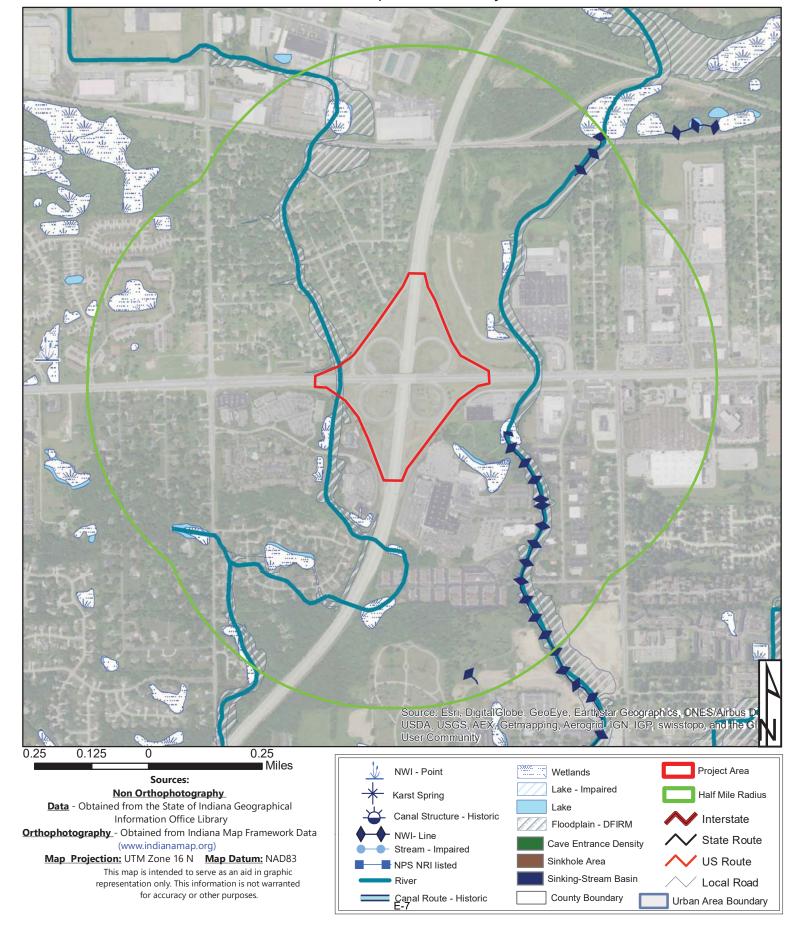
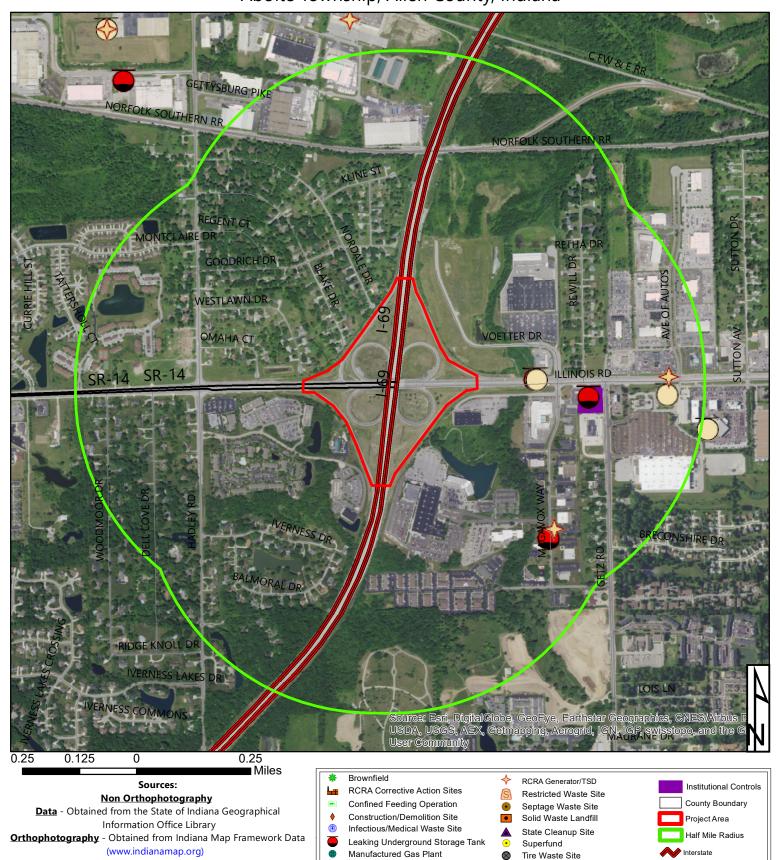
### Red Flag Investigation - Water Resources Map I-69 at S.R. 14

Des. No. 1401868, Interchange Modification Aboite Township, Allen County, Indiana



### Red Flag Investigation - Hazardous Material Concerns Map I-69 at S.R. 14

Des. No. 1401868, Interchange Modification Aboite Township, Allen County, Indiana



#### Map Projection: UTM Zone 16 N Map Datum: NAD83

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

NPDES Facilites

✓ State Route

/\/ Local Road

US Route

Underground Storage Tank

Waste Transfer Station

Voluntary Remediation Program

#### Indiana County Endangered, Threatened and Rare Species List **County: Allen**

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)				CITI	(av)
Epioblasma obliquata perobliqua	White catspaw	LE	SE	G1T1	SX
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	SX
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G5	S3
Ligumia recta	Black Sandshell			G4G5	S2
Obovaria subrotunda	Round Hickorynut		SE	G4	S1
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot	LT	SE	G3G4T3	<b>S1</b>
Toxolasma lividus	Purple Lilliput		SSC	G3Q	S2
<mark>/illosa fabalis</mark>	Rayed Bean	LE	SE	G2	<b>S1</b>
Insect: Odonata (Dragonflies)					
Fachopteryx thoreyi	Gray Petaltail		SR	G4	S2S3
Fish <mark>Moxostoma valenciennesi</mark>			QE.	G4	g <sub>2</sub>
	Greater Redhorse		SE		S2
Percina evides	Gilt Darter		SE	G4	S1
Amphibian Ambystoma laterale	Dl		SSC	G5	S2
Hemidactylium scutatum	Blue-spotted Salamander			G5	S2 S2
-	Four-toed Salamander		SSC		
ithobates pipiens	Northern Leopard Frog		SSC	G5	S2
Reptile				0.5	(CO)
Clemmys guttata	Spotted Turtle		SE	G5	S2 S2
Clonophis kirtlandii	Kirtland's Snake		SE	G2	
Emydoidea blandingii)	Blanding's Turtle		SE	G4	<u>S2</u>
Sistrurus catenatus catenatus	Eastern Massasauga	C	SE	G3G4T3Q	S2
Bird					
Asio flammeus	Short-eared Owl		SE	G5	S2
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Buteo platypterus	Broad-winged Hawk		SSC	G5	S3B
Certhia americana	Brown Creeper			G5	S2B
Circus cyaneus	Northern Harrier		SE	G5	S2
Cistothorus palustris	Marsh Wren		SE	G5	$\overline{S3B}$
Dendroica cerulea	Cerulean Warbler		SE	G4	S3B
alco peregrinus	Peregrine Falcon		SSC	G4	S2B
laliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
xobrychus exilis	Least Bittern		SE	G5	S3B
anius Iudovicianus	Loggerhead Shrike		SE	G4	S3B
Nyctanassa violacea	Yellow-crowned Night-heron		SE	G5	S2B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
ndiana Natural Heritage Data Center Fe		111			

Indiana Natural Heritage Data Center Division of Nature Preserves

Indiana Department of Natural Resources

This data is not the result of comprehensive county surveys.

LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting Fed: State:

SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern;

SX = state extirpated; SG = state significant; WL = watch list

GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank

SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Page 2 of 2 02/10/2016

# Indiana County Endangered, Threatened and Rare Species List County: Allen

Species Name	Common Name	FED	STATE	GRANK	SRANK
Phalaropus tricolor	Wilson's Phalarope		SSC	G5	SHB
Sturnella neglecta	Western Meadowlark		SSC	G5	S2B
Tyto alba	Barn Owl		SE	G5	<b>S2</b>
Wilsonia citrina	Hooded Warbler		SSC	G5	S3B
Mammal Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Andromeda glaucophylla	Bog Rosemary		SR	G5	<b>S2</b>
Armoracia aquatica	Lake Cress		SE	G4?	<b>S1</b>
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Circaea alpina	Small Enchanter's Nightshade		SX	G5	SX
Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	G5T5	<u>S2</u>
Crataegus succulenta	Fleshy Hawthorn		SR	G5	<b>S2</b>
Euphorbia obtusata	Bluntleaf Spurge		SE	G5	<u>S1</u>
Phlox ovata	Mountain Phlox		SE	G4	<u>S1</u>
Platanthera psycodes	Small Purple-fringe Orchis		SR	G5	S2 S2
Poa alsodes	<b>Grove Meadow Grass</b>		SR	G4G5	
Scutellaria parvula var. parvula	Small Skullcap		SE	G4T4	<u>S1</u>
Spiranthes lucida	Shining Ladies'-tresses		SR	G5	<b>S2</b>
Spiranthes magnicamporum	<b>Great Plains Ladies'-tresses</b>		SE	G4	<b>S1</b>
High Quality Natural Community					
Forest - flatwoods black swamp	Black Swamp Flatwoods			GNR	S1
Forest - flatwoods central till plain	Central Till Plain Flatwoods		SG	G3	S2
Forest - floodplain mesic	Mesic Floodplain Forest		SG	G3?	S1
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland dry	Dry Upland Forest		SG	G4	S4
Forest - upland dry-mesic	Dry-mesic Upland Forest		SG	G4	S4
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Lake - pond	Pond		SG	GNR	SNR
Prairie - dry-mesic	Dry-mesic Prairie		SG	G3	S2
Wetland - marsh	Marsh		SG	GU	S4
Wetland - swamp forest	Forested Swamp		SG	G2?	S2
Wetland - swamp shrub	Shrub Swamp		SG	GU	S2
Other Significant Element Geomorphic - Nonglacial Erosional Feature - Water Fall and Cascade	Water Fall and Cascade			GNR	SNR

Indiana Natural Heritage Data Center

Division of Nature Preserves

Indiana Department of Natural Resources

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# **APPENDIX F: Water Resources**

# WATERS DETERMINATION REPORT

I-69 AT S.R. 14
INTERCHANGE MODIFICATION
DES.NO. 1401828
ALLEN COUNTY, INDIANA

**Prepared for:** INDOT

January 30, 2018



## **Prepared by:**

**Metric Environmental, LLC** 

**Complex Environment. Creative Solutions.** 

6971 Hillsdale Court Indianapolis, IN 46256 Telephone: 317.400.1633 www.metricenv.com

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# I-69 at State Road (S.R.) 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828 Prepared By: Kathleen Sexton January 30, 2018

Date of Waters Field Investigation: August 30, 2017

#### Location:

Sections 1 and 12; Township 30 North; Range 11 East (**Exhibit 1**)
Fort Wayne West, IN 7.5 minute United States Geological Survey (USGS) Topographic Quadrangle (**Exhibit 2A and 2B**)
Aboite Township, Allen County, Indiana

#### **National Wetlands Inventory (NWI) Information:**

No mapped NWI wetland polygons are located within the project study limits. The nearest NWI wetland polygon is a Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx) wetland located approximately 300 ft from the southwest corner of the project study limits (Exhibit 3).

#### **Karst Feature Information:**

There are no mapped karst features located within 0.5 mi of the project study limits.

#### Flood Insurance Rate Map (FIRM):

The floodplain of Durnell Ditch, identified as Zone AE, an area subject to inundation by the 1% annual chance of flood, crosses the western portion of the project study limits. As a result of the construction of S.R. 14 and I-69 exit and entrance ramps, the ditch is piped throughout the entirety of the project study limits. The elevation of the road above the existing elevation of Durnell Ditch and the presence of a noise wall provide evidence that this area likely no longer floods and this particular floodplain area for Durnell Ditch no longer exists. The FIRM map for this area is provided as **Exhibit 4**.

#### Soils:

According to the Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Allen County, Indiana, the project study limits contain four mapped soil units, shown in the table below. Blount silt loam (BmA), Glynwood silt loam (MrB2), and Shoals silty clay loam (Sh) are listed as hydric soils. Morley soils (MsC3) is not listed as a hydric soil. The NRCS soil survey map is provided as **Exhibit 5**.



Symbol	Map Unit Name	Hydric Rating
BmA	Blount silt loam, 0 to 2 percent slopes	Hydric (5%)
MrB2	Glynwood silt loam, 2 to 6 percent slopes, eroded	Hydric (4%)
MsC3	Morley soils, 6 to 12 percent slopes, severely eroded	Not Hydric
Sh	Shoals silty clay loam	Hydric (5%)

#### **Attached Documents:**

Maps of the project area (Exhibits 1-6)
Photograph location map (Exhibit 7A and 7B)
Site Photographs
Wetland Determination Data Form(s)
Plan of S.R. 14 Interchange
Preliminary Jurisdictional Determination Form

Photos and photo location maps removed for space conservation. See Appendix B.

#### **Project Description:**

The proposed project is located at I-69 and S.R. 14 in Allen County. Specifically, the project is in Sections 1 and 12, Township 30 North, Range 11 East, of the Fort Wayne West, Indiana 7.5 minute United States Geological Survey (USGS) topographic quadrangle. The proposed improvements consist of closing the southwest I-69 off-ramp and routing that traffic onto the northwest I-69 off-ramp. The median barrier will be removed at the location. Two left turn lanes will be constructed, in addition to the two existing right-turn lanes on the northwest I-69 off-ramp. The eastbound segment of S.R. 14 will be expanded to three lanes, starting at the southwest I-69 off ramp and extending to the bridge.

#### Field Reconnaissance:

The wetland determination field visit was conducted on August 30, 2017 by Josh Myers and Ryan Hennessey with Metric Environmental, LLC (Metric). The project study limits consist of the area that has the potential to be impacted, based on the provided design scenario. This area was evaluated for the presence of wetlands and Waters of the United States (U.S). This investigation was conducted in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the August 2010 Midwest Regional Supplement (version 2.0) Manual.

A Location Map showing the project location is provided as **Exhibit 1** and a Fort Wayne West, Indiana Quadrangle Topographic Map is provided as **Exhibits 2A** and **2B**. The project area encompasses the two western I-69 on and off-ramp at the intersection of I-69 and S.R. 14. The project study limits extend north to south along I-69 approximately 2,000 ft. The western project study limit boundary extends southwest approximately 1,700 ft from I-69 to S.R. 14 along the off ramp for I-69 southbound. It then continues to the southeast along the I-69 southbound on ramp for approximately 600 ft. An aerial map of sampling points and wetland locations is provided as



**Exhibit 6.** Photo location maps are provided as **Exhibit 7A and 7B** and site photographs are attached.

The site was investigated for evidence of hydrophytic vegetation, hydric soil, and wetland hydrology to determine if the project impacts wetlands and other Waters of the U.S. The sampling point (SP) locations were chosen in possible wetland areas within the project study limits. The uplands consisted of mowed grass road right-of-way. Fifteen sampling points were taken and are identified in the table below. SP-A1, SP-A2, SP-D1, SP-D2, SP-E1, SP-E2, SP-G1, SP-G2, and SP-1 were located in the Glynwood silt loam (MrB2) soil map unit which has a hydric rating of 4%. SP-B1, SP-B2, SP-C1, SP-C2, SP-F1, and SP-F2 were located in the Blount silt loam (BmA) soil map unit, which has a hydric rating of 5%. The sampling points, shown on **Exhibit 6** and recorded on the USACE Wetland Determination Data Forms, provided the following information:

# Sampling Plot Data Summary Table I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828

Plot #	Photo #s	Lat/Long	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within a Wetland
SP-A1	30-32	41.074851 -85.23023	Yes	Yes	Yes	Yes, Wetland A
SP-A2	33-35	41.07495 -85.230069	No	No	No	No
SP-B1	36-38	41.075141 -85.229735	Yes	Yes	Yes	Yes, Wetland B
SP-B2	39-40	41.075271 -85.22983	No	No	No	No
SP-C1	46-48	41.077852 -85.228176	Yes	Yes	Yes	Yes, Wetland C
SP-C2	49-50	41.077859 -85.228193	No	No	No	No
SP-D1	51-53	41.076446 -85.228317	Yes	Yes	Yes	Yes, Wetland D
SP-D2	54-56	41.076429 -85.228407	No	No	No	No
SP-E1	62-64	41.072983 -85.229296	Yes	Yes	Yes	Yes, Wetland E
SP-E2	65-67	41.072973 -85.229419	No	No	No	No



Plot#	Photo #s	Lat/Long	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Within a Wetland
SP-F1	68-70	41.073426 -85.229113	Yes	Yes	Yes	Yes, Wetland F
SP-F2	71-72	41.073417 -85.229027	No	No	No	No
SP-G1	73-75	41.074221 -85.230592	Yes	Yes	Yes	Yes, Wetland G
SP-G2	76-78	41.074318 -85.230588	No	No	No	No
SP-1	27-29	41.074813 -85.230856	No	No	Yes	No

#### Wetlands:

Seven wetlands were observed within the project study limits. Descriptions of the sampling points for Wetlands A through G are provided below.

# Wetland Summary Table I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828

Wetland	Photo #s	Lat/Long	Cowardin Class	Est. Amount in Review Area	Quality	Likely Water of the US?
Wetland A	7, 30-32	41.074863 -85.230224	PEM1A	0.010 ac 25 LFT	Poor	No, Isolated
Wetland B	10, 36-38, 41-43	41.075310 -85.228655	PEM1A	0.178 ac 519 LFT	Poor	No, Isolated
Wetland C	44-48	41.077649 -85.228319	PEM1A	0.056 ac 563 LFT	Poor	No, Isolated
Wetland D	18, 51-53	41.076511 -85.228329	PEM1A	0.022 ac 117 LFT	Poor	No, Isolated
Wetland E	58, 62-64	41.072646 -85.22934	PEM1A	0.033 ac 160 LFT	Poor	Yes
Wetland F	68-70	41.073429 -85.229074	PEM1A	0.142 ac 660 LFT	Poor	Yes
Wetland G	26, 73-75	41.074255 -85.230955	PEM1A	0.074 ac 237 LFT	Poor	No, Isolated
Total V	Vetland Am	ount in Reviev	v Area	0.515 ac		



#### Wetland A - PEM1A (0.010 ac)

Wetland A was located north of S.R. 14 between Roadside Ditch (RSD) 1 and RSD 2, between the I-69 southbound on and off ramps. Wetland A was classified as a Palustrine, Emergent, Persistent, Temporarily Flooded (PEM1A) wetland, and was located where RSD 1 and RSD 2 converged. An underdrain pipe appears to drain into RSD 2 from the I-69 southbound off ramp, which eventually flows into Wetland A. Both of these roadside ditches did not exhibit an Ordinary High Water Mark (OHWM). Wetland A did not appear to flow into or have a significant nexus with any jurisdictional Waters of the U.S., as the road embankment slopes for the I-69 southbound on and off ramps appear to direct water into Wetland A, but not away from it. Therefore, Wetland A should be considered isolated. This wetland was located within the MrB2 soil unit, which is listed as containing 4% hydric components. Wetland A is adjacent to S.R. 14 and I-69 and receives water from RSD 1. This wetland likely receives significant polluted run-off from the adjacent roadway. In addition, the wetland exhibited low plant species diversity and is mowed on a regular basis. Therefore, it appears that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland A can be classified as a Class I isolated wetland and should be considered to be of poor quality. Descriptions of the sampling points for Wetland A are provided below.

