10YR 5/3	100					Silt loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
Restrictive Layer (if observed):								
Type: _____								
Depth (Inches): _____						Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required: check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5) No; 0:2	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
Field Observations:			
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 5/17/2022
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 2
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none
 Slope (%): <1% Lat: 38.394578 Long: -85.761968 Datum: NAD83
 Soil Map Unit Name: Udorthents, cut and filled NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>110</u> (A) <u>385</u> (B) Prevalence Index = B/A = <u>3.5</u>
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Sambucus nigra</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Allium canadense</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Galium aparine</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Glechoma hederacea</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. <u>Rumex crispus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
5. <u>Verbesina alternifolia</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
6. <u>Vitis vulpina</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
7. <u>Erigeron philadelphicus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
8. <u>Securigera varia</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Photos 31 and 32				

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10 YR 4/3	100					Silt loam	<1/2 inch ribbon
10-20	10YR 3/3	100					Silt loam	

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators 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 <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5) No; 0:2	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 5/17/2022
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 3A
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none
 Slope (%): <1% Lat: 38.394929 Long: -85.761474 Datum: NAD83
 Soil Map Unit Name: Udorthents, cut and filled NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>30</u> x 2 = <u>60</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>50</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>2.4</u>
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5-ft radius</u>)				
1. <u>Bromus latiglumis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Carex blanda</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Carex cherokeensis</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Photos 39 and 40				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/1	100					Loamy/Clayey	<1/2 inch ribbon
5-8	10YR 4/2	100					Loamy/Clayey	1.5 inch ribbon
8-20	10YR 4/2	90	10 YR 4/6	10	C	M	Loamy/Clayey	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.						² Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
Restrictive Layer (if observed):								
Type: _____								
Depth (Inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) Yes; 2:0
Field Observations:		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>11</u>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 5/17/2022
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 3B
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none
 Slope (%): 2-4% Lat: 38.394973 Long: -85.761530 Datum: NAD83
 Soil Map Unit Name: Udorthents, cut and filled NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>55</u> x 3 = <u>165</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>5</u> x 5 = <u>25</u> Column Totals: <u>95</u> (A) <u>350</u> (B) Prevalence Index = B/A = <u>3.7</u>	
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
Herb Stratum (Plot size: <u>5-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Sisyrinchium montanum</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	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.	
2. <u>Andropogon virginicus</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Plantago lanceolata</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
4. <u>Trifolium campestre</u>	<u>5</u>	<u>N</u>	<u>UPL</u>		
5. <u>Valerianella radiata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
<u>95</u> = Total Cover					
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
2. _____	_____	_____	_____		
_____ = Total Cover					
Remarks: (Include photo numbers here or on a separate sheet.) Photos 41 and 42					

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 5/4	100					Loamy/Clayey	<1/2 inch ribbon
5-12	10YR 4/3	100					Loamy/Clayey	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
Restrictive Layer (if observed):								
Type: <u>Hardpan</u>								
Depth (Inches): <u>12</u>						Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:			
Primary Indicators (minimum of one is required: check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5) No; 0:1	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		
Field Observations:			
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	
		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 5/17/2022
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 4A
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none
 Slope (%): <1% Lat: 38.395337 Long: -85.760599 Datum: NAD83
 Soil Map Unit Name: Udorthents, cut and filled NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____
1. _____	_____	_____	_____	OBL species <u>45</u> x 1 = <u>45</u>
2. _____	_____	_____	_____	FACW species <u>30</u> x 2 = <u>60</u>
3. _____	_____	_____	_____	FAC species _____ x 3 = _____
4. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
5. _____	_____	_____	_____	UPL species _____ x 5 = _____
_____ = Total Cover				Column Totals: <u>85</u> (A) <u>145</u> (B)
Herb Stratum (Plot size: <u>5-ft radius</u>)				Prevalence Index = B/A = <u>1.7</u>
1. <u>Acorus calamus</u>	<u>40</u>	<u>Y</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 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.
2. <u>Apocynum cannabinum</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Carex cherokeensis</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. <u>Solidago canadensis</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
5. <u>Cephalanthus occidentalis</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Photos 49 and 50				