#### Sampling Point A1 (SP-A1) – Wetland A

SP-A1 was located north of S.R. 14, within Wetland A at the juncture of RSD 1 and RSD 2. The dominant vegetation present at this sampling point was lesser poverty rush (*Juncus tenuis*, FAC) in the herb stratum. This met the hydrophytic vegetation indicator for dominance test (100%). To a depth of 20 in., the soil in the test pit was a sandy loam with gravel mixed in. From 0 to 7 in., the soil exhibited a matrix color of 10YR 4/2 (100%). From 7 to 20 in., the soil exhibited a matrix color of 10YR 5/1 (80%) with 10YR 4/4 (20%) distinct mottles. This met the hydric soil indicator for sandy redox (S5). One primary indicator of hydrology, surface water (A1), and one secondary indicator, geomorphic position (D2), were observed. Since the hydrophytic vegetation, hydric soil, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point A2 (SP-A2)- Wetland A upland

SP-A2 was located north of S.R. 14 and Wetland A. The dominant vegetation at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) and red clover (*Trifolium pratense*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. The soil in the test pit was a silt loam to a depth of 20 in. From 0 to 20 in. the soil exhibited a matrix color of 10YR 4/2 (90%) with 10YR 5/1 (10%) faint mottles. This did not meet any hydric soil indicators. There were no primary or secondary indicators of hydrology observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.





#### Wetland B - PEM1A (0.178 ac)

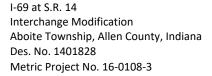
Wetland B was located north of S.R. 14, inside the circular I-69 southbound entrance ramp. Wetland B was classified as a PEM1A wetland and was contained entirely within the entrance ramp loop. It appears that Wetland B formed via stormwater runoff from the adjacent roadway and is fed via several small culverts including Structure No. 18, 19, 21, 84, 85, and 88 (see attached Plan of S.R. 14 Interchange). Wetland B did not appear to flow into or have a significant nexus with any jurisdictional Waters of the U.S. Therefore, Wetland B should be considered isolated. This wetland was located within the BmA soil unit, which is listed as containing 5% hydric components. Wetland B is adjacent to S.R. 14 and I-69, and likely receives significant polluted run-off from these roadways. In addition, the wetland exhibited low plant species diversity with greater than 50% of the vegetation consisting of non-native species, and it is also mowed on a regular basis. Therefore, it appears that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland B can be classified as a Class I isolated wetland and should be considered to be of poor quality. Descriptions of the sampling points for Wetland B are provided below.

#### Sampling Point B1 (SP-B1) – Wetland B

SP-B1 was located north of S.R. 14, within Wetland B and inside the circular I-69 southbound entrance ramp. The dominant vegetation present at this sampling point was narrow-leaf cat-tail (*Typha angustifolia*, OBL) and tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This met the hydrophytic vegetation indicator for prevalence index (1.80). The soil in the test pit was a silt loam to a depth of 20 in. From 0 to 20 in., the soil exhibited a matrix color of 10YR 4/2 (95%) with 5YR 3/1 (5%) distinct mottles. This met the hydric soil indicator for depleted matrix (F3). Two primary indicators of wetland hydrology, surface water (A1) and saturation (A3) were observed. Since the hydrophytic vegetation, hydric soil, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point B2 (SP-B2)- Wetland B upland

SP-B2 was located on the north side of S.R. 14, to the west of Wetland B, inside the circular I-69 southbound entrance ramp. The dominant vegetation at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. A restrictive layer of gravel and rip rap was present at the soil surface, which prevented the characterization of the soil. Several attempts were made to dig an upland test pit, but gravel was consistently present. Due to the lack of hydrophytic vegetation and hydrology indicators, and the location of the sampling point on a 5% slope, it is unlikely that the soil would contain the hydric soil indicators needed to be classified as a hydric soil. There were no primary or secondary indicators of hydrology observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.





#### Wetland C - PEM1A (0.056 ac)

Wetland C was located north of S.R. 14, within RSD 3 along the I-69 southbound exit ramp. Wetland C was classified as a PEM1A wetland, and was located entirely within a roadside drainage ditch that did not exhibit an OHWM (RSD 3). This roadside ditch did not appear to flow into or have a significant nexus with any jurisdictional Waters of the U.S. This wetland was located within the BmA soil unit, which is listed as containing 5% hydric components. Wetland C is adjacent to I-69, and likely receives significant polluted run-off from this source. In addition, the wetland exhibited low plant species diversity and is mowed on a regular basis. Therefore, it appears that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland C can be classified as a Class I isolated wetland and should be considered to be of poor quality. Descriptions of the sampling points for Wetland C are provided below.

#### Sampling Point C1 (SP-C1) – Wetland C

SP-C1 was located within Wetland C and RSD 3, north of S.R. 14 and west of the I-69 southbound exit ramp. The dominant vegetation present at this sampling point was lesser poverty rush (*Juncus tenuis*, FAC), soft-stem club-rush (*Scheonoplectus tabernaemontani*, OBL), and tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This met the hydrophytic vegetation indicators for dominance test (67%) and prevalence index (2.45). The soil in the test pit was a silt loam to a depth of 20 in. Hydrogen sulfide odor was observed during soil pit excavation due to soil saturation. From 0 to 6 in., the soil exhibited a matrix color of 10YR 4/2 (95%) with 10YR 3/6 (5%) prominent mottles within the pore linings. From 6 to 20in., the soil exhibited a mixed matrix color of 10YR 4/2 (60%) and 10YR 3/2 (20%), with 10YR 3/6 (20%) prominent mottles in the pore linings. This met the hydric soil indicators for hydrogen sulfide (A4) and depleted matrix (F3). Four primary indicators of wetland hydrology were observed; surface water (A1), saturation (A3), hydrogen sulfide odor (C1), and oxidized rhizospheres on living roots (C3). One secondary indicator of wetland hydrology was observed, geomorphic position. Since the hydrophytic vegetation, hydric soil, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point C2 (SP-C2)- Wetland C upland

SP-C2 was located north of S.R. 14, west of the I-69 southbound exit ramp and Wetland C. The dominant vegetation at this sampling point was Fuller's teasel (*Dipsacus fullonum*, FACU) and tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. A restrictive layer of gravel was present at 0 in., which prevented the characterization of the soil. Several attempts were made to dig an upland test pit, but gravel was consistently present. Due to the lack of hydrophytic vegetation and hydrology indicators, and the sampling point being located on a 15% slope, it is unlikely that the soil would contain the hydric soil indicators needed to be classified as a hydric soil. There were no primary or secondary indicators of hydrology observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.



#### Wetland D - PEM1A (0.022 ac)

Wetland D was located north of S.R. 14 and west of the southbound lanes of I-69. Wetland D was classified as a PEM1A wetland and did not appear to flow into or have a significant nexus with any jurisdictional Waters of the U.S. This wetland was located within the MrB2 soil unit, which is listed as containing 4% hydric components. It appeared to be an isolated feature with no connection to any roadside ditches, though it does appear to be fed significant polluted stormwater runoff via a culvert located under I-69 (Structure No. 24 on the attached Plan of S.R. 14 Interchange). In addition, the wetland exhibited low plant species diversity and is mowed on a regular basis. Therefore, it appears that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland D can be classified as a Class I isolated wetland and should be considered to be of poor quality. Descriptions of the sampling points for Wetland D are provided below.

#### Sampling Point D1 (SP-D1) - Wetland D

SP-D1 was located within Wetland D, north of S.R. 14 and west of I-69. The dominant vegetation present at this sampling point was lesser poverty rush (*Juncus tenuis*, FAC) in the herb stratum. This met the hydrophytic vegetation indicators of dominance test (100%) and prevalence index (2.85). The soil in the test pit was a silty clay loam to a depth of 20 in. From 0 to 4 in., the soil exhibited a matrix color of 10YR 2/1 (100%). From 4 to 20 in., the soil exhibited a matrix color of 10YR 5/1 (90%), with 10YR 5/8 (10%) distinct mottles. This met the hydric soil indicator for depleted matrix (F3). Two primary indicators of wetland hydrology were observed; surface water (A1) and saturation (A3). One secondary indicator of wetland hydrology, geomorphic position (D2), was observed. Since the hydrophytic vegetation, hydric soil, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point D2 (SP-D2)- Wetland D upland

SP-D2 was located on the north side of S.R. 14, west of I-69 and Wetland D. The dominant vegetation at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. The soil in the test pit was a clay loam to a depth of 20 in. From 0 to 20 in. the soil exhibited a matrix color of 10YR 4/2 (100%). This did not meet any of the hydric soil indicators. There were no primary or secondary indicators of hydrology observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.

#### Wetland E - PEM1A (0.033 ac)

Wetland E was located south of S.R. 14 and west of I-69, and can be classified as a PEM1A wetland. This wetland continues south outside of the project study limits within a roadside ditch, and has a significant nexus to Durnell Ditch via a culvert (Structure No. 28 on the attached Plan of S.R. 14 Interchange) that carries water from Wetland E underneath the entrance ramp for I-69 southbound to Durnell Ditch. Durnell Ditch flows south into McCulloch Ditch, which flows into Graham Ditch, which flows into the Little River. The Little River flows into and has a significant nexus with the Wabash River, a Section 10 TNW. Therefore, Wetland E should be considered a



jurisdictional Water of the U.S. Wetland E is adjacent to I-69 and is fed stormwater from Wetland F via a culvert located under the I-69 southbound circular exit ramp (Structure No. 33 on the attached Plan of S.R. 14 Interchange). This wetland likely receives significant polluted run-off from the adjacent roadway. In addition, the wetland exhibited low plant species diversity and is mowed on a regular basis. Therefore, it can be concluded that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland E should be considered to be of poor quality. Descriptions of the sampling points for Wetland E are provided below.

#### Sampling Point E1 (SP-A1) – Wetland E

SP-E1 was located south of S.R. 14 and west of I-69, within Wetland E. The dominant vegetation present at this sampling point was narrow-leaf cat-tail (*Typha angustifolia*, OBL), lesser poverty rush (*Juncus tenuis*, FAC), and soft-stem club-rush (*Scheonoplectus tabernaemontani*, OBL) in the herb stratum. This met the hydrophytic vegetation indicators of dominance test (100%) and prevalence index (1.40). The soil in the test pit was a silty clay loam to a depth of 20 in. From 0 to 20 in., the soil exhibited a matrix color of 7.5YR 4/1 (80%) with 10YR 4/6 (20%) prominent mottles. This met the hydric soil indicator for depleted matrix (F3). Three primary indicators of wetland hydrology were observed; surface water (A1), high water table (A2), and saturation (A3). Two secondary indicators of hydrology were observed; geomorphic position (D2) and FAC-Neutral test (D5). Since the hydrophytic vegetation, hydric soil, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point E2 (SP-E2)- Wetland E upland

SP-E2 was located south of S.R. 14 and west of I-69 and Wetland E. The dominant vegetation at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. The soil in the test pit was a silt loam to a depth of 20 in. From 0 to 20 in. the soil exhibited a matrix color of 10YR 4/4 (100%). This did not meet any of the hydric soil indicators. There were no primary or secondary indicators of hydrology present. Since none of the three wetland criteria were met, this area did not qualify as a wetland.

#### **Wetland F - PEM1A (0.142 ac)**

Wetland F was located south of S.R. 14 and west of I-69, within the circular exit ramp for I-69 southbound. Wetland F was classified as a PEM1A wetland. It appears that Wetland F formed via stormwater runoff from the adjacent roadway and RSD 5, and is connected to Wetland E via a drainage pipe that carries water from Wetland F underneath the I-69 southbound exit ramp. Wetland E has a significant nexus to Durnell Ditch, which flows south into McCulloch Ditch, which flows into Graham Ditch, which flows into the Little River, which flows into and has a significant nexus with the Wabash River, a Section 10 TNW. Therefore, Wetland E should be considered a jurisdictional Water of the U.S. Wetland F is adjacent to S.R. 14 and I-69, and likely receives significant polluted run-off from the adjacent roadways. In addition, the wetland exhibited low plant species diversity and appears to be mowed on a regular basis. Therefore, it can be

I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828 Metric Project No. 16-0108-3

METRIC

concluded that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland F should be considered to be of poor quality. Descriptions of the sampling points for Wetland F are provided below.

#### Sampling Point F1 (SP-F1) – Wetland F

SP-F1 was located south of S.R. 14 and west of I-69, within the circular exit ramp for I-69 and Wetland F. The dominant vegetation present at this sampling point was lesser poverty rush (*Juncus tenuis*, FAC) in the herb stratum. This met the hydrophytic vegetation indicators of dominance test (100%) and prevalence index (3.00). The soil in the test pit was a silty clay loam to a depth of 10 in., at which point a restrictive layer of gravel was encountered. From 0 to 10 in., the soil exhibited a matrix color of 10YR 5/1 (100%). This met the hydric soil indicator for depleted matrix (F3). Three primary indicators of wetland hydrology were observed; surface water (A1), high water table (A2), and saturation (A3). One secondary indicator of hydrology, geomorphic position (D2) was observed. Since the hydrophytic vegetation, hydric soils, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point F2 (SP-F2)- Wetland F upland

SP-F2 was located south of S.R. 14, west of I-69, and east of Wetland F. The dominant vegetation at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU), in the herb stratum. This did not meet any hydrophytic vegetation indicators. A restrictive layer of gravel was present at 0 in., which prevented the characterization of the soil. Several attempts were made to dig an upland test pit, but gravel was consistently present. Due to the lack of hydrophytic vegetation and hydrology indicators, and the sampling point being located on an 8% slope, it is unlikely that the soil would exhibit hydric soil indicators. No primary or secondary indicators of hydrology were observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.

#### **Wetland G - PEM1A (0.074 ac)**

Wetland G was located south of S.R. 14, in the western portion of the project study limits. Wetland G was classified as a PEM1A wetland and is fed by stormwater runoff from S.R. 14 via RSD 4. This wetland appears to have formed as a result of the construction of RSD 4. Though Wetland G is located within the mapped floodplain of Durnell Ditch, as a result of the construction of S.R. 14 and I-69 exit and entrance ramps, the ditch is piped throughout the entirety of the project study limits. The elevation of the road above the existing elevation of Durnell Ditch and the presence of a noise wall provide evidence that this area no longer floods and this particular floodplain area for Durnell Ditch no longer exists. Therefore, this wetland did not appear to flow into or have a significant nexus with any jurisdictional Waters of the U.S. Wetland G is adjacent to S.R. 14 and I-69, and likely receives significant polluted run-off from this source. In addition, the wetland exhibited low plant species diversity and appears to be mowed on a regular basis. It can also be concluded that this wetland does not support significant wildlife or aquatic habitat, or possess significant hydrologic function. Due to these factors, Wetland G can be classified as a



Class I isolated wetland and should be considered to be of poor quality. Descriptions of the sampling points for Wetland G are provided below.

#### Sampling Point G1 (SP-G1) – Wetland G

SP-G1 was located south of S.R. 14 and west of RSD 4, within Wetland G. The dominant vegetation present at this sampling point was lesser poverty rush (*Juncus tenuis*, FAC) and tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This met the hydrophytic vegetation indicators for prevalence index (2.90). The soil in the test pit was a silty clay loam to a depth of 20 in. From 0 to 20 in., the soil exhibited a matrix color of 10YR 4/2 (80%) with 10YR 5/6 (20%) prominent mottles. This met the hydric soil indicator for depleted matrix (F3). One primary indicator of wetland hydrology, saturation (A3), was observed and one secondary indicator of wetland hydrology, geomorphic position (D2), was observed. Since the hydrophytic vegetation, hydric soils, and hydrology criteria were met, this area qualified as a wetland.

#### Sampling Point G2 (SP-G2)- Wetland G upland

SP-G2 was located south of S.R. 14 and north of Wetland G. The dominant vegetation present at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any hydrophytic vegetation indicators. The soil in the test pit was a silt loam to a depth of 20 in. From 0 to 20 in. the soil exhibited a matrix color of 10YR 4/2 (100%). This did not meet any of the hydric soil indicators. No primary or secondary indicators of hydrology were observed. Since none of the three wetland criteria were met, this area did not qualify as a wetland.

#### **Additional Sampling Point:**

An additional sampling point was taken in an area where wetlands were suspected, but the area did not meet the criteria to qualify as wetland. A description of this sampling point is provided below.

#### Sampling Point 1 (SP-1)

SP-1 was located north of S.R. 14, west of the I-69 southbound exit ramp. The dominant vegetation present at this sampling point was tall false rye grass (*Schedonorus arundinaceus*, FACU) in the herb stratum. This did not meet any of the hydrophytic vegetation indicators. The soil in the test pit was silty clay loam to a depth of 20 in. From 0 to 10 in. the soil exhibited a matrix color of 10YR 4/2 (95%) with 10YR 3/1 (5%) faint mottles. From 10 to 20 in. the soil exhibited a matrix color of 10YR 3/1 (90%) with 10YR 5/6 (10%) prominent mottles. This did not meet any of the hydric soil indicators, because prominent concentrations did not begin within the upper 10 inches of the soil profile. Since no stratified layers were observed in the test pit, the soil does not qualify for a problematic floodplain soil. Two primary indicators of hydrology were observed; surface water (A1) and saturation (A3). One secondary indicator of hydrology, geomorphic position (D2) was observed. Since only one of the three required wetland criteria was met, this area did not qualify as a wetland.



#### Streams:

One stream was identified within the project study limits during the waters investigation. A description of the stream characteristics is provided in the table below.

# Stream Summary Table I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828

Stream Name	Photo #s	Lat/Long	OHWM Width (ft.)	OHWM Depth (ft.)	USGS Blue-line	Substrate	Riffles and Pools	Quality	Likely Water of the U.S.	Potential Stream Impact (LFT)
Durnell Ditch	N/A*	41.074548 -85.231036	12.0	1.0	Yes (Perennial)	N/A*	N/A*	N/A*	Yes	330 (piped)

<sup>\*</sup>Data not available as the daylighted portion of the stream was located outside of the project study limits.

#### **Durnell Ditch (330 LFT)**

The approximate location of Durnell Ditch provided by the National Hydrography Dataset stream data is shown on **Exhibit 6.** During the field reconnaissance, it was observed that this stream is encapsulated throughout the entirety of the project study limits as a result of the construction of S.R. 14 and I-69 exit and entrance ramps. Durnell Ditch is approximately 330 linear feet (LFT) in length (0.091 ac) within the project study limits, and flows from north to south under S.R. 14. The stream flows south into McCulloch Ditch, which flows into Graham Ditch, which flows into the Little River, which flows into and has a significant nexus with the Wabash River, a Section 10 TNW. Therefore, Durnell Ditch should be considered a jurisdictional Water of the U.S. This stream is associated with a solid blue line on the USGS topographic map, indicating it is perennial. Durnell Ditch is classified by the NWI as a Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flood (R5UBH) wetland. Since it is encapsulated throughout the entirety of the project study limits, no stream characteristics could be determined in the field. The OHWM was estimated to be an average of 12.0 ft in width within the project study limits, based off of aerial photographs (*Indiana Spatial Data Portal*, 2012). According to USGS *Indiana StreamStats*, the drainage area upstream of the project study limits is 2.302 square miles (sq. mi.).

#### **Roadside Ditches:**

There were four roadside ditches observed within the project study limits during the field reconnaissance.



#### Roadside Ditch 1 (RSD 1) (98 LFT)

RSD 1 is located north of S.R. 14 and west of the circular I-69 southbound entrance ramp. This feature is a rip rap lined man-made drainage ditch that carries stormwater runoff from S.R. 14 northwest to Wetland A. RSD 1 is approximately 98 LFT in length. No OHWM was observed so this drainage feature is likely non-jurisdictional.

#### Roadside Ditch 2 (RSD 2) (155 LFT)

RSD 2 is located north of S.R. 14 and west of the circular I-69 southbound entrance ramp. This feature is a rip rap lined man-made drainage ditch that collects stormwater runoff from the I-69 exit ramp and conveys it south to Wetland A. RSD 2 also appears to be fed by a small underdtrain pipe located underneath the I-69 southbound entrance ramp. RSD 2 is approximately 155 LFT in length. No OHWM was observed so this drainage feature is likely non-jurisdictional.

#### Roadside Ditch 3 (RSD 3) (626 LFT)

RSD 3 is located along the northwest boundary of the project study limits, along the I-69 southbound exit ramp. RSD 3 appears to flow north and convey stormwater runoff into Wetland C, which seems to have formed as the result of the construction of this roadside ditch. The feature is entirely vegetated, consisting primarily of upland vegetation within a mowed right-of-way outside of the delineated area of Wetland C. RSD 3 is approximately 626 LFT in length. No OHWM was observed so this drainage feature is likely non-jurisdictional.

#### Roadside Ditch 4 (RSD 4) (123 LFT)

RSD 4 is located south of S.R. 14 and west of the circular I-69 southbound exit ramp. This feature is a rip rap lined man-made drainage ditch that carries stormwater runoff from S.R. 14 southwest to Wetland G. Wetland G appears to have been formed as the result of the construction of this roadside ditch. RSD 4 is approximately 123 LFT in length. No OHWM was observed so this drainage feature is likely non-jurisdictional.

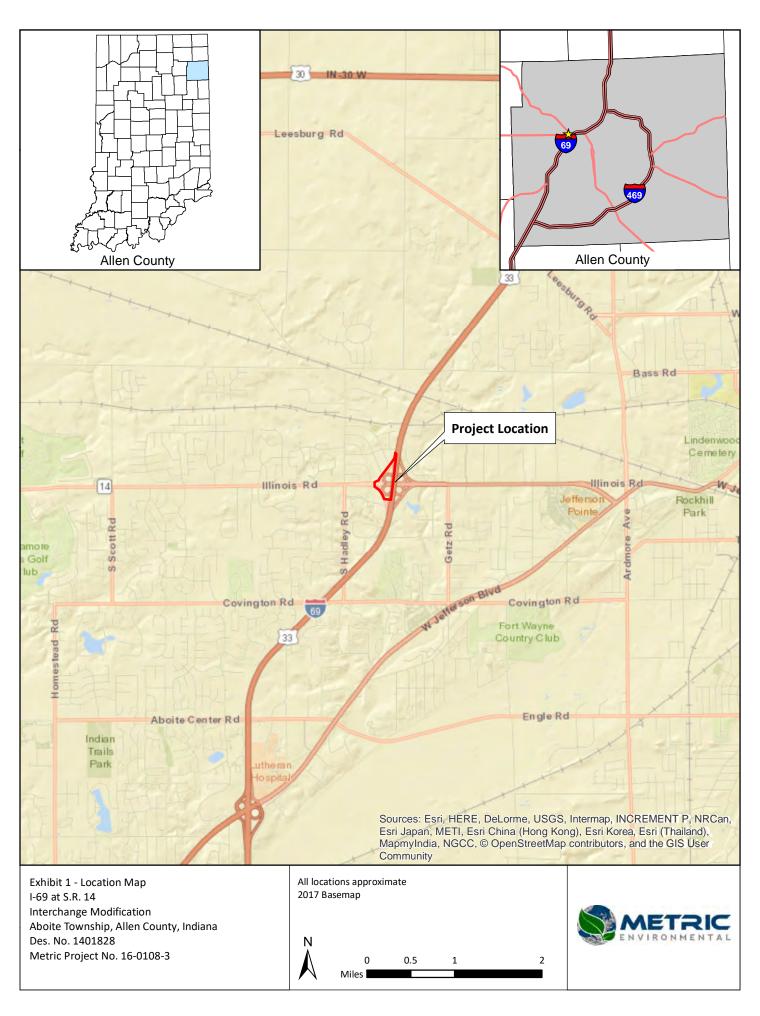
#### Roadside Ditch 5 (RSD 5) (182 LFT)

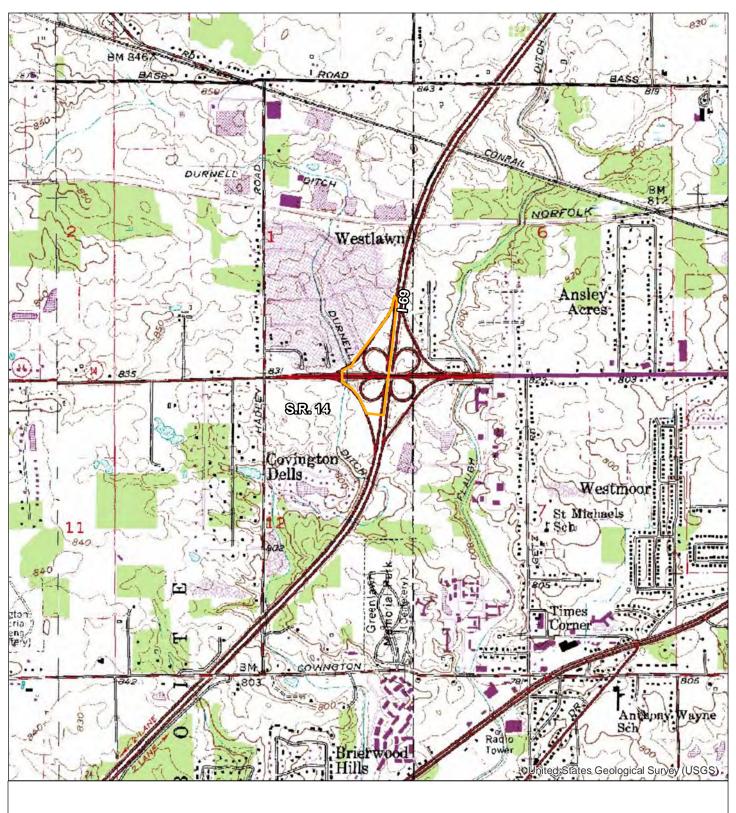
RSD 5 is located south of S.R. 14 and west of I-69, within the circular I-69 southbound exit ramp. RSD 5 appears to convey stormwater runoff to Wetland F. The feature is entirely vegetated, consisting primarily of upland vegetation within a mowed right-of-way outside of the delineated area of Wetland F. RSD 5 is approximately 182 LFT in length. No OHWM was observed so this drainage feature is likely non-jurisdictional.

#### **Conclusion:**

Seven PEM1A wetlands totaling 0.515 ac and 2,281 LFT, were identified within the project study limits. Every effort should be taken to avoid and minimize impacts to these waterways. If impacts are necessary, then mitigation may be required. The INDOT Office of 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 judgment based on the guidelines set forth by the USACE.







## **Project Study Limits**

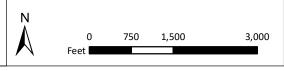
Metric Project No. 16-0108-3

Exhibit 2A - USGS Topographic Map - Small Scale Fort Wayne West, IN Quadrangle I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana

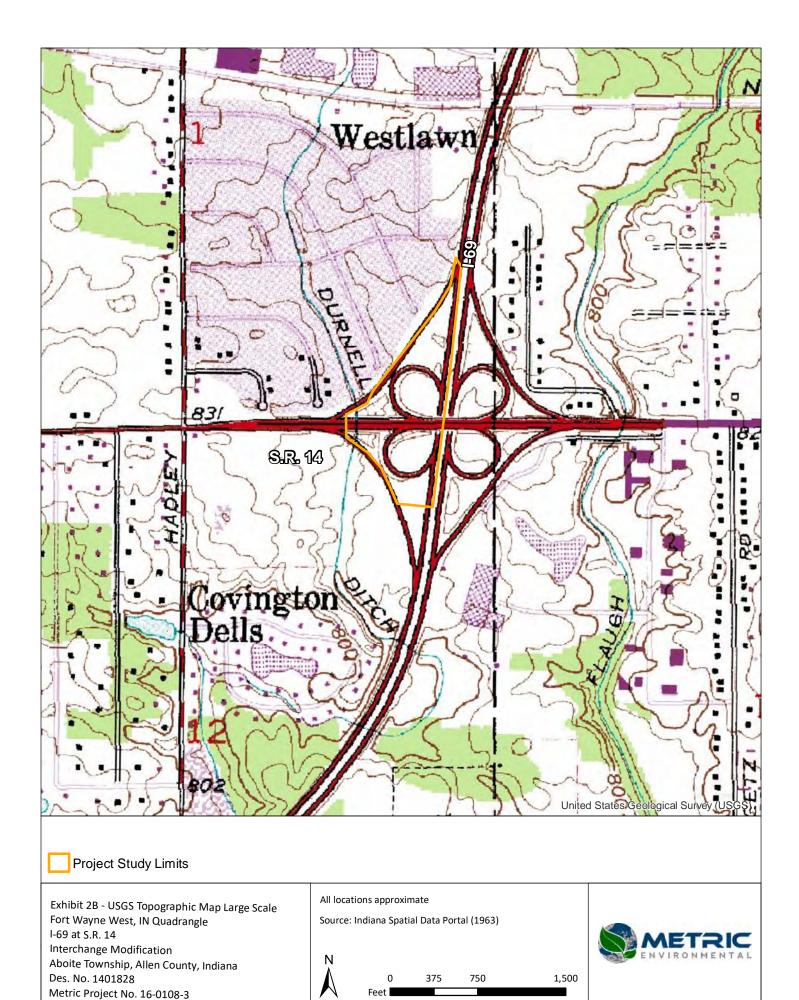
Des. No. 1401828

All locations approximate

Source: Indiana Spatial Data Portal (1963)











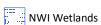
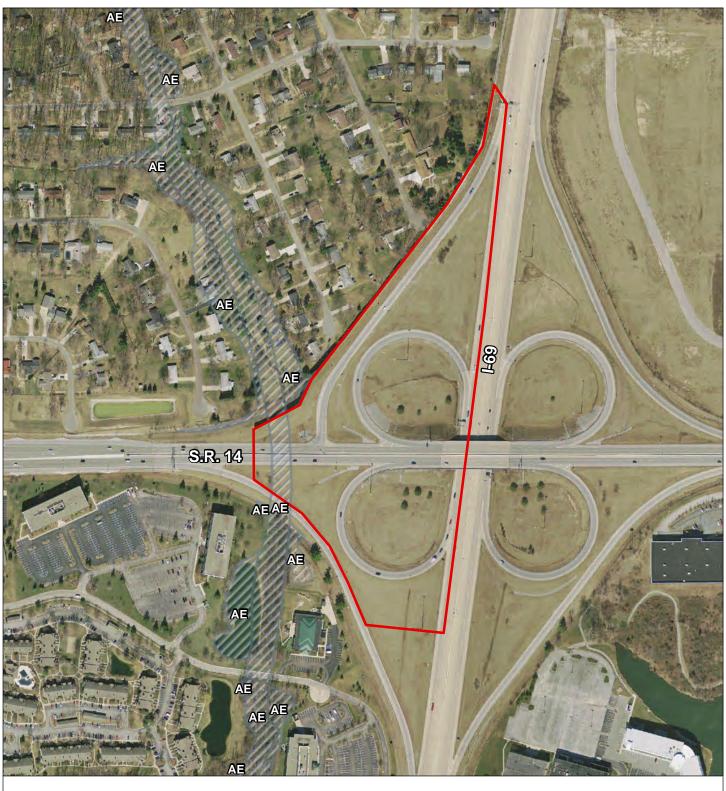


Exhibit 3 - National Wetlands Inventory Map I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828 Metric Project No. 16-0108-3 All locations approximate

Source: Indiana Spatial Data Portal (2012 Aerial)





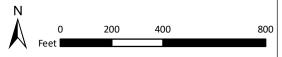


Project Study Limits

Floodplains- Zone AE- 1% Chance Annual Flood

Exhibit 4 - Flood Insurance Rate Map I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828 Metric Project No. 16-0108-3 All locations approximate

Source: Indiana Spatial Data Portal (2012 Aerial)





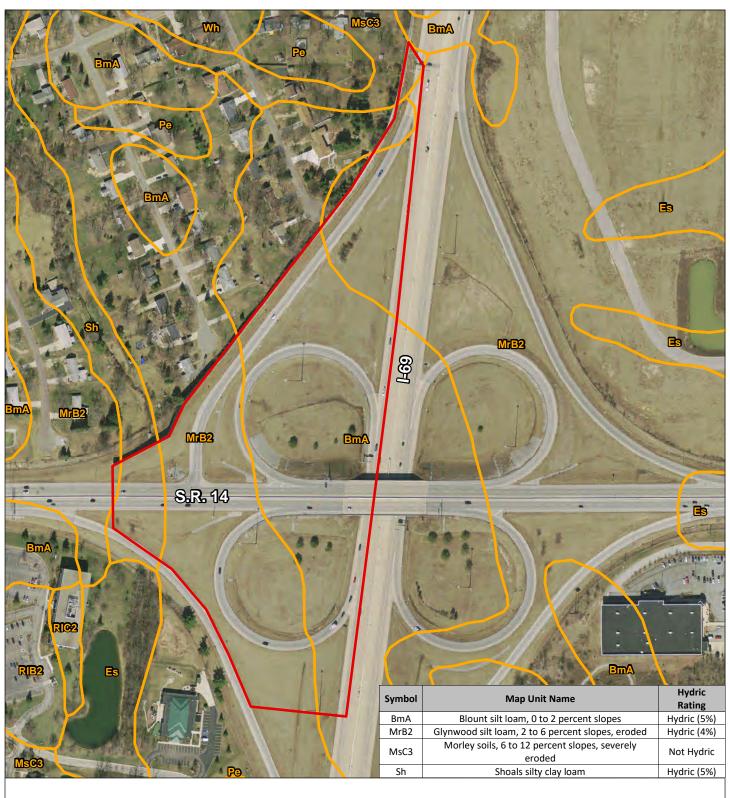


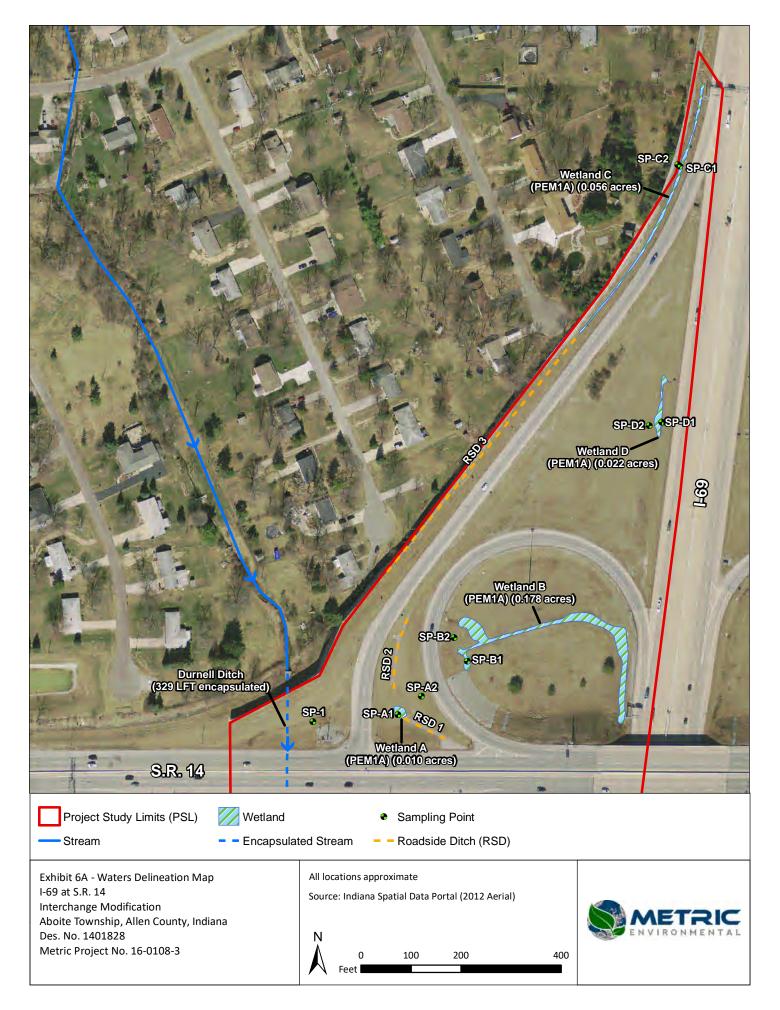


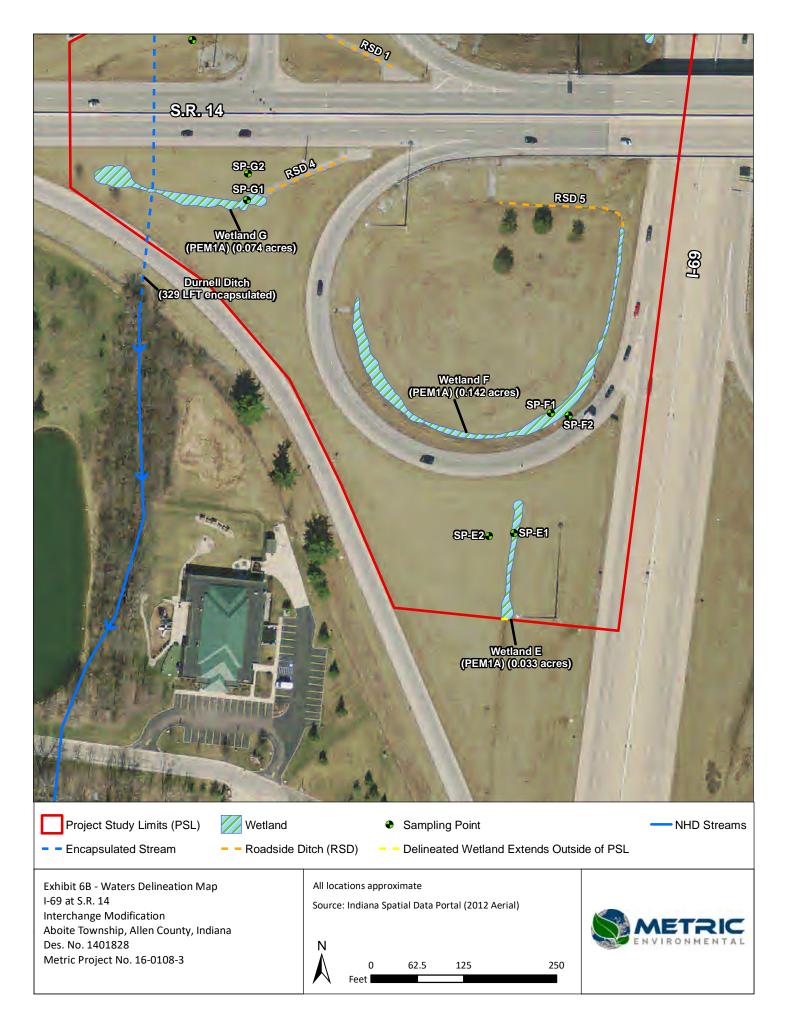
Exhibit 5 - NRCS Soil Survey Map I-69 at S.R. 14 Interchange Modification Aboite Township, Allen County, Indiana Des. No. 1401828 Metric Project No. 16-0108-3 All locations approximate

Source: Indiana Spatial Data Portal (2012 Aerial)









#### WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)	City/County:	Allen Count	Sampling Date: 8/30/2017		
Applicant/Owner:	INDOT				Sampling Point: SP-A1	
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12;	Гownship 30N; Range 11E
Landform (hillslope	, terrace, etc.): Drainage swale			Local r	relief (concave, convex, none)	: Concave
Slope (%):	0% Lat: 41.074851		Long:		-85.23023	Datum: NAD 83
Soil Map Unit Name	<u> </u>				NWI class	sification: None
Are climatic / hydro	logic conditions on the site typical for this time	of year?	Yes	X No	(If no, explain in Remar	ks.)
Are Vegetation	No , Soil No , or Hydrology N	lo significantly d	_		ormal Circumstances" present	
Are Vegetation	No , Soil No , or Hydrology N	lo naturally prob	lematic?	(If need	led, explain any answers in Re	
SUMMARY OF	FINDINGS Attach site map show	ving samplin	g point loca	tions, tra	nsects, important featu	ıres, etc.
Hydrophytic Vegeta		No		Sampled Are	-	
Hydric Soil Present	? Yes X	No		a Wetland?	Yes	X No
Wetland Hydrology	Present? Yes X	No				
Remarks: Wetland A samplin	g point (PEM1A)					
VEGETATION	Use scientific names of plants.					
		Absolute	Dominant	Indicator		
Tree Stratum (Plot		% Cover	Species?	Status	Dominance Test workshe	et:
1					Number of Dominant Specie	es.
3.					That Are OBL, FACW, or FA	
4.						
5					Total Number of Dominant	
			= Total Cover		Species Across All Strata:	1 (B)
Sapling/Shrub Strat  1. 2.	tum (Plot size: 15' radius )				Percent of Dominant Specie That Are OBL, FACW, or FA	
3.					Duning and an analysis of the state of the s	-4.
5.					Prevalence Index workshe	et:
o			= Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot	size: <u>5' radius</u> )				OBL species 10%	x1 = 0.1
1. Juncus tenuis		60%	Yes	FAC	FACW species	x2 =
2. Schedonorus a		20% 10%	No No	FACU	FAC species 65% FACU species 30%	
Lotus cornicula     Typha angustif		10%	No	FACU OBL	FACU species 30% UPL species	x4 = 1.2 x5 =
5. Poa pratensis		5%	No	FAC	Column Totals: 1.05	
6.					-	<u> </u>
7. 8.					Prevalence Index =	= B/A =
9.						
10. 11.					Hydrophytic Vegetation In	dicators:
12.					1-Rapid Test for Hy	drophytic Vegetation
13.					X 2-Dominance Test	
14					3-Prevalence Index	
15 16.						laptations <sup>1</sup> (Provide supporting ron a separate sheet)
17.						phytic Vegetation <sup>1</sup> (Explain)
18.						
19.					<sup>1</sup> Indicators of hydric soil and	wetland hydrology must
20					be present, unless disturbed	d or problematic.
		105%	= Total Cover			
Woody Vine Stratu	<del></del>				Hydrophytic Vegetation	
2			= Total Cover		Present? Yes	sXNo
			. 5.6. 55701			
,	photo numbers here or on a separate sheet.)			•		
US Army Corps o	i Engineers				·	Mildwest Region Version 2.0

F-24

**SOIL** Sampling Point: SP-A1

Depth	ription: (Describe to the Matrix			dox Features			,	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-7	10YR 4/2	100	Color (molot)		- 7/		SL	Gravel present
			40VD 4/4					·
7-20	10YR 5/1	80	10YR 4/4	20	C	RM	SL	Distinct
				_				
				_				
				_				
				_				
					. <u></u>			
	concentration, D=Depletic	on, RM=Red	uced Matrix, CS=Cover	ed or Coated	Sand Grains		on: PL=Pore Li	
Hydric Soil I						Indic		ematic Hydric Soils³:
Histoso	` '			red Matrix (S4	.)			rairie Redox (A16)
	Epipedon (A2)		X Sandy Red					nganese Masses (F12)
	Histic (A3)		Stripped Ma	` '	4.			face (S7)
	en Sulfide (A4)			ky Mineral (F	-			allow Dark Surface (TF12)
	ed Layers (A5)			ed Matrix (F2	<u>()</u>		Other (E	xplain in Remarks)
	luck (A10)	111)	Depleted M					
	ed Below Dark Surface (A Dark Surface (A12)	X11)		k Surface (F6) ark Surface (F			3Indicators of I	nydrophytic vegetation and
	Mucky Mineral (S1)			ressions (F8)	-1)			drology must be present,
	lucky Peat or Peat (S3)		Redox Dep	163310113 (1 0)				isturbed or problematic.
							unicoo di	starbed of problematic.
Restrictive L	_ayer (if observed):							
_								
Type:	See Land V		1			Handala.	0 - !! D (0	W V N-
-	inches):		<u>-</u>			Hydric	Soil Present?	Yes <u>X</u> No
Depth (i						Hydric	Soil Present?	Yes <u>X</u> No
Depth (i	OGY					Hydric	Soil Present?	Yes X No
Depth (i	OGY drology Indicators:	> required: cl	hock all that apply)			Hydric		
Depth (i Remarks:  HYDROL Wetland Hyc Primary Indic	OGY drology Indicators: cators (minimum of one is	s required: cl		and Lagues (F	20)	Hydric	Seconda	ry Indicators (minimum of two required)
Depth (i Remarks:  HYDROLI Wetland Hyc Primary India X Surface	OGY drology Indicators: cators (minimum of one is e Water (A1)	s required: cl	Water-Stair	ned Leaves (E	39)	Hydric	Seconda	ry Indicators (minimum of two required) rface Soil Cracks (B6)
Depth (i Remarks:  HYDROLU Wetland Hyc Primary Indic X Surface High W	OGY drology Indicators: cators (minimum of one is e Water (A1) /ater Table (A2)	s required: cl	Water-Stair Aquatic Fau	una (B13)	·	Hydric	Seconda Su Dra	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10)
Depth (i Remarks:  HYDROL Wetland Hyc Primary Indic X Surface High W Saturat	OGY drology Indicators: cators (minimum of one is e Water (A1) dater Table (A2) cion (A3)	s required: cl	Water-Stair Aquatic Fau True Aquati	una (B13) ic Plants (B14	1)	Hydric	Seconda Su Dra	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) /-Season Water Table (C2)
Depth (i Remarks:  HYDROL Wetland Hyc Primary Indic X Surface High W Saturat Water I	OGY drology Indicators: cators (minimum of one is e Water (A1) dater Table (A2) cion (A3) Marks (B1)	s required: cl	Water-Stair Aquatic Fau True Aquati Hydrogen S	una (B13) ic Plants (B14 Sulfide Odor (0	l) C1)		Seconda Su Dra Dry Cra	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indic X Surface High W Saturat Water I Sedime	OGY drology Indicators: cators (minimum of one is e Water (A1) dater Table (A2) ion (A3) Marks (B1) ent Deposits (B2)	s required: cl	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized Ri	una (B13) ic Plants (B14 Sulfide Odor (C nizospheres o	l) C1) on Living Roc		Seconda Su Dra Dry Cra	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary India X Surface High W Saturat Water I Sedime Drift De	OGY drology Indicators: cators (minimum of one is e Water (A1) dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	s required: cl	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o	una (B13) ic Plants (B14 Sulfide Odor (C nizospheres of f Reduced Iro	F) C1) on Living Roc on (C4)	ots (C3)	Seconda Su Dra Dry Cra Sa	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Depth (i Remarks:  HYDROL Wetland Hyc Primary India X Surface High W Saturat Water I Sedime Drift De Algal M	OGY  drology Indicators: cators (minimum of one is e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	s required: cl	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron	una (B13) ic Plants (B14 Sulfide Odor (Conizospheres of Reduced Iron	F) C1) on Living Roc on (C4)	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De	OGY  drology Indicators: cators (minimum of one is e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) /ent Deposits (B2) /eposits (B3) /ater Crust (B4) /eposits (B5)		Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S	una (B13) ic Plants (B14 Sulfide Odor (Conizospheres of Reduced Iro Reduction in Surface (C7)	l) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat	OGY  drology Indicators: cators (minimum of one is e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	gery (B7)	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W	una (B13) ic Plants (B14 Sulfide Odor (Conizospheres of Reduced Iron	(i) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary India X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse	OGY  drology Indicators: cators (minimum of one is e Water (A1) /ater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Imag	gery (B7)	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W	una (B13) ic Plants (B14) Gulfide Odor (Control of Reduced Iron Reduction in Surface (C7) Vell Data (D9)	(i) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary India X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse	ogy  drology Indicators: cators (minimum of one is e Water (A1) fater Table (A2) fion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) tion Visible on Aerial Image ly Vegetated Concave Su	gery (B7) urface (B8)	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) Gulfide Odor (Conizospheres of Reduced Iro Reduction in Surface (C7) Vell Data (D9) ain in Remark	(i) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROL Wetland Hyc Wetland Hyc Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse  Field Observ Surface Wat	oGY  drology Indicators: cators (minimum of one is e Water (A1) fater Table (A2) fion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) tion Visible on Aerial Image ly Vegetated Concave Survations: er Present?	gery (B7) urface (B8) 'es X No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) Gulfide Odor (Conizospheres of Reduced Iro Reduction in Surface (C7) Vell Data (D9) ain in Remark s): 0.2	(i) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Water Table	OGY  Irology Indicators: cators (minimum of one is e Water (A1) Irater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Irat or Crust (B4) eposits (B5) Iriton Visible on Aerial Image ly Vegetated Concave Su	gery (B7) urface (B8)  /es X No /es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized Ri Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) Gulfide Odor (Conizospheres of Reduced Iron Reduction in Surface (C7) Vell Data (D9) ain in Remark s): 0.2	(S) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P	OGY  drology Indicators: cators (minimum of one is a Water (A1) dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) tion Visible on Aerial Image ly Vegetated Concave Survations: ere Present?  Present?  Y resent?  Y	gery (B7) urface (B8)  /es X No /es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) Gulfide Odor (Conizospheres of Reduced Iron Reduction in Surface (C7) Vell Data (D9) ain in Remark s): 0.2	(S) C1) on Living Roc on (C4) Tilled Soils	ots (C3)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P (includes cap	OGY  Irology Indicators: Cators (minimum of one is e Water (A1) Vater Table (A2) Cion (A3) Marks (B1) Cent Deposits (B2) Cent Deposits (B3) Cent Orcust (B4) Cent Office on Aerial Image Control Visible on Aerial Image Contr	gery (B7) urface (B8)  'es No 'es No 'es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) culfide Odor (Control of Reduced Iron (Contro	(C1) On Living Roc on (C4) Tilled Soils (C5) Wetlan	ots (C3) (C6)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P (includes cap	OGY  drology Indicators: cators (minimum of one is a Water (A1) dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) tion Visible on Aerial Image ly Vegetated Concave Survations: ere Present?  Present?  Y resent?  Y	gery (B7) urface (B8)  'es No 'es No 'es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) culfide Odor (Control of Reduced Iron (Contro	(C1) On Living Roc on (C4) Tilled Soils (C5) Wetlan	ots (C3) (C6)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P (includes cap	OGY  Irology Indicators: Cators (minimum of one is e Water (A1) Vater Table (A2) Cion (A3) Marks (B1) Cent Deposits (B2) Cent Deposits (B3) Cent Orcust (B4) Cent Office on Aerial Image Control Visible on Aerial Image Contr	gery (B7) urface (B8)  'es No 'es No 'es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) culfide Odor (Control of Reduced Iron (Contro	(C1) On Living Roc on (C4) Tilled Soils (C5) Wetlan	ots (C3) (C6)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks:  HYDROLO Wetland Hyc Primary Indio X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P (includes cap	OGY  Irology Indicators: Cators (minimum of one is e Water (A1) Vater Table (A2) Cion (A3) Marks (B1) Cent Deposits (B2) Cent Deposits (B3) Cent Orcust (B4) Cent Office on Aerial Image Control Visible on Aerial Image Contr	gery (B7) urface (B8)  'es X No 'es No 'es No	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) culfide Odor (Control of Reduced Iron (Contro	(C1) On Living Roc on (C4) Tilled Soils (C5) Wetlan	ots (C3) (C6)	Seconda Su Dra Dra Cra Sa Stu X Ge	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks:  HYDROLU Wetland Hyc Primary Indic X Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundat Sparse Field Observ Surface Wat Water Table Saturation P (includes car Describe Re	OGY  drology Indicators: cators (minimum of one is a Water (A1) dater Table (A2) dion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial Image ly Vegetated Concave Su vations: er Present? Present? Y Present? Y pillary fringe) ecorded Data (stream gau	gery (B7) urface (B8)  /es X No /es No /es No uge, monitori	Water-Stair Aquatic Fau True Aquati Hydrogen S Oxidized RI Presence o Recent Iron Thin Muck S Gauge or W Other (Expl	una (B13) ic Plants (B14) cultide Odor (Conizospheres of Reduced Iron Reduction in Surface (C7) Vell Data (D9) ain in Remark s): 0.2 s): orevious inspec	Wetlan	ots (C3) (C6)  d Hydrolog	Seconda Su Dra Dra Cra Sa Stu X Ge FA	ry Indicators (minimum of two required) rface Soil Cracks (B6) ainage Patterns (B10) y-Season Water Table (C2) ayfish Burrows (C8) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)

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#### WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site:	I-69 and S.R. 14 (Des. No.		City/County: Allen County				Sampling Date: 8/30/2017		
Applicant/Owner:	INDOT					State: IN	1 5	Sampling Point: SP-A2	
Investigator(s):	Josh Myers and Ryan Hen	nessey		Sect	tion, Townshi	p, Range: Section 1 and 1	12; Tov	vnship 30N; Range	11E
Landform (hillslope	, terrace, etc.): Hillslope				Local r	elief (concave, convex, no	one): <u>N</u>	one	
Slope (%):	5% Lat:	41.07495		Long:	-	85.230069		Datum: NAD 83	
Soil Map Unit Name				'		NWI o	classific	cation: None	
Are climatic / hydro	logic conditions on the site ty	pical for this time of ye	ar?	Yes	X No	(If no, explain in Re	marks.	)	
Are Vegetation	No , Soil No , o	r Hydrology No s	ignificantly d			ormal Circumstances" pres		Yes X No	
Are Vegetation	No , Soil No , o	· · · · · · · · · · · · · · · · · · ·				ed, explain any answers in		· <del></del>	
•	FINDINGS Attach s				,	, ,		,	
					Sampled Are		atare	,5, 010.	
Hydrophytic Vegeta Hydric Soil Present			X		a Wetland?			No X	
Wetland Hydrology		Yes No	X	Within	a welland:	103		X	•
	. 10001111								
Remarks: Wetland A upland s	sampling point								
Welland A apiana	sampling point.								
VEGETATION	Use scientific name	s of plants.							
		o or prairie.	Absolute	Dominant	Indicator				
Tree Stratum (Plot	size: 30' radius )		% Cover	Species?	Status	Dominance Test works	sheet:		
1	<u> </u>								
2.						Number of Dominant Sp	ecies		
3						That Are OBL, FACW, o	or FAC:	0	(A)
4									
5				T-1-1 0		Total Number of Domina		0	(D)
				= Total Cover		Species Across All Strat	ia:	2	(B)
Sanling/Shruh Stra	tum (Plot size: 15' radius	1				Percent of Dominant Sp	necies		
1.	tarri (i lot size. 15 fadius	<u> </u>				That Are OBL, FACW, of		: 0%	(A/B)
									(,,,,,,
3.									
4.						Prevalence Index work	sheet:		
5.									
				= Total Cover		Total % Cover of	f:	Multiply by	y:
Herb Stratum (Plot	t size: 5' radius )					OBL species		x1 =	
Schedonorus a			35%	Yes	FACU	FACW species		x2 =	
2. Trifolium pratei			20%	Yes	FACU	FAC species	700/	x3 =	
3. Pyrus calleryar			20%	Yes	NI		70%	x4 = 2.8 x5 = 0.5	
Lotus cornicula     Daucus carota			15%	No No	UPL		10% 0.80	x5 = 0.5 (A) 3.3	
6.			1070	110	01 L	Column rotals.	7.00	(A)	<u>, (D)</u>
7.		-				Prevalence Ind	lex = B	/A = 4.13	
8.									-
9.									
10.						Hydrophytic Vegetatio	n Indic	cators:	
11									
12							,	ophytic Vegetation	
13.						2-Dominance T			
14.						3-Prevalence Ir		≤3.0 tations¹ (Provide su	nnortina
15. 16.								n a separate sheet)	
17.								ytic Vegetation <sup>1</sup> (Ex	
						110510111410111	yaropii	yuo vogotation (Ex	piairi)
19.						<sup>1</sup> Indicators of hydric soil	and we	etland hydrology mu	ıst
20.						be present, unless distu			
			80%	= Total Cover		' '		•	
Woody Vine Stratu	m (Plot size: 30' radius	)				Hydrophytic			
1						Vegetation			
2						Present?	Yes_	No X	
				= Total Cover					
Demande # 1 :	abata assabas d					1			
Remarks: (Include	photo numbers here or on a	separate sheet.)							
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•								-	

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SOIL Sampling Point: SP-A2

	cription: (Describe to t	he depth neede			onfirm the a	bsence o	f indicators.)	
Depth	Matrix			dox Features	T 1	. 2	<b>-</b> .	5 .
(inches)	Color (moist)	<u> </u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-20	10YR 4/2	90	10YR 5/1	10	С	М	SiL	Faint mottles
								_
	Concentration, D=Deplet	ion, RM=Reduc	ed Matrix, CS=Cover	ed or Coated	Sand Grains.		on: PL=Pore Linir	U,
Hydric Soil						Indic		natic Hydric Soils <sup>3</sup> :
Histoso				ed Matrix (S4)				irie Redox (A16)
	Epipedon (A2)		Sandy Redo					anese Masses (F12)
	Histic (A3)		Stripped Ma				Dark Surfa	` '
	gen Sulfide (A4)			ky Mineral (F1	-			ow Dark Surface (TF12)
	ed Layers (A5)			ed Matrix (F2)	)		Other (Exp	olain in Remarks)
	luck (A10)		Depleted Ma	` '				
	ed Below Dark Surface	(A11)		Surface (F6)			2	
	Dark Surface (A12)			ark Surface (F	7)		-	drophytic vegetation and
	Mucky Mineral (S1)		Redox Depr	ressions (F8)			•	ology must be present,
5 cm N	Mucky Peat or Peat (S3)						unless dist	surbed or problematic.
Restrictive I	Layer (if observed):							
Type:								
Depth (	inches):					Hydric	Soil Present?	Yes No X
HYDROL	OGY							_
Wetland Hy	drology Indicators:							
1	cators (minimum of one	is required: che	ck all that apply)				Secondary	Indicators (minimum of two required)
-	e Water (A1)	•		ed Leaves (B	9)			ace Soil Cracks (B6)
	Vater Table (A2)		Aquatic Fau	•	,			nage Patterns (B10)
	tion (A3)			c Plants (B14	)			Season Water Table (C2)
Water	Marks (B1)			ulfide Odor (C				fish Burrows (C8)
Sedime	ent Deposits (B2)		Oxidized Rh	nizospheres o	n Living Root	s (C3)	Satu	ration Visible on Aerial Imagery (C9)
Drift De	eposits (B3)		Presence of	Reduced Iro	n (C4)		Stun	ted or Stressed Plants (D1)
Algal N	Mat or Crust (B4)		Recent Iron	Reduction in	Tilled Soils (	C6)	Geor	morphic Position (D2)
Iron De	eposits (B5)		Thin Muck S	Surface (C7)			FAC-	-Neutral Test (D5)
Inunda	tion Visible on Aerial Im	agery (B7)	Gauge or W	'ell Data (D9)				
Sparse	ely Vegetated Concave S	Surface (B8)	Other (Expla	ain in Remark	s)			
Field Obser	vations:							
Surface Wa	ter Present?	Yes No 2	X Depth (inches	s):				
Water Table	Present?	Yes No	X Depth (inches	s):				
Saturation P	Present?	Yes No	X Depth (inches	s):	Wetland	l Hydrolog	gy Present?	Yes No X
(includes ca	pillary fringe)							
Describe Re	ecorded Data (stream ga	auge, monitoring	well, aerial photos, p	revious inspe	ctions), if ava	ailable:		
Remarks:								