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 4/2	90	10 YR 4/6	10	C	M	Loamy/Clayey	<1.5 inch ribbon
8-20	10YR 4/3	95	10 YR 4/6	5	C	M	Loamy/Clayey	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.						² Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:					
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)		
Restrictive Layer (if observed): Type: _____ Depth (Inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: 								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required: check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) Yes; 2:0
Field Observations:		
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>7</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: US 31 Pavement Maintenance (Des. No. 1700111) Town of Sellersburg/Clark County
 City/County: _____ Sampling Date: 5/17/2022
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 4B
 Investigator(s): Ryan Scott (BF&S Inc.) Section, Township, Range: Section (CMG) 110, Township 1 S, Range 6 E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none
 Slope (%): 2-4% Lat: 38.395400 Long: -85.760559 Datum: NAD83
 Soil Map Unit Name: Udorthents, cut and filled NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>90</u> x 4 = <u>360</u> UPL species _____ x 5 = _____ Column Totals: <u>110</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>3.8</u>
Sapling/Shrub Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Elaeagnus angustifolia</i></u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>5-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Andropogon virginicus</i></u>	<u>80</u>	<u>Y</u>	<u>FACU</u>	
2. <u><i>Apocynum cannabinum</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u><i>Plantago lanceolata</i></u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: <u>15-ft radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) Photos 51 and 52				

Hydrophytic Vegetation Indicators:
 ___ 1 - Rapid Test for Hydrophytic Vegetation
 ___ 2 - Dominance Test is >50%
 ___ 3 - Prevalence Index is ≤3.0¹
 ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: July 28, 2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Ryan Scott, BF&S, 8450 Westfield Blvd., Indianapolis, IN 46240/317-713-4615/rscott@bfsengr.com

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

Des. No. 1700111; The project proposes a variable depth milling and hot mix asphalt (HMA) overlay between Foothill Road and New Albany Street, reconstruction from New Albany Street to the north side of the intersection with Old State Road 311, improved intersection alignment north of the US 31/Old State Road 311 intersection, a 4-inch functional overlay from the end of the reconstruction to the intersection with Old State Road 403, and variable depth milling and HMA overlay from Old State Road 403 to Saint Joe Road. Stormwater, curb and gutter, and sidewalk updates will also be included.

State: **IN** County/parish/borough: **Clark** City: **near Jeffersonville**

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

Lat.: **38.40344** Long.: **-85.75364**

Universal Transverse Mercator: UTM 17 84830.15 E; 4261291.51 N

Name of nearest waterbody: **Silver 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)
UNT to Silver Ck.	38.40344	-85.75364	50 linear feet	non-wetland waters	Section 404
Camp Run Reach 1	38.39147	-85.75525	90 linear feet	non-wetland waters	Section 404
Camp Run Reach 2	38.394536	-85.760413	20 linear feet	non-wetland waters	Section 404
Camp Run Reach 3	38.394748	-85.761642	240 linear feet	non-wetland waters	Section 404
UNT 1 to Camp Run Reach 1	38.394825	-85.761455	110 linear feet	non-wetland waters	Section 404
UNT 1 to Camp Run Reach 2	38.395227	-85.760802	530 linear feet	non-wetland waters	Section 404
UNT 2 to Camp Run	38.396054	-85.762672	630 linear feet	non-wetland waters	Section 404
UNT 3 to Camp Run	38.394583	-85.761810	170 linear feet	non-wetland waters	Section 404
Wetland 1	38.394929	-85.761474	0.07 acre	wetland	Section 404
Wetland 2	38.395340	-85.760587	1.80 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: State, Quad, Aerial, Plans
- 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: Speed, Indiana (scale as noted)
- Natural Resources Conservation Service Soil Survey. Citation: Clark County Soil Survey
- National wetlands inventory map(s). Cite name: Sellersburg, Indiana
- State/local wetland inventory map(s): _____
- FEMA/FIRM maps: IDNR Floodplain Map
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): 2016 Orthophotography (leaves on); 2018
or Other (Name & Date): Site Photos 7/2/2020, 10/28/2020, 05/17/2022
- 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.

Signature and date of
Regulatory staff member
completing PJD



07/28/2022

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.