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#### WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	y	Sampling Date: 8/30/2017
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-B1
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	ip, Range: Section 1 and 12; To	ownship 30N; Range 11E
Landform (hillslope	terrace, etc.): Drainage swale			Local	relief (concave, convex, none):	Concave
Slope (%):	0% Lat: 41.075	141	Long:		-85.229735	Datum: NAD 83
Soil Map Unit Name	e: Blount silt loam (BmA)				NWI class	fication: None
Are climatic / hydrol	ogic conditions on the site typical for this t	ime of year?	Yes	X No	(If no, explain in Remark	s.)
Are Vegetation	No , Soil No , or Hydrology	No significantly d	listurbed?	Are "No	ormal Circumstances" present?	Yes X No
Are Vegetation	No , Soil No , or Hydrology	No naturally prob	olematic?	(If need	ded, explain any answers in Re	marks.)
SUMMARY OF	FINDINGS Attach site map sl	howing sampling	g point loca	tions, tra	nsects, important featu	res, etc.
Hydrophytic Vegeta	tion Present? Yes X	No	Is the	Sampled Are	ea	
Hydric Soil Present	? Yes X			a Wetland?	Yes	<
Wetland Hydrology	Present? Yes X	No				
Remarks: Wetland B sampling	g point (PEM1A).					
VEGETATION	Use scientific names of plant	s.				
Total Otractions (Dist		Absolute	Dominant	Indicator		_
Tree Stratum (Plot 1.		% Cover	Species?	Status	Dominance Test workshee	t:
					Number of Dominant Specie	s
					That Are OBL, FACW, or FA	
4						
5					Total Number of Dominant	
		-	= Total Cover		Species Across All Strata:	(B)
Sapling/Shrub Strat	tum (Plot size: 15' radius )				Percent of Dominant Species	3
1.	,				That Are OBL, FACW, or FA	
2.						
3.					L	
4					Prevalence Index workshee	it:
J			= Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot	size: 5' radius )	·			OBL species 70%	x1 = 0.7
1. Typha angustife		70%	Yes	OBL	FACW species	x2 =
2. Schedonorus a	rundinaceus	20%	Yes	FACU	FAC species 10%	x3 = 0.3
Juncus tenuis     4.		10%	No	FAC	FACU species 20% UPL species	x4 = 0.8 x5 =
5.					Column Totals: 1.00	(A) 1.8 (B)
6.						
7					Prevalence Index =	B/A = 1.80
8.						
9. 10.					Hydrophytic Vegetation Inc	licators:
					,uop,uo rogomino	
12.					1-Rapid Test for Hy	drophytic Vegetation
13					2-Dominance Test is	
					X 3-Prevalence Index	is ≤3.0° aptations¹ (Provide supporting
15. 16						on a separate sheet)
17.						phytic Vegetation <sup>1</sup> (Explain)
18.					I. —	
19					<sup>1</sup> Indicators of hydric soil and	:
20		100%	Total Cover		be present, unless disturbed	or problematic.
		100%	= Total Cover			
Woody Vine Stratur	m (Plot size: 30' radius )				Hydrophytic	
					Vegetation	
2.					Present? Yes	X No
			= Total Cover			
Remarks: (Include	photo numbers here or on a separate she	eet )			1	
(molude	F	/				
L						
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F-28

SOIL Sampling Point: SP-B1

Profile Desc Depth	ription: (Describe to Matrix	o the depth needed		e indicator or c edox Features	onfirm the a	bsence of	indicators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-20	10YR 4/2	95	5YR 3/1	5		M	SiL	Distinct mottles		
								_		
								_		
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion. RM=Reduce	d Matrix. CS=Cove	ered or Coated S	Sand Grains.	<sup>2</sup> Location	on: PL=Pore L	Lining, M=Matrix.		
Hydric Soil I		,						olematic Hydric Soils <sup>3</sup> :		
Histoso	I (A1)		Sandy Gle	yed Matrix (S4)			Coast	Prairie Redox (A16)		
Histic E	pipedon (A2)		Sandy Red	dox (S5)			Iron-Ma	anganese Masses (F12)		
	listic (A3)		Stripped M					urface (S7)		
	en Sulfide (A4)			cky Mineral (F1	-			nallow Dark Surface (TF12)		
	d Layers (A5)			eyed Matrix (F2)	)		Other (	Explain in Remarks)		
	uck (A10) d Below Dark Surfac	o (A11)	X Depleted N	rk Surface (F6)						
	ark Surface (A12)	e (ATT)		Dark Surface (F6)	7)		3Indicators of	hydrophytic vegetation and		
	Mucky Mineral (S1)			pressions (F8)	')		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,			
	ucky Peat or Peat (S	3)		( -,			unless disturbed or problematic.			
Restrictive L	ayer (if observed):									
Type:	ayor (ii oboor rou).									
Depth (i	nches):					Hydric	Soil Present?	Yes X No		
HVDDOL	201									
HYDROL										
-	rology Indicators:	an in required, abou	k all that apply				Casand	land Indicators (minimum of two required)		
	ators (minimum of or Water (A1)	ne is required: chec		ined Leaves (B	0)			lary Indicators (minimum of two required) urface Soil Cracks (B6)		
	ater Table (A2)		Aquatic Fa	-	9)			rainage Patterns (B10)		
X Saturat				tic Plants (B14)	)			ry-Season Water Table (C2)		
	Marks (B1)			Sulfide Odor (C				rayfish Burrows (C8)		
Sedime	nt Deposits (B2)		Oxidized F	Rhizospheres or	n Living Root	s (C3)	s	aturation Visible on Aerial Imagery (C9)		
Drift Deposits (B3)				of Reduced Iror			Stunted or Stressed Plants (D1)			
<u> </u>	at or Crust (B4)			n Reduction in	Tilled Soils (		eomorphic Position (D2)			
	posits (B5)	I (DZ)	Thin Muck Surface (C7)  Gauge or Well Data (D9)  FAC-Neutral Test (D5)							
	ion Visible on Aerial y Vegetated Concav			olain in Remarks	e)					
		e danace (Bo)		nam in Remark	J					
Field Observ		V V N-	Danilla Caraba	\- 0.0						
Surface Wat Water Table		Yes X No Yes No X	Depth (inche Depth (inche	· — —						
Saturation P		Yes X No	Depth (inche	· — —	Wetland	Hydrolog	y Present?	Yes X No		
(includes car		103 <u>X</u> 110	_ Depart (mone	55).	Welland	rryurolog	y i resent.	163 <u>X</u> NO		
	corded Data (stream	gauge, monitoring v	well, aerial photos,	previous inspe	ctions), if ava	ilable:				
Remarks:										
	present due to recer	nt significant rainfall	event (8/29/17).							
		<u> </u>	(, )-							

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#### WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)	City/County:	Allen County	Sampling Date: <u>8/30/2017</u>		
Applicant/Owner:	INDOT			Sampling Point: SP-B2		
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12; To	ownship 30N; Range 11E
Landform (hillslope	, terrace, etc.): Hillslope			Local r	elief (concave, convex, none):	None
Slope (%):	5% Lat: 41.075271		Long:		-85.22983	Datum: NAD 83
Soil Map Unit Name	e: Blount silt loam (BmA)				NWI classi	ification: None
Are climatic / hydro	ologic conditions on the site typical for this time of	f year?	Yes	X No	(If no, explain in Remark	s.)
Are Vegetation	No , Soil No , or Hydrology No	significantly d	isturbed?	Are "No	ormal Circumstances" present?	Yes X No
Are Vegetation	No , Soil No , or Hydrology No	naturally prob	lematic?	(If need	led, explain any answers in Rer	marks.)
SUMMARY OF	FINDINGS Attach site map showi	ng sampling	g point loca	itions, trai	nsects, important featu	res, etc.
Hydrophytic Vegeta	ation Present? Yes	No X	Is the	Sampled Are	ea	
Hydric Soil Present	? Yes	No X		a Wetland?	Yes	No X
Wetland Hydrology	Present? Yes	No X				
Remarks:						
Wetland B upland s	sampling point.					
VEGETATION						
VEGETATION	Use scientific names of plants.	Absolute	Dominant	Indicator	I	
Tree Stratum (Plot	size: 30' radius )	% Cover	Species?	Status	Dominance Test workshee	t:
1.	<u>oo idado</u> ,	70 0010.	ороског.	Otatas		-
2.					Number of Dominant Species	s
3.					That Are OBL, FACW, or FA	C: 0 (A)
4						
5			Total Cause		Total Number of Dominant	4 (D)
			= Total Cover		Species Across All Strata:	1 (B)
Sapling/Shrub Stra	tum (Plot size: 15' radius )				Percent of Dominant Species	3
1.					That Are OBL, FACW, or FA	
2.						
3.						
4					Prevalence Index workshee	t:
5			Total Cayor		Total 9/ Cover of:	Multiply by
Herb Stratum (Plot	t size: 5' radius )		= Total Cover		Total % Cover of: OBL species	Multiply by: x1 =
Schedonorus a		80%	Yes	FACU	FACW species	x2 =
2. Daucus carota		10%	No	UPL	FAC species	x3 =
3. Lotus cornicula	atus	10%	No	FACU	FACU species 90%	x4 = 3.6
4					UPL species 10%	x5 = 0.5
5					Column Totals: 1.00	(A) 4.1 (B)
6. 7.					Prevalence Index =	B/A = 4.10
8.					1 Tevalence macx =	B/A = 4.10
9.						
10.					Hydrophytic Vegetation Inc	dicators:
11						
12.					1-Rapid Test for Hyd	
13. 14.					2-Dominance Test is 3-Prevalence Index	
15.						aptations <sup>1</sup> (Provide supporting
16.						on a separate sheet)
17.					Problematic Hydrop	phytic Vegetation <sup>1</sup> (Explain)
18.					I. —	
19.					<sup>1</sup> Indicators of hydric soil and	·
20.			<del></del>		be present, unless disturbed	or problematic.
		100%	= Total Cover			
Woody Vine Stratu	m (Plot size: 30' radius )				Hydrophytic	
1.	<u> </u>				Vegetation	
2.					_	No X
			= Total Cover			
Remarks: (Include	photo numbers here or on a separate sheet.)					
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SOIL Sampling Point: SP-B2

Profile Desc Depth	cription: (Describe t Matrix	o the depth need	ded to document the i	<b>ndicator or c</b> dox Features	onfirm the a	absence of in	dicators.)			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remark	<b>(</b> 6	
(IIICHES)	Color (moist)		Color (Illoist)	70	Турс	LUC	Texture	Remain	72	
	1									
				-						
				. <del></del>						
<sup>1</sup> Type: C=0 Hydric Soil		letion, RM=Redu	ced Matrix, CS=Covere	ed or Coated	Sand Grains		PL=Pore Lining	g, M=Matrix. atic Hydric Soils <sup>3</sup> :		
•			Condu Clau	ad Martinic (CA)		muicaic		•		
Histos				ed Matrix (S4)		_		ie Redox (A16)		
	Epipedon (A2)		Sandy Redo		_	Iron-Manganese Masses (F12)				
	Histic (A3)		Stripped Matrix (S6)				Dark Surface (S7)			
	gen Sulfide (A4)			ky Mineral (F1	-	_		w Dark Surface (TF1	12)	
	ed Layers (A5)		Loamy Gley	ed Matrix (F2)	)		Other (Expl	ain in Remarks)		
2 cm N	/luck (A10)		Depleted Ma	atrix (F3)						
Deplet	ed Below Dark Surfac	ce (A11)	Redox Dark	Surface (F6)						
Thick I	Dark Surface (A12)		Depleted Da	ark Surface (F	7)	3 <sub> </sub>	Indicators of hyd	rophytic vegetation	and	
Sandy	Mucky Mineral (S1)		Redox Depr	essions (F8)			wetland hydro	logy must be preser	nt,	
5 cm N	Mucky Peat or Peat (S	3)					unless disturbed or problematic.			
Restrictive	Layer (if observed):									
	Gravel and rip rap									
	(inches):	0				Hydric So	il Present?	Yes	No X	
HYDROL										
-	drology Indicators: cators (minimum of o	no is roquirod: ch	ock all that apply)				Socondary	ndicators (minimum	of two required	
	`	ne is required. Cit		ad Lagyas (B)	0)			`	or two required	
	e Water (A1)			ed Leaves (B	9)			ce Soil Cracks (B6)		
	Vater Table (A2)		Aquatic Fauna (B13)				Drainage Patterns (B10)			
	tion (A3)		True Aquatic Plants (B14)				Dry-Season Water Table (C2)			
Water	Marks (B1)		Hydrogen S	ulfide Odor (C	:1)		Crayfi	sh Burrows (C8)		
	ent Deposits (B2)		Oxidized Rh	izospheres or	n Living Roo	ts (C3)		ation Visible on Aeria		
Drift D	eposits (B3)		Presence of	Reduced Iron	n (C4)		Stunte	ed or Stressed Plant	s (D1)	
Algal Mat or Crust (B4)			Recent Iron Reduction in Tilled Soils (C6)				Geom	orphic Position (D2)	)	
Iron De	eposits (B5)		Thin Muck S	Surface (C7)			FAC-N	Neutral Test (D5)		
 Inunda	ition Visible on Aerial	Imagery (B7)	Gauge or W	ell Data (D9)						
Sparse	ely Vegetated Concav	e Surface (B8)	Other (Expla	ain in Remark	s)					
Field Obser	vations:									
Surface Wa	ter Present?	Yes No	X Depth (inches	):						
Water Table		Yes No								
Saturation F		Yes No			Wotland	d Hydrology I	Procent?	Yes	No X	
		16310_	X Deptil (illolles	·)·	Wetland	i riyarology i	resent:	163	_ 10	
•	pillary fringe)	gauga manitarin	ng well, aerial photos, p	rovious incos	otions) if over	ailabla:				
Describe Re	ecorded Data (Stream	gauge, monitorii	ig weii, aeriai priotos, p	revious irispe	ctions), ii av	aliable.				
Remarks:										

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Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	y ;	Sampling Date: <u>8/30/2017</u>
Applicant/Owner:	INDOT	-			State: IN S	Sampling Point: SP-C1
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12; Tow	nship 30N; Range 11E
Landform (hillslope	, terrace, etc.): Drainage swale			Local r	relief (concave, convex, none): C	oncave
Slope (%):	0% Lat: 41.077852		Long:		-85.228176	Datum: NAD 83
Soil Map Unit Name			'		NWI classific	ation: None
Are climatic / hydro	logic conditions on the site typical for this time of	year?	Yes	X No	(If no, explain in Remarks.	)
Are Vegetation	No , Soil No , or Hydrology No	significantly d	_		ormal Circumstances" present?	Yes X No
Are Vegetation	No , Soil No , or Hydrology No	naturally prob	lematic?	(If need	led, explain any answers in Rema	arks.)
SUMMARY OF	FINDINGS Attach site map showing	ng sampling	g point loca	tions, tra	nsects, important feature	s, etc.
Hydrophytic Vegeta		lo		Sampled Are		
Hydric Soil Present		No		a Wetland?	Yes X	No
Wetland Hydrology	Present? Yes X	lo				
Remarks: Wetland C sampling	g point (PEM1A). The wetland was contained ent	tirely within Roa	adside Ditch 3.			
VEGETATION	Use scientific names of plants.					
T 01 (5)	aire and the second	Absolute	Dominant	Indicator		
Tree Stratum (Plot 1.	<del></del> '	% Cover	Species?	Status	Dominance Test worksheet:	
					Number of Dominant Species	
		-			That Are OBL, FACW, or FAC:	2 (A)
5					Total Number of Dominant	
			= Total Cover		Species Across All Strata:	(B)
Sapling/Shrub Strat	tum (Plot size: 15' radius )				Percent of Dominant Species	
1.	(1 lot 0.20. 10 laddo )				That Are OBL, FACW, or FAC:	67% (A/B)
2.						` ,
3.						
4					Prevalence Index worksheet:	
o			= Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot	size: 5' radius )		- 10tai 00voi		OBL species 40%	x1 = 0.4
1. Juncus tenuis		30%	Yes	FAC	FACW species	x2 =
	s tabernaemontani	30%	Yes	OBL	FAC species 35%	x3 = 1.05
3. Schedonorus a		20%	Yes	FACU	FACU species 25%	x4 =1
<ol> <li>Typha angustif</li> <li>Poa pratensis</li> </ol>	olia	10% 5%	No No	OBL FAC	UPL species Column Totals: 1.00	x5 =  (B)
6. Dipsacus fullon	num	5%	No	FACU	- 1.00	(1)(1)
7.					Prevalence Index = B/	'A = 2.45
8						
9					Hadran bada Wanatadan India	-1
10.					Hydrophytic Vegetation Indic	ators:
12.					1-Rapid Test for Hydro	ophytic Vegetation
13.					X 2-Dominance Test is >	•50%
14					X 3-Prevalence Index is	
15.						tations <sup>1</sup> (Provide supporting
17					data in Remarks or or	rtic Vegetation <sup>1</sup> (Explain)
18.						, as regeration (Explain)
19.					<sup>1</sup> Indicators of hydric soil and we	etland hydrology must
20.					be present, unless disturbed or	problematic.
		100%	= Total Cover			
Woody Vine Stratu	m (Plot size: 30' radius )				Hydrophytic	
	iii (Fiot size. <u>50 faulus</u> )				Vegetation	
2.					1 -	X No
			= Total Cover		_	<del></del>
Remarks: (Include	photo numbers here or on a separate sheet.)					
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**SOIL** Sampling Point: SP-C1

Depth (inches)         Matrix           0-6         10YR 4/2           6-20         10YR 4/2           10YR 3/2	%	Po				ndicators.)	
0-6 10YR 4/2 6-20 10YR 4/2	%	ING.	dox Features				
6-20 10YR 4/2		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	95	10YR 3/6	5	С	PL	SiL	Prominent mottles
10YR 3/2	60	10YR 3/6	20	C	PL	SiL	Prominent mottles
	20						
			· ——				
1Towns O. Ossanstadios D. Donla	Car DM Dad			010	21 13	DI Daniel	tata a M Malata
<sup>1</sup> Type: C=Concentration, D=Deple Hydric Soil Indicators:	tion, RIVI=Reau	iced Matrix, CS=Covere	ed or Coated	Sand Grains			ining, M=Matrix.
		Sandy Clay	od Matrix (CA)	`	mulcat		elematic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Redo	ed Matrix (S4)	)	-		Prairie Redox (A16)
Histic Epipedon (A2)					-		anganese Masses (F12)
Black Histic (A3)  X Hydrogen Sulfide (A4)		Stripped Ma	` ,	1)	-		urface (S7)
			ky Mineral (F1	-	-		nallow Dark Surface (TF12)
Stratified Layers (A5)			ed Matrix (F2	.)	-	Other (	Explain in Remarks)
2 cm Muck (A10)	(A11)	X Depleted Ma					
Depleted Below Dark Surface Thick Dark Surface (A12)	(411)		Surface (F6) ork Surface (F		;	Indicators =	hydrophytic vegetation and
Sandy Mucky Mineral (S1)			essions (F8)	-7)			ydrology must be present,
5 cm Mucky Peat or Peat (S3)	,	Redox Depi	essions (Fo)				
	,					uilless	disturbed or problematic.
Restrictive Layer (if observed):							
Type:							
Depth (inches):					Hydric So	oil Present?	Yes X No
HYDROLOGY							
Wetland Hydrology Indicators:	s in required, at	and all that apply				Casand	any ladicators (minimum of two required)
Primary Indicators (minimum of one	is required. Cr		ad Lagyas (D	20)			ary Indicators (minimum of two required)
X Surface Water (A1) High Water Table (A2)		Aquatic Fau	ed Leaves (B	99)			urface Soil Cracks (B6) rainage Patterns (B10)
			Plants (B14	1			ry-Season Water Table (C2)
			ulfide Odor (C	•			* /
X Saturation (A3)							roufich Durrouge (CO)
Water Marks (B1)			izaenharae a		tc (C3)		rayfish Burrows (C8)
Water Marks (B1) Sediment Deposits (B2)			-	n Living Roo	ts (C3)	s	aturation Visible on Aerial Imagery (C9)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		Presence of	Reduced Iro	n Living Roo n (C4)		s	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		Presence of Recent Iron	Reduced Iron Reduction in	n Living Roo n (C4)		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	nageny (R7)	Presence of Recent Iron Thin Muck S	Reduced Iron Reduction in Surface (C7)	n Living Roo n (C4) Tilled Soils (		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In		Presence of Recent Iron Thin Muck S Gauge or W	Reduced Iron Reduction in Surface (C7) ell Data (D9)	n Living Roo n (C4) Tilled Soils (		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave		Presence of Recent Iron Thin Muck S Gauge or W	Reduced Iron Reduction in Surface (C7)	n Living Roo n (C4) Tilled Soils (		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave	Surface (B8)	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark	n Living Roo n (C4) Tilled Soils (		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present?	Surface (B8)  Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iroi Reduction in Surface (C7) ell Data (D9) ain in Remark	n Living Roo n (C4) Tilled Soils (		S S X G	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present?	Surface (B8)  Yes X No Yes No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla  Depth (inches	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ):  0.2	n Living Roo n (C4) Tilled Soils (	C6)	S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Surface (B8)  Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla  Depth (inches	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ):  0.2	n Living Roo n (C4) Tilled Soils (		S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes X No Yes No Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ): 0.2 ): 4	n Living Roo n (C4) Tilled Soils ( ss)	C6)	S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present?	Yes X No Yes No Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ): 0.2 ): 4	n Living Roo n (C4) Tilled Soils ( ss)	C6)	S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes X No Yes No Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ): 0.2 ): 4	n Living Roo n (C4) Tilled Soils ( ss)	C6)	S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes X No Yes No Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Surface (C7) ell Data (D9) ain in Remark  ): 0.2 ): 4	n Living Roo n (C4) Tilled Soils ( ss)	C6)	S S X _ G F.	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial In Sparsely Vegetated Concave  Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)  Describe Recorded Data (stream g	Surface (B8)  Yes X No Yes No Yes X No Yes X No	Presence of Recent Iron Thin Muck S Gauge or W Other (Expla	Reduced Iron Reduction in Gurface (C7) ell Data (D9) sin in Remark  ): 0.2 ): 4  revious inspe	wetland	d Hydrology ailable:	S S S S S S S S S S S S S S S S S S S	aturation Visible on Aerial Imagery (C9) tunted or Stressed Plants (D1) eomorphic Position (D2) AC-Neutral Test (D5)

Project/Site:	I-69 and S.R. 14 (	(Des. No. 1401828)		City/County:	Allen County	<b>y</b>	Sai	mpling Date	: 8/30/2	017
Applicant/Owner:	INDOT					State: IN	Sar	npling Point	t: SP-C2	2
Investigator(s):	Josh Myers and R	Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12	; Towns	hip 30N; Ra	ange 11I	
Landform (hillslope	, terrace, etc.): H	illslope			Local r	elief (concave, convex, non	e): Non	е		
Slope (%):1	15% Lat:	41.0778	59	Long:	-	85.228193		Datum: NAI	D 83	
Soil Map Unit Name	e: Blount silt	loam (BmA)	_			NWI cla	assificati	on: Nor	ne	
Are climatic / hydro	logic conditions on t	the site typical for this tin	ne of year?	Yes	X No	(If no, explain in Rem	arks.)			
Are Vegetation	No , Soil	No , or Hydrology	No significantly d	_		ormal Circumstances" prese		Yes X	No	
Are Vegetation	No , Soil	No , or Hydrology	No naturally prob	lematic?	(If need	ed, explain any answers in	Remark			
SUMMARY OF	FINDINGS A	ttach site map sh	owing sampling	g point loca	tions, trai	nsects, important fea	tures,	etc.		
Hydrophytic Vegeta		Yes			Sampled Are		-			
Hydric Soil Present	?	Yes		within	a Wetland?	Yes_		No	Χ	
Wetland Hydrology	Present?	Yes	No X							
Remarks: Wetland C upland s	sampling point.									
VEGETATION	Use scientifi	c names of plants	•			_				
T 0: (D)		,	Absolute	Dominant	Indicator					
Tree Stratum (Plot 1.		<del></del> -	% Cover	Species?	Status	Dominance Test worksh	neet:			
						Number of Dominant Spe	cies			
3.						That Are OBL, FACW, or		0		(A)
4.							-			_
5						Total Number of Dominar				<b>(D)</b>
				= Total Cover		Species Across All Strata		2		_(B)
Sapling/Shrub Strat	tum (Plot size: 15	5' radius)				Percent of Dominant Spe That Are OBL, FACW, or		0%	, D	(A/B)
2.							•			- ` ′
3.										
4						Prevalence Index works	neet:			
5				= Total Cover		Total % Cover of:		Multi	ply by:	
Herb Stratum (Plot	size: 5' radius	)				OBL species		x1 =	F-7 -7-	
1. Dipsacus fullon	num		60%	Yes	FACU	FACW species		x2 =		
2. Schedonorus a	rundinaceus		25%	Yes	FACU	FAC species		x3 =		
<ol> <li>Juglans nigra</li> <li>4.</li> </ol>			5%	No	FACU	FACU species 90 UPL species	)%	x4 = x5 =	3.6	
5.						Column Totals: 0.	90	(A)	3.6	(B)
6.								` ′		` ′
7.						Prevalence Inde	x = B/A :	= 4	.00	
8.										
9. 10.						Hydrophytic Vegetation	Indicat	ore:		
11.						Trydrophytic vegetation	mulcat	ors.		
12.						1-Rapid Test for	Hydroph	nytic Vegeta	ition	
13.						2-Dominance Te				
14						3-Prevalence Inc				
15 16.						data in Remarks	-			Jillig
17.						Problematic Hyd				in)
18.								_		
19.						<sup>1</sup> Indicators of hydric soil a	nd wetla	nd hydrolog	gy must	
20						be present, unless disturb	ed or pr	oblematic.		
			90%	= Total Cover						
Woody Vine Stratu		0' radius )				Hydrophytic Vegetation				
2.						_	es_	No X	_	
				= Total Cover						
Demodes (f. 1.)	abata some					1				
remarks: (Include	prioto numbers her	re or on a separate shee	ri.)							
US Army Corps o	f Engineers							Midwest Re	egion ve	rsion 2.0

SOIL Sampling Point: SP-C2

Depth	Matrix		Re	dox Features						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Re	emarks	
, ,										
				· ——						
Type: C=Cor	ncentration, D=Deple	etion, RM=Rec	luced Matrix, CS=Covere	ed or Coated S	Sand Grains			ining, M=Matrix.		
ydric Soil Ind						Indica		lematic Hydric So		
Histosol (				ed Matrix (S4)				Prairie Redox (A16)	•	
	ipedon (A2)		Sandy Redo					anganese Masses	(F12)	
Black His			Stripped Ma					urface (S7)		
	n Sulfide (A4)			ky Mineral (F1	-			nallow Dark Surface		
	Layers (A5)			ed Matrix (F2)	)		Other (	Explain in Remarks	s)	
2 cm Mu			Depleted Ma	. ,						
	Below Dark Surface	(A11)		Surface (F6)			2			
	rk Surface (A12)			rk Surface (F	7)			f hydrophytic vegeta		
	ucky Mineral (S1)		Redox Depr	essions (F8)			· · · · · · · · · · · · · · · · · · ·	ydrology must be p		
5 cm Mud	cky Peat or Peat (S3	)					unless	disturbed or problei	matic.	
estrictive La	yer (if observed):									
Type: Gr	ravel		_							
									NI.	
ould not dig po	oint due to presence	of gravel. Mul	tiple attempts were made	e to dig, but g	ravel was co		Soil Present?	Yes	No _	X
emarks: build not dig po	oint due to presence		tiple attempts were made	e to dig, but g	ravel was co			Yes	NO_	X
emarks: ould not dig po YDROLO etland Hydro	oint due to presence	of gravel. Mul		e to dig, but gi	ravel was co		encountered.			
marks: uld not dig po  YDROLO etland Hydrorimary Indica	oint due to presence  GY  ology Indicators:  ators (minimum of one	of gravel. Mul	check all that apply)				encountered.	lary Indicators (mini	imum of two re	
YDROLO etland Hydro rimary Indica Surface V	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1)	of gravel. Mul	check all that apply)  Water-Stain	ed Leaves (B			encountered.  Second	lary Indicators (mini urface Soil Cracks	imum of two red	
YDROLO etland Hydro rimary Indica Surface \ High Wat	oint due to presence  OGY  ology Indicators:  stors (minimum of one Water (A1) ter Table (A2)	of gravel. Mul	check all that apply)  —— Water-Stain —— Aquatic Fau	ed Leaves (B9	9)		Second D	lary Indicators (mini urface Soil Cracks rainage Patterns (E	imum of two red (B6) 310)	
YDROLO  etland Hydrorimary Indica Surface V High Wat Saturatio	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic	ed Leaves (Bs na (B13) c Plants (B14)	9)		Second Sr	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T	imum of two red (B6) 310) Table (C2)	
YDROLO Vetland Hydro Frimary Indica Surface V High Wat Saturatio Water Ma	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatit Hydrogen S	ed Leaves (B9 na (B13) c Plants (B14) ulfide Odor (C	9)	nsistently e	Second Solution Do C	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ct	imum of two red (B6) 310) (able (C2)	quire
YDROLO Vetland Hydro Frimary Indica Surface V High Wat Saturatio Water Ma Sediment	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh	ed Leaves (Bs na (B13) c Plants (B14) ulfide Odor (C izospheres or	9) :1) n Living Roo	nsistently e	Second Signal Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ct aturation Visible on	imum of two red (B6) 310) Table (C2) 8)	quire
YDROLO Vetland Hydro rimary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Dep	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatit Hydrogen S Oxidized Rh	ed Leaves (B9 na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror	9) 1:1) n Living Root	nsistently e	Second Signature	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed	imum of two red (B6) 310) Table (C2) 8) A Aerial Imageny Plants (D1)	quire
YDROLO Vetland Hydro Primary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Dep	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron	ed Leaves (B9) na (B13) c Plants (B14) ulfide Odor (C) izospheres or Reduced Iror	9) 1:1) n Living Root	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO Yetland Hydro Saturatio Water Ma Sediment Drift Depo Algal Mat	oint due to presence  OGY  ology Indicators: stors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4) oosits (B5)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S	ed Leaves (Bs na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Surface (C7)	9) 1:1) n Living Root	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO  etland Hydro rimary Indica  Surface V  High Water Ma  Sediment  Drift Dept  Algal Mat  Iron Depot  Inundatio	oint due to presence  OGY  ology Indicators: stors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4) oosits (B5) on Visible on Aerial In	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W	ed Leaves (Bona (B13)) c Plants (B14) ulfide Odor (Coizospheres or Reduced Iror Reduction in Courface (C7) ell Data (D9)	9) h Living Root n (C4) Tilled Soils (	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO etland Hydro rimary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo Inundatio Sparsely	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) ot Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W	ed Leaves (Bs na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Surface (C7)	9) h Living Root n (C4) Tilled Soils (	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO  YDROLO  Yetland Hydro  rimary Indica  Surface V  High War  Saturatio  Water Ma  Sedimen  Drift Dep  Algal Mar  Iron Depo  Inundatio  Sparsely  eld Observa	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) rosits (B3) at or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave	of gravel. Mul	Check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves (B9) na (B13) c Plants (B14) ulfide Odor (C) izospheres or Reduced Iror Reduction in Curface (C7) ell Data (D9) nin in Remarks	9) h Living Root n (C4) Tilled Soils (	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO  Yetland Hydro  Primary Indica Surface V High Wat Saturatio Water Ma Sediment Drift Depr Algal Mat Iron Depo Inundatio Sparsely  ield Observa	oint due to presence  OGY  ology Indicators: stors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) sosits (B3) tt or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave	of gravel. Mul	Check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves (B9 na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Surface (C7) ell Data (D9) nin in Remarks	9) h Living Root n (C4) Tilled Soils (	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	quire
YDROLO  YDROLO  Yetland Hydro  Primary Indica  Surface V High Wat  Saturatio  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely  ield Observa  Vater Table P	oint due to presence  OGY  ology Indicators: stors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) oosits (B3) tt or Crust (B4) oosits (B5) on Visible on Aerial In Vegetated Concave  stions: r Present?	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves (Bs na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Surface (C7) ell Data (D9) ain in Remarks	9) i:1) n Living Rooi n (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire
YDROLO  Vetland Hydro  Primary Indica  Surface V High Wat  Saturatio  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely  Seld Observa  Surface Water  Vater Table P  Saturation Pre	oint due to presence  OGY  ology Indicators: stors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) sosits (B3) tt or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  on tions: r Present? Present?	of gravel. Mul	Check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves (Bs na (B13) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Surface (C7) ell Data (D9) ain in Remarks	9) i:1) n Living Rooi n (C4) Tilled Soils (	nsistently e	Second Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ci aturation Visible on tunted or Stressed leomorphic Position	imum of two red (B6) 310) Table (C2) 8) 1 Aerial Imagery Plants (D1)	•
YDROLO  Vetland Hydro  Frimary Indica  Surface V High Wat  Saturatio  Water Ma  Sediment  Drift Depo  Inundatio  Sparsely  Seld Observa  Surface Water  Vater Table P  Saturation Pre  Includes capil	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  attors: r Present? Present? esent? llary fringe)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain X Depth (inches	ed Leaves (Bena (B13)) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Gurface (C7) ell Data (D9) ain in Remarks ):	9) in Living Roof in (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire
YDROLO  /etland Hydro Primary Indica Surface N High Wat Saturatio Water Ma Sediment Drift Depo Inundatio Sparsely  ield Observa Surface Water Vater Table P Saturation Presincludes capil	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  attors: r Present? Present? esent? llary fringe)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain	ed Leaves (Bena (B13)) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Gurface (C7) ell Data (D9) ain in Remarks ):	9) in Living Roof in (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire
YDROLO  Vetland Hydro  Vetland Hydro  Vetland Hydro  Vetland Hydro  Vetland Hydro  Surface N  High Wat  Saturatio  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely  Vetla Observa  Vetlater Table P  Vetlaturation Pre  Includes capil	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  attors: r Present? Present? esent? llary fringe)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain X Depth (inches	ed Leaves (Bena (B13)) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Gurface (C7) ell Data (D9) ain in Remarks ):	9) in Living Roof in (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire
YDROLO  Vetland Hydro  Vetland Hydro  Vetland Hydro  Vetland Hydro  Vetland Hydro  Surface N  High Wat  Saturatio  Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Inundatio  Sparsely  Vetla Observa  Vetlater Table P  Vetlaturation Pre  Includes capil	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  attors: r Present? Present? esent? llary fringe)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain X Depth (inches	ed Leaves (Bena (B13)) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Gurface (C7) ell Data (D9) ain in Remarks ):	9) in Living Roof in (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire
YDROLO  Vetland Hydro  Irimary Indica Surface V High Wat Saturatio Water Ma Sedimen Drift Dep Algal Mat Iron Depo Inundatio Sparsely  Vetled Observa Surface Water Vater Table P Saturation Pre Includes capil Describe Reco	oint due to presence  OGY  ology Indicators: ators (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave  attors: r Present? Present? esent? llary fringe)	of gravel. Mul	check all that apply)  Water-Stain Aquatic Fau True Aquatic Hydrogen S Oxidized Rh Presence of Recent Iron Thin Muck S Gauge or W Other (Explain X Depth (inches	ed Leaves (Bena (B13)) c Plants (B14) ulfide Odor (C izospheres or Reduced Iror Reduction in Gurface (C7) ell Data (D9) ain in Remarks ):	9) in Living Roof in (C4) Tilled Soils (	nsistently e	Second Signature Second Signature Si	lary Indicators (mini urface Soil Cracks rainage Patterns (E ry-Season Water T rayfish Burrows (Ca aturation Visible on tunted or Stressed deomorphic Positior AC-Neutral Test (D	imum of two red (B6) 310) Table (C2) 8) In Aerial Imagery Plants (D1) In (D2)	quire

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	у	Sampling Date: <u>8/30/2017</u>
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-D1
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	ip, Range: Section 1 and 12; To	ownship 30N; Range 11E
Landform (hillslope	terrace, etc.): Swale			Local	relief (concave, convex, none):	Concave
Slope (%):	5% Lat: 41.07	6446	Long:		-85.228317	Datum: NAD 83
Soil Map Unit Name					NWI class	ification: None
Are climatic / hydrol	logic conditions on the site typical for this	s time of year?	Yes	X No	(If no, explain in Remark	es.)
Are Vegetation	No , Soil No , or Hydrology	No significantly d	_		ormal Circumstances" present?	
Are Vegetation	No , Soil No , or Hydrology			(If need	ded, explain any answers in Re	
SUMMARY OF	FINDINGS Attach site map	showing sampling	g point loca	tions, tra	nsects, important featu	res, etc.
Hydrophytic Vegeta				Sampled Ar		
Hydric Soil Present		No		a Wetland?		K No
Wetland Hydrology	·					_
Remarks: Wetland D samplin						
VEGETATION	Use scientific names of plan				т	
Tree Stratum (Plot	size: 30' radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test workshee	<b>4</b> •
1			Species?	Status	Dominance rest workshee	ı.
					Number of Dominant Specie	S
					That Are OBL, FACW, or FA	C:(A)
4						
5			= Total Cover		Total Number of Dominant	1 (B)
			= Total Cover		Species Across All Strata:	1 (B)
Sapling/Shrub Strat	tum (Plot size: 15' radius )				Percent of Dominant Species That Are OBL, FACW, or FA	
2.						
3.						
4					Prevalence Index workshee	et:
5			= Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot	size: 5' radius )		- Total Cover		OBL species 10%	x1 = 0.1
1. Juncus tenuis	· · · · · · · · · · · · · · · · · · ·	75%	Yes	FAC	FACW species	x2 =
2. Typha angustife	olia	10%	No	OBL	FAC species 85%	x3 = 2.55
3. Poa pratensis		10%	No No	FAC	FACU species 5%	x4 = 0.2
Schedonorus a     5.	rundinaceus	5%	No	FACU	UPL species Column Totals: 1.00	x5 =(A) 2.85 (B)
6.					1.00	(11)(11)
7.					Prevalence Index =	B/A = 2.85
8.						
9.						
10					Hydrophytic Vegetation Inc	licators:
12.					1-Rapid Test for Hy	drophytic Vegetation
13.					X 2-Dominance Test is	
					X 3-Prevalence Index	
15.						aptations <sup>1</sup> (Provide supporting
17				-		on a separate sheet) bhytic Vegetation <sup>1</sup> (Explain)
18.						my to regetation (Explain)
19.					<sup>1</sup> Indicators of hydric soil and	wetland hydrology must
20.					be present, unless disturbed	or problematic.
		100%	= Total Cover			
Woody Vine Stratur	m (Plot size: 30' radius )				Hydrophytic Vegetation	
					Present? Yes	X No
			= Total Cover			
Remarks: (Include	photo numbers here or on a separate sl	neet \				
Tremains. (Include	prioto numbers nere or on a separate si	iout.)				
US Army Corps o	f Engineers					Midwest Region version 2.0

**SOIL** Sampling Point: SP-D1

Drefile Desc	wintion: (Deceribe to	the double need	ded to decument the	indicator or o	anfirm tha	ahaanaa a	indicators \	
	cription: (Describe to	tne deptn need			onfirm the a	absence of	r indicators.)	
Depth	Matrix			dox Features	Tuno1	12	T	Demonto
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/1	100					SiCL	
4-20	10YR 5/1	90	10YR 5/8	10	С	M	SiCL	Distinct mottles
1=	)((' D. D	Con DM Dodg			0	21		Italian M Matrix
Hydric Soil	Concentration, D=Deple	tion, Rivi=Redu	ced Matrix, CS=Cover	ed or Coated	Sand Grains			Lining, M=Matrix.
-			Sandy Clay	rad Matrix (C4)		maic		bblematic Hydric Soils <sup>3</sup> :
Histoso	Epipedon (A2)		Sandy Gley	red Matrix (S4)	)			t Prairie Redox (A16) Vanganese Masses (F12)
								• •
	Histic (A3)		Stripped Ma		1)			Surface (S7)
	gen Sulfide (A4)			ky Mineral (F1	-			Shallow Dark Surface (TF12)
	ed Layers (A5)			/ed Matrix (F2)	)		Other	r (Explain in Remarks)
	fuck (A10)	(011)	X Depleted M					
	ed Below Dark Surface Dark Surface (A12)	(ATT)		Surface (F6)	7)		3Indicators	of hydrophytic vegetation and
	, ,			ark Surface (F	7)			
	Mucky Mineral (S1)		Redox Dep	ressions (F8)				hydrology must be present,
	flucky Peat or Peat (S3)	1					unies	s disturbed or problematic.
Restrictive I	Layer (if observed):							
Type:								
Depth (	inches):					Hydric	Soil Present	? Yes X No
HYDROL	OGY							
Wetland Hyd	drology Indicators:							
Primary Indi	cators (minimum of one	is required: ch	eck all that apply)				Secor	ndary Indicators (minimum of two required)
X Surface	e Water (A1)			ned Leaves (B	9)			Surface Soil Cracks (B6)
High W	/ater Table (A2)		Aquatic Fau	una (B13)				Drainage Patterns (B10)
X Saturat	tion (A3)			ic Plants (B14)				Dry-Season Water Table (C2)
	Marks (B1)			Sulfide Odor (C				Crayfish Burrows (C8)
	ent Deposits (B2)			nizospheres o	ū	ts (C3)		Saturation Visible on Aerial Imagery (C9)
	eposits (B3)		Presence o	f Reduced Iron	n (C4)			Stunted or Stressed Plants (D1)
	fat or Crust (B4)			Reduction in	Tilled Soils (	(C6)		Geomorphic Position (D2)
	eposits (B5)			Surface (C7)				FAC-Neutral Test (D5)
	tion Visible on Aerial In			/ell Data (D9)				
Sparse	ely Vegetated Concave	Surface (B8)	Other (Expl	ain in Remark	s)			
Field Observ	vations:							
Surface Wat	ter Present?	Yes X No	Depth (inches	s): 0.2				
Water Table	Present?	Yes No	X Depth (inches	s):				
Saturation P	resent?	Yes X No			Wetland	d Hydrolog	y Present?	Yes X No
(includes ca	pillary fringe)						-	
Describe Re	ecorded Data (stream g	auge, monitorin	ig well, aerial photos, p	revious inspe	ctions), if av	ailable:		
	·		•	•				
Remarks:								
	•	significant rainf	all event (8/29/17). We	etland meets h	nydrology ind	dicator for g	eomorphic po	osition because this sampling point was
located within	n a drainageway.							

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	y	Sampling Date: 8/30/2017
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-D2
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12;	Township 30N; Range 11E
Landform (hillslope,	, terrace, etc.): Upland vegetatated field			Local r	elief (concave, convex, none)	: None
Slope (%):	0% Lat: 41.076429		Long:		-85.228407	Datum: NAD 83
Soil Map Unit Name	<u> </u>		-		NWI clas	sification: None
Are climatic / hydrol	logic conditions on the site typical for this time	of year?	Yes	X No	(If no, explain in Remai	rks.)
Are Vegetation	No , Soil No , or Hydrology N	o significantly o	_		ormal Circumstances" present	
Are Vegetation	No , Soil No , or Hydrology N				led, explain any answers in R	
=	FINDINGS Attach site map show					
Hydrophytic Vegeta				Sampled Are	-	00, 0101
Hydric Soil Present		No X		a Wetland?		No X
Wetland Hydrology		No X			_	
Remarks:		·				
Wetland D upland s	sampling point.					
VEGETATION	Use scientific names of plants.					
		Absolute	Dominant	Indicator		
Tree Stratum (Plot	size: 30' radius )	% Cover	Species?	Status	Dominance Test workshe	et:
					Normalization of Daminant Casai	
2. 3.		<u> </u>			Number of Dominant Speci That Are OBL, FACW, or FA	
_					matric obl, trow, or tr	10. <u>(//)</u>
5.					Total Number of Dominant	
·			= Total Cover		Species Across All Strata:	1 (B)
· -	tum (Plot size: 15' radius )				Percent of Dominant Specie	
1					That Are OBL, FACW, or FA	AC: 0% (A/B)
_						
4.					Prevalence Index workshe	et:
5.						
·			= Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot	•				OBL species	x1 =
Schedonorus a		90%	Yes	FACU	FACW species	x2 =
Daucus carota     3.		10%	No	UPL	FACILIANSIAS 00%	x3 = x4 =3.6
4.		<u> </u>			FACU species 90% UPL species 10%	
5.					Column Totals: 1.00	
6.						
7.					Prevalence Index :	= B/A = 4.10
8						
9.						
10. 11.					Hydrophytic Vegetation Ir	idicators:
12.					1-Rapid Test for H	ydrophytic Vegetation
13.					2-Dominance Test	
14.					3-Prevalence Inde	x is ≤3.0 <sup>1</sup>
15.					4-Morphological Ad	daptations <sup>1</sup> (Provide supporting
16						or on a separate sheet)
17					Problematic Hydro	ophytic Vegetation <sup>1</sup> (Explain)
18.					1 Indicators of hydric soil one	d watland budralagy must
19. 20.					<sup>1</sup> Indicators of hydric soil and be present, unless disturbe	·
20		100%	= Total Cover		be present, unless disturbe	a or problematic.
		.5070				
Woody Vine Stratur	m (Plot size: 30' radius )				Hydrophytic	
1					Vegetation	
2.					Present? Yes	s No_X
			= Total Cover			
Domortics (In al. 1	photo numbers have as a second of the				<u> </u>	
incinains. (iliciude	photo numbers here or on a separate sheet.)					

F-38

US Army Corps of Engineers

SOIL Sampling Point: SP-D2

0-20		%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	10YR 4/2	100					CL	
							' <u> </u>	
				_				
				_				
	annontration D. Danla	tion DM Dod	used Matrix CC Cove	rad ar Castad	Cond Crains	21 appti	en: DL Dere Lini	na M Matrix
	ndicators:	lion, Rivi=Reu	uced Matrix, CS=Cove	red or Coaled	Sand Grains		on: PL=Pore Lini	ng, w=watix. natic Hydric Soils³:
Histoso			Sandy Gle	yed Matrix (S4	)			irie Redox (A16)
	pipedon (A2)		Sandy Red		,			ganese Masses (F12)
_	istic (A3)		Stripped M				Dark Surfa	
Hydroge	en Sulfide (A4)			cky Mineral (F	1)		Very Shall	ow Dark Surface (TF12)
Stratifie	d Layers (A5)		Loamy Gle	yed Matrix (F2	2)		Other (Ex	plain in Remarks)
2 cm M	uck (A10)		Depleted N	Matrix (F3)				
Deplete	d Below Dark Surface	(A11)	Redox Dar	k Surface (F6)				
Thick D	ark Surface (A12)			Oark Surface (F	7)		<sup>3</sup> Indicators of hy	drophytic vegetation and
Sandy I	Mucky Mineral (S1)		Redox Dep	pressions (F8)			wetland hydr	ology must be present,
5 cm M	ucky Peat or Peat (S3)						unless dis	turbed or problematic.
strictive L	ayer (if observed):							
Type:			<u>.</u>					
Depth (ii	nches):					Hydric	Soil Present?	YesNo
YDROL (	OGY							
	DGY rology Indicators:							
etland Hyd		is required: c	heck all that apply)				Secondary	r Indicators (minimum of two require
etland Hyd rimary Indic	rology Indicators:	is required: c		ned Leaves (B	9)			r Indicators (minimum of two require ace Soil Cracks (B6)
etland Hyd rimary Indic Surface High W	rology Indicators: ators (minimum of one Water (A1) ater Table (A2)	is required: c	Water-Stai Aquatic Fa	una (B13)	,		Surf	ace Soil Cracks (B6) nage Patterns (B10)
etland Hyd rimary Indic Surface High W Saturati	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3)	is required: c	Water-Stai Aquatic Fa True Aqua	iuna (B13) tic Plants (B14	)		Surfa Drain Dry-	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2)
etland Hyd rimary Indic Surface High W Saturati Water N	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1)	s is required: c	Water-Stai Aquatic Fa True Aqua Hydrogen	iuna (B13) tic Plants (B14 Sulfide Odor (0	) C1)		Surfa Drait Dry- Cray	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8)
etland Hyd rimary Indic Surface High W Saturati Water M Sedime	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2)	s is required: c	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R	iuna (B13) tic Plants (B14 Sulfide Odor (C thizospheres o	.) C1) n Living Root	ts (C3)	Surf. Drail Dry- Cray	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9
Surface High W Saturati Water N Sedime Drift De	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	e is required: c	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R	una (B13) tic Plants (B14 Sulfide Odor (C Rhizospheres o of Reduced Iro	) C1) n Living Root n (C4)	,	Surf Drai Dry- Cray Satu	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	is required: c	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R Presence Recent Iro	una (B13) tic Plants (B14 Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in	) C1) n Living Root n (C4)	,	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R Presence Recent Iro Thin Muck	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7)	) C1) n Living Root n (C4)	,	Surf- Drail Dry- Cray Satu Sturn Geo	nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (CS ted or Stressed Plants (D1)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In	nagery (B7)	Water-Stai Aquatic Fa True Aqua Hydrogen S Oxidized R Presence G Recent Iro Thin Muck Gauge or N	tuna (B13) tic Plants (B14) Sulfide Odor (Canalisation of Reduced Iro n Reduction in Surface (C7) Well Data (D9)	c) C1) n Living Root n (C4) Tilled Soils (	,	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	nagery (B7)	Water-Stai Aquatic Fa True Aqua Hydrogen S Oxidized R Presence G Recent Iro Thin Muck Gauge or N	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7)	c) C1) n Living Root n (C4) Tilled Soils (	,	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave	nagery (B7) Surface (B8)	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R Presence Recent Iro Thin Muck Gauge or V Other (Exp	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro in Reduction in Surface (C7) Well Data (D9) slain in Remark	c) C1) n Living Root n (C4) Tilled Soils (	,	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water	ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present?	nagery (B7) Surface (B8) Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R Presence Recent Iro Thin Muck Gauge or V Other (Exp	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro in Reduction in Surface (C7) Well Data (D9) Islain in Remark	c) C1) n Living Root n (C4) Tilled Soils (	,	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ vater Table	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present?	nagery (B7) Surface (B8) Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or V Other (Exp	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro on Reduction in Surface (C7) Well Data (D9) plain in Remark es):	c) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water /ater Table aturation Pr	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present?	nagery (B7) Surface (B8) Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen Oxidized R Presence Recent Iro Thin Muck Gauge or V Other (Exp	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro on Reduction in Surface (C7) Well Data (D9) plain in Remark es):	c) C1) n Living Root n (C4) Tilled Soils (	C6)	Surf- Drail Dry- Cray Satu Sturn Geo	ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water /ater Table aturation Princludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or \ Other (Exp  X Depth (inche X Depth (inche	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9) ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water /ater Table aturation Princludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or V Other (Exp	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water /ater Table aturation Princludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or \ Other (Exp  X Depth (inche X Depth (inche	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water Table aturation Pr ncludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or \ Other (Exp  X Depth (inche X Depth (inche	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water /ater Table aturation Princludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or \ Other (Exp  X Depth (inche X Depth (inche	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
etland Hyd rimary Indic Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel eld Observ urface Water Table aturation Pr ncludes cap	rology Indicators: ators (minimum of one Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave ations: er Present? Present? esent?	nagery (B7) Surface (B8)  Yes No Yes No Yes No	Water-Stai Aquatic Fa True Aqua Hydrogen i Oxidized R Presence o Recent Iro Thin Muck Gauge or \ Other (Exp  X Depth (inche X Depth (inche	tuna (B13) tic Plants (B14) Sulfide Odor (C thizospheres o of Reduced Iro n Reduction in Surface (C7) Well Data (D9) plain in Remark es): es):	C1) C1) n Living Root n (C4) Tilled Soils (	C6)	Surfi Draii Dry- Cray Satu Stun Geo	ace Soil Cracks (B6) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C9 ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	у	Sampling Date: 8/30/2017
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-E1
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12; To	ownship 30N; Range 11E
Landform (hillslope,	, terrace, etc.): Roadside ditch			Local r	relief (concave, convex, none):	None
Slope (%):	0% Lat: 41.072983		Long:		-85.229296	Datum: NAD 83
Soil Map Unit Name	e: Glynwood silt loam (MrB2)				NWI classi	fication: None
Are climatic / hydrol	logic conditions on the site typical for this time of	of year?	Yes_	X No	(If no, explain in Remark	s.)
Are Vegetation	No , Soil No , or Hydrology No	significantly d	isturbed?	Are "No	ormal Circumstances" present?	Yes X No
Are Vegetation	No , Soil No , or Hydrology No	naturally prob	lematic?	(If need	led, explain any answers in Rer	marks.)
SUMMARY OF	FINDINGS Attach site map show	ing sampling	g point loca	tions, tra	nsects, important featu	res, etc.
Hydrophytic Vegeta Hydric Soil Present' Wetland Hydrology Remarks: Wetland E sampling	ation Present?         Yes         X           ?         Yes         X           Present?         Yes         X	No No	Is the	Sampled Are a Wetland?	ea	
VEGETATION :	Use scientific names of plants.					
		Absolute	Dominant	Indicator		
Tree Stratum (Plot	size: 30' radius )	% Cover	Species?	Status	Dominance Test worksheet	t:
1. 2.					Number of Dominant Species	,
					That Are OBL, FACW, or FAC	
4.						, 、 ,
5.					Total Number of Dominant	
			= Total Cover		Species Across All Strata:	(B)
1	tum (Plot size: 15' radius )				Percent of Dominant Species That Are OBL, FACW, or FAC	
3.						
4					Prevalence Index workshee	t:
5			Total Causer		Total IV Course of	B. A. alatina la c. la c. c.
Herb Stratum (Plot	size: 5' radius )		= Total Cover		Total % Cover of: OBL species 80%	$\frac{\text{Multiply by:}}{\text{x1} = 0.8}$
Typha angustife		60%	Yes	OBL	FACW species	x2 =
2. Juncus tenuis		20%	Yes	FAC	FAC species 20%	x3 = 0.6
3. Schoenoplectus	s tabernaemontani	20%	Yes	OBL	FACU species	x4 =
4		_			UPL species	x5 = (P)
5. 6.					Column Totals: 1.00	(A)1.4 (B)
7.					Prevalence Index =	B/A = 1.40
8. 9.						
10.					Hydrophytic Vegetation Ind	licators:
11.					45 117 16 11	
12. 13.					1-Rapid Test for Hyd X 2-Dominance Test is	' '
14.					X 3-Prevalence Index	
15.					4-Morphological Ada	aptations <sup>1</sup> (Provide supporting
16						on a separate sheet)
17		_			Problematic Hydrop	hytic Vegetation <sup>1</sup> (Explain)
18. 19.					<sup>1</sup> Indicators of hydric soil and v	wetland hydrology must
20.					be present, unless disturbed	·
-		100%	= Total Cover		, ,	•
Woody Vine Stratur	m (Plot size: 30' radius )				Hydrophytic Vegetation	
2.					Present? Yes	X No
			= Total Cover			
Remarks: (Include	photo numbers here or on a separate sheet.)					Midwest Region version 2.0

**SOIL** Sampling Point: SP-E1

								Camping Form. Of ET
<b>Profile Desc</b>	ription: (Describe to	the depth neede	d to document the	indicator or c	onfirm the a	absence of	indicators.	)
Depth	Matrix		Re	edox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-20	7.5YR 4/1	80	10YR 4/6	20	C	M	SiCL	Prominent mottles
0-20	7.511( 4/1		10110 4/0			IVI	SICL	F TOTTILIER THOUSES
<sup>1</sup> Type: C=C	oncentration, D=Deple	tion RM-Reduce	ed Matrix CS-Cover	ed or Coated S	Sand Grains	<sup>2</sup> Locatio	n: PI –Pore	E Lining, M=Matrix.
Hydric Soil I		tion, ravi–radade	74 Matrix, 00-00101	ou or ocurou t	oana Oramo			oblematic Hydric Soils <sup>3</sup> :
-			Sandy Clay	od Matrix (C4)		maice		st Prairie Redox (A16)
Histoso				ed Matrix (S4)				
	pipedon (A2)		Sandy Red					Manganese Masses (F12)
	listic (A3)		Stripped Ma					Surface (S7)
Hydrog	en Sulfide (A4)		Loamy Muc	ky Mineral (F1	)		Very	Shallow Dark Surface (TF12)
Stratifie	d Layers (A5)		Loamy Gley	yed Matrix (F2)	)		Othe	r (Explain in Remarks)
2 cm M	uck (A10)		X Depleted M	latrix (F3)				
Deplete	ed Below Dark Surface	(A11)		Surface (F6)				
	ark Surface (A12)	. ,	Depleted D	ark Surface (F	7)		3Indicators	of hydrophytic vegetation and
	Mucky Mineral (S1)			ressions (F8)	- /			hydrology must be present,
	ucky Peat or Peat (S3)		Redox Bep	103310113 (1 0)				s disturbed or problematic.
	ucky real of real (55)						uilles	s disturbed of problematic.
Restrictive L	.ayer (if observed):							
Type:								
Depth (i	nches):					Hydric S	Soil Presen	t? Yes X No
Remarks:						-		
HYDROL	OGY							
Wetland Hyd	Irology Indicators:							
Primary Indic	cators (minimum of one	is required: chec	ck all that apply)				Seco	ndary Indicators (minimum of two required)
X Surface	Water (A1)		Water-Stair	ned Leaves (B	9)			Surface Soil Cracks (B6)
	ater Table (A2)		Aquatic Fau	una (B13)	,			Drainage Patterns (B10)
X Saturat				ic Plants (B14)	١			Dry-Season Water Table (C2)
	Marks (B1)			Sulfide Odor (C				Crayfish Burrows (C8)
	ent Deposits (B2)			hizospheres or		to (C2)		Saturation Visible on Aerial Imagery (C9)
				f Reduced Iror	•	is (C3)		Stunted or Stressed Plants (D1)
	posits (B3)					00)		
	at or Crust (B4)			Reduction in	Tilled Solls (	C6)		Geomorphic Position (D2)
	posits (B5)			Surface (C7)			<u> X</u>	FAC-Neutral Test (D5)
	ion Visible on Aerial Im	. ,	Gauge or W	Vell Data (D9)				
Sparse	ly Vegetated Concave	Surface (B8)	Other (Expl	ain in Remark	s)			
Field Observ	otions:				I			
		Van V Na	Danth (in ab a	-\- 0.0				
Surface Wat		Yes X No	Depth (inche	·				
Water Table		Yes X No	Depth (inche	· —				
Saturation P	resent?	Yes X No	Depth (inches	s): 0	Wetland	d Hydrolog	Present?	Yes X No
(includes cap	oillary fringe)							
Describe Re	corded Data (stream g	auge, monitoring	well, aerial photos, p	orevious inspe	ctions), if ava	ailable:		
Remarks:								
	present due to recent	significant rainfal	l event (8/29/17). We	etland meets h	ydroloav ind	icator for a	eomorphic p	osition because this sampling point was
	a drainageway.	5	( / /-		,	- 3	, P	
	- ,							

Project/Site:	I-69 and S.R. 14 (Des. No. 1	1401828)		City/County:	Allen County	/	Sampling Date: 8/30/2017
Applicant/Owner:	INDOT					State: IN	Sampling Point: SP-E2
Investigator(s):	Josh Myers and Ryan Henn	essey		Secti	ion, Township	p, Range: Section 1 and 12; To	ownship 30N; Range 11E
Landform (hillslope	, terrace, etc.): Upland vege	etated field			Local re	elief (concave, convex, none):	None
Slope (%):	0% Lat:	41.072973	L	ong:	-	85.229419	Datum: NAD 83
Soil Map Unit Name	e: Glynwood silt loam	(MrB2)				NWI classi	fication: None
Are climatic / hydro	logic conditions on the site typ	ical for this time of year?		Yes_	X No	(If no, explain in Remark	s.)
Are Vegetation	No , Soil No , or	Hydrology No sign	ficantly dist	urbed?	Are "No	ormal Circumstances" present?	Yes X No
Are Vegetation	No , Soil No , or	Hydrology No natu	rally probler	matic?	(If need	ed, explain any answers in Rer	marks.)
SUMMARY OF	FINDINGS Attach si	te map showing sa	ampling <sub>l</sub>	point loca	tions, trar	nsects, important featu	res, etc.
Hydrophytic Vegeta	ation Present?	es No	Х	Is the S	Sampled Are	ea	
Hydric Soil Present		es No		within	a Wetland?	Yes	No X
Wetland Hydrology		'es No	Х				
Remarks:							
Wetland E upland s	sampling point.						
VEGETATION	Use scientific names					1	
Troo Stratum (Plot	size: 30' radius )			Dominant Species?	Indicator	Daminanaa Taat warkabaa	•
Tree Stratum (Plot 1.	size. 30 radius )		Cover	Species?	Status	Dominance Test worksheet	<b>:</b>
-						Number of Dominant Species	5
						That Are OBL, FACW, or FAC	
4.							···
5.						Total Number of Dominant	
			=	Total Cover		Species Across All Strata:	1 (B)
Conline/Chruh Ctro	tum (Plot size: 15' radius	1				Percent of Dominant Species	
1.	turri (Piot Size. 15 radius	<del>_</del> '				That Are OBL, FACW, or FA	
						mat/iio obe, i /iovi, oi i /io	O(742)
4.						Prevalence Index workshee	t:
5							
Hart Otraction (Dist	( almost Standbox )		=	Total Cover		Total % Cover of:	Multiply by:
Herb Stratum (Plot 1. Schedonorus a			90%	Yes	FACU	OBL species FACW species	x1 =
Lotus cornicula			10%	No	FACU	FAC species	x2 = x3 =
3.						FACU species 100%	x4 = 4
4.						UPL species	x5 =
5						Column Totals: 1.00	(A) 4 (B)
6						Daniela de la desc	D/A 4.00
7. 8.						Prevalence Index =	B/A = 4.00
9.							
10.						Hydrophytic Vegetation Ind	licators:
11.							
12.						1-Rapid Test for Hyd	
13.						2-Dominance Test is 3-Prevalence Index	
14. 15.							aptations <sup>1</sup> (Provide supporting
16.							on a separate sheet)
							hytic Vegetation <sup>1</sup> (Explain)
18.						<u> </u>	
19.						<sup>1</sup> Indicators of hydric soil and v	, ,,
20						be present, unless disturbed	or problematic.
		_	100% =	Total Cover			
Woody Vine Stratu	m (Plot size: 30' radius	)				Hydrophytic	
1	<u> </u>					Vegetation	
2						_	No X
			= 7	Total Cover		•	<del>-</del>
Remarks: (Include	photo numbers here or on a s	separate sheet.)					
US Army Corps o	f Engineers						Midwest Region version 2.0

**SOIL** Sampling Point: SP-E2

	ription: (Describe to Matrix	the depth needed t		ndicator or co	onfirm the a	bsence of i	ndicators.)		
Depth (inches)		% C			Type <sup>1</sup>	Loc <sup>2</sup>	Toyturo	Domorko	
(inches)	Color (moist)		Color (moist)	<u></u> %	Туре	LOC	Texture	Remarks	
0-20	10YR 4/4	100					SiL		
l									
l —				-					
<del></del>									
	concentration, D=Deple	tion, RM=Reduced	Matrix, CS=Covere	d or Coated S	Sand Grains		n: PL=Pore Linir		
Hydric Soil			0 1 01			indica		natic Hydric Soils <sup>3</sup> :	
Histoso		,	Sandy Gleye			-		rie Redox (A16)	
	Epipedon (A2)		Sandy Redox					anese Masses (F12)	
	Histic (A3)		Stripped Mat			-	Dark Surfa		
	en Sulfide (A4)		Loamy Muck			-		w Dark Surface (TF12)	
	ed Layers (A5)		Loamy Gleye			-	Other (Exp	lain in Remarks)	
	luck (A10)		Depleted Ma						
· ·	ed Below Dark Surface	(A11)	Redox Dark		_,		3		
	Dark Surface (A12)		Depleted Dai	•	7)			drophytic vegetation and	
	Mucky Mineral (S1)	•	Redox Depre	essions (F8)			•	ology must be present,	
5 cm N	lucky Peat or Peat (S3)						unless dist	urbed or problematic.	
Restrictive I	ayer (if observed):								
Type:									
Depth (	inches):					Hydric S	oil Present?	Yes No	Χ
HYDROL	OGY								
	drology Indicators:								
1	cators (minimum of one	is required; check	all that annly)				Secondary	Indicators (minimum of two re	equired)
	e Water (A1)	is required: effects	Water-Staine	nd I pavos (RC	3)			ce Soil Cracks (B6)	oquirou)
	ater Table (A2)	•	Aquatic Faur		,,			age Patterns (B10)	
	tion (A3)	•	True Aquatic					Season Water Table (C2)	
	Marks (B1)	•	Hydrogen Su					ish Burrows (C8)	
	ent Deposits (B2)	•	Oxidized Rhi		-	e (C3)		ation Visible on Aerial Image	rv (CQ)
	eposits (B3)	•	Presence of	=	-	.3 (00)		ed or Stressed Plants (D1)	iy (O3)
	lat or Crust (B4)	•	Recent Iron F		` '	C6)		norphic Position (D2)	
	eposits (B5)	•	Thin Muck S		rinoa cono (	00)		Neutral Test (D5)	
	tion Visible on Aerial Im	nagery (B7)	Gauge or We					11001101 (50)	
	ly Vegetated Concave		Other (Explai		s)				
Field Observ	vations:	•	<del></del>						
Surface Wat		Yes No X	Depth (inches)						
Water Table		Yes No X	Depth (inches)						
Saturation P		Yes No X	Depth (inches)		Wetland	l Hydrology	Present?	Yes No	Х
	pillary fringe)		2004(	·		,			
<u> </u>	corded Data (stream g	auge, monitoring we	ell, aerial photos, pr	evious inspec	ctions), if ava	ailable:			
	3	3.,	, , , , , , ,		,,				
Remarks:									

Project/Site:	I-69 and S.R. 14 (Des. No. 1401	828)	City/County:	Allen County	Sampling Date: <u>8/30/2017</u>		
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-F1	
Investigator(s):	Josh Myers and Ryan Henness	<b></b>	Sect	tion, Townshi	p, Range: Section 1 and 12; To	ownship 30N; Range 11E	
Landform (hillslope,	terrace, etc.): Ditch			Local r	elief (concave, convex, none):	Concave	
Slope (%):	0% Lat:	41.073426	Long:	-	-85.229113	Datum: NAD 83	
Soil Map Unit Name	e: Blount silt loam (BmA)				NWI classi	fication: None	
Are climatic / hydrol	ogic conditions on the site typical	for this time of year?	Yes	X No	(If no, explain in Remark	s.)	
Are Vegetation	No , Soil No , or Hyd	drology No significantly	disturbed?	Are "No	ormal Circumstances" present?	Yes X No	
Are Vegetation	No , Soil No , or Hyd	drology No naturally pro	blematic?	(If need	led, explain any answers in Rer	marks.)	
SUMMARY OF	FINDINGS Attach site	map showing samplin	g point loca	tions, tra	nsects, important featu	res, etc.	
Hydrophytic Vegeta Hydric Soil Present? Wetland Hydrology Remarks: Wetland F sampling	? Yes Present? Yes	X No X No No No	-	Sampled Are a Wetland?		<no< td=""></no<>	
VEGETATION -	Use scientific names of	•					
Tree Charles (D)		Absolute	Dominant	Indicator	Danis T. C. C.		
Tree Stratum (Plot 1.	size: 30' radius )	% Cover	Species?	Status	Dominance Test workshee	t:	
2.			· ——		Number of Dominant Species	S	
					That Are OBL, FACW, or FA		
4.							
5					Total Number of Dominant		
			= Total Cover		Species Across All Strata:	(B)	
1	um (Plot size: 15' radius	·			Percent of Dominant Species That Are OBL, FACW, or FA		
3. 4.					Prevalence Index workshee	ıt:	
5							
Herb Stratum (Plot	size: 5' radius )		= Total Cover		Total % Cover of: OBL species	Multiply by: x1 =	
1. Juncus tenuis	size. <u>5 radius</u>	100%	Yes	FAC	FACW species	x2 =	
2.					FAC species 100%		
3.					FACU species	x4 =	
4					UPL species	x5 = (P)	
5. 6.					Column Totals: 1.00	(A) 3 (B)	
7.					Prevalence Index =	B/A = 3.00	
8.							
9.							
10					Hydrophytic Vegetation Inc	licators:	
11 12.					1-Rapid Test for Hyd	decele, die Menetation	
13.		<del></del>			X 2-Dominance Test is	. , ,	
14.					X 3-Prevalence Index		
15.					4-Morphological Ada	aptations <sup>1</sup> (Provide supporting	
16						on a separate sheet)	
17. 18.					Problematic Hydrop	phytic Vegetation <sup>1</sup> (Explain)	
19.					<sup>1</sup> Indicators of hydric soil and	wetland hydrology must	
20.					be present, unless disturbed		
		100%	= Total Cover				
Woody Vine Stratur	n (Plot size: 30' radius	)			Hydrophytic Vegetation Present? Yes	X No	
			= Total Cover		]	<del></del>	
			-				
Remarks: (Include	photo numbers here or on a sepa	rate sheet.)				Midwest Region version 2.0	

**SOIL** Sampling Point: SP-F1

Profile Dose	ription: (Describe to	the depth peeds	nd to document the	indicator or c	onfirm the a	heanca of	indicators \	
Depth	Matrix	o the depth needs		edox Features	ommin the a	inselice of	iliuicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
			Color (moist)		Турс	LUC		Remarks
0-10	10YR 5/1	100					SiCL	
1 <del>T C. C.</del>	annoutration D. Don	Lation DM Dadus	ad Matrice CC Carra		Canal Crains	21 :	- DL Dave	Lining M. Matrix
Hydric Soil I	oncentration, D=Dep	etion, Rivi=Reduct	ed Matrix, CS=Cover	ed or Coated	Sand Grains.			Lining, M=Matrix.  bblematic Hydric Soils <sup>3</sup> :
Histoso			Sandy Glev	ed Matrix (S4)	<b>\</b>	maio		t Prairie Redox (A16)
	pipedon (A2)		Sandy Red		,			Manganese Masses (F12)
	listic (A3)		Stripped M					Surface (S7)
	en Sulfide (A4)			ky Mineral (F1	1)			Shallow Dark Surface (TF12)
				yed Matrix (F2)	-			(Explain in Remarks)
	ed Layers (A5) uck (A10)		X Depleted M		)		Other	(Explain in Remarks)
	ed Below Dark Surfac	o (A11)		. ,				
		e (ATT)		Surface (F6)	7\		3Indiantors	of hydrophytic vocatation and
	Oark Surface (A12) Mucky Mineral (S1)			ark Surface (F ressions (F8)	7)			of hydrophytic vegetation and hydrology must be present,
	ucky Peat or Peat (S	2)	Redux Dep	162210112 (1-0)				s disturbed or problematic.
	· ·						uniesc	s disturbed of problematic.
	.ayer (if observed):							
Type: (		10				I leaded a f	0 - !! D	0 V V N-
Depth (i	ncnes):	10				Hydric	Soil Present	? Yes X No
HYDROL	OGY							
-	Irology Indicators:							
	cators (minimum of or	ne is required: che						ndary Indicators (minimum of two required)
	Water (A1)			ned Leaves (B	9)			Surface Soil Cracks (B6)
	ater Table (A2)		Aquatic Fa					Drainage Patterns (B10)
X Saturat	` '			ic Plants (B14)				Dry-Season Water Table (C2)
	Marks (B1)			Sulfide Odor (C		(00)		Crayfish Burrows (C8)
	ent Deposits (B2)			hizospheres o	-	s (C3)		Saturation Visible on Aerial Imagery (C9)
	eposits (B3)			f Reduced Iron		00)		Stunted or Stressed Plants (D1)
	lat or Crust (B4)			Reduction in	Tilled Solls (	Ub)		Geomorphic Position (D2)
	posits (B5)	(DZ)		Surface (C7)				FAC-Neutral Test (D5)
	tion Visible on Aerial	. ,		Vell Data (D9)	-)			
Sparse	ly Vegetated Concave	e Surface (Bo)	Other (Exp	ain in Remark	5)			
Field Observ	ations:							
Surface Wat		Yes X No	Depth (inche					
Water Table		Yes X No						
Saturation P		Yes X No	Depth (inche	s):0	Wetland	l Hydrolog	y Present?	Yes X No
(includes cap	oillary fringe)							
Describe Re	corded Data (stream	gauge, monitoring	well, aerial photos, p	orevious inspe	ctions), if ava	ailable:		
Der !								
Remarks:	nrecent due to recer	at cianificant rainfa	II event (8/20/47) \\	atland mosts b	ydrology indi	cator for ~	aomorphia na	position because this campling point was
	a drainageway.	ıı əigiiilicalii laifila	11 6 V 6111 (0/23/17). W	cuanu meets i	iyarology irlal	cator for g	eomorphic pc	osition because this sampling point was

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count	y		Sampling Date: 8/3	0/2017
Applicant/Owner:	INDOT				State:	IN S	Sampling Point: SP	-F2
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 an	d 12; Tov	wnship 30N; Range	11E
Landform (hillslope	, terrace, etc.): Hillslope		·	Local r	elief (concave, convex,	none): N	lone	
Slope (%):	8% Lat: 41.07341	17	Long:		-85.229027	_	Datum: NAD 83	
Soil Map Unit Name					NW	/I classific	cation: None	
•	logic conditions on the site typical for this tim	ne of vear?	Yes	X No	(If no, explain in F			
Are Vegetation	No , Soil No , or Hydrology	•	_		ormal Circumstances" p		Yes X No	
Are Vegetation	No , Soil No , or Hydrology				led, explain any answer			
=	FINDINGS Attach site map sho							
Hydrophytic Vegeta				Sampled Are	-	routure	33, 313.	
Hydric Soil Present			within	a Wetland?		es	No X	
Wetland Hydrology					•		<u> </u>	•
Remarks:								
Wetland F upland s	sampling point.							
VEGETATION	Use scientific names of plants.							
	•	Absolute	Dominant	Indicator				
Tree Stratum (Plot	size: 30' radius )	% Cover	Species?	Status	Dominance Test wo	rksheet:		
					Number of Dominant			
3.					That Are OBL, FACW	l, or FAC:	: 0	(A)
4					Total Number of Dom	inant		
J			= Total Cover		Species Across All St		1	(B)
		-	70101 00701		- CP - CO - 7 (C) - CO - 7 (C) - CO	· u.u.		(
Sapling/Shrub Stra	tum (Plot size: 15' radius )				Percent of Dominant	Species		
1.					That Are OBL, FACW	, or FAC	: 0%	(A/B)
2.								
3								
4					Prevalence Index wo	rksheet:	1	
5			= Total Cover		Total % Cover	r of:	Multiply b	· ·
Herb Stratum (Plot	t size: 5' radius )	-	- Total Cover		OBL species	OI.	x1 =	у
Schedonorus a		80%	Yes	FACU	FACW species		x2 =	
2. Daucus carota		10%	No	UPL	FAC species		x3 =	
3. Lotus cornicula	atus	10%	No	FACU	FACU species	90%	x4 = 3.6	3
4					UPL species	10%	x5 = 0.5	
5					Column Totals:	1.00	(A)4.1	(B)
6. 7.					Drovolonoo I	ndov D	2/A 4.10	
8.					Prevalence I	nuex = D	8/A = 4.10	
9.								
10.					Hydrophytic Vegeta	tion Indic	cators:	
11.								
12.					1-Rapid Test	t for Hydr	ophytic Vegetation	
13.					2-Dominance			
14					3-Prevalence			
15.							otations <sup>1</sup> (Provide su	
16.							on a separate sheet) nytic Vegetation <sup>1</sup> (Ex	
17. 18.					Problematic	пушорп	iyiic vegetation (⊏x	piairi)
19.					<sup>1</sup> Indicators of hydric s	oil and w	etland hydrology mu	ıst
20.					be present, unless dis			
-		100%	= Total Cover		, , s		,	
Woody Vine Stratu	m (Plot size: 30' radius )				Hydrophytic			
1					Vegetation			
2					Present?	Yes_	NoX_	
			= Total Cover					
Demonstra (f. 1. )	abote combane have							
remarks: (include	photo numbers here or on a separate shee	ι.)						

F-46

US Army Corps of Engineers

SOIL Sampling Point: SP-F2

	cription: (Describe to t	he depth needed			onfirm the al	bsence of	indicators.)		
Depth	Matrix			ox Features	_ 1	2			
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	<u> </u>
¹Type: C=0	Concentration, D=Deplet	ion. RM=Reduced	Matrix. CS=Covered	d or Coated S	Sand Grains.	<sup>2</sup> Locatio	on: PL=Pore Li	ning, M=Matrix.	
Hydric Soil		,	,					ematic Hydric Soils <sup>3</sup> :	
Histose	ol (A1)		Sandy Gleyed	d Matrix (S4)			Coast P	rairie Redox (A16)	
Histic I	Epipedon (A2)		Sandy Redox	(S5)			Iron-Ma	nganese Masses (F12)	
	Histic (A3)		Stripped Matr	-				rface (S7)	
	gen Sulfide (A4)		Loamy Mucky		)			allow Dark Surface (TF12	2)
	ed Layers (A5)		Loamy Gleye		-			Explain in Remarks)	-/
	fluck (A10)		Depleted Mat				Other (E	-Apiairi iri Nerriarks)	
	` ,	(0.4.4)							
	ed Below Dark Surface	(ATT)	Redox Dark S		7\		31	handanahadi	
	Dark Surface (A12)		Depleted Dar	-	7)			hydrophytic vegetation a	
	Mucky Mineral (S1)		Redox Depre	ssions (F8)			-	drology must be present	i
5 cm N	Mucky Peat or Peat (S3)						unless d	isturbed or problematic.	
Restrictive	Layer (if observed):								
Type:	Gravel								
Depth (	inches):	)				Hydric S	Soil Present?	Yes	No X
HYDROL									
-	drology Indicators:								
	cators (minimum of one	is required: check						ary Indicators (minimum o	of two required)
	e Water (A1)		Water-Staine	-	9)			ırface Soil Cracks (B6)	
High W	Vater Table (A2)		Aquatic Faun	a (B13)				ainage Patterns (B10)	
	tion (A3)		True Aquatic				Dr	y-Season Water Table (0	C2)
Water	Marks (B1)		Hydrogen Su	lfide Odor (C	1)		Cr	ayfish Burrows (C8)	
Sedim	ent Deposits (B2)		Oxidized Rhiz	zospheres on	Living Roots	s (C3)	Sa	turation Visible on Aerial	Imagery (C9)
Drift D	eposits (B3)		Presence of F	Reduced Iron	(C4)		St	unted or Stressed Plants	(D1)
Algal N	Mat or Crust (B4)		Recent Iron F	Reduction in <sup>-</sup>	Tilled Soils (C	26)	Ge	eomorphic Position (D2)	
Iron De	eposits (B5)		Thin Muck Su	urface (C7)			FA	C-Neutral Test (D5)	
Inunda	tion Visible on Aerial Im	agery (B7)	Gauge or We	ll Data (D9)					
Sparse	ely Vegetated Concave S	Surface (B8)	Other (Explai		3)				
Field Obser	vations				1				
		Voc. No. V	Donth (inches)						
		Yes No X Yes No X	Depth (inches): Depth (inches):						
Water Table					M-111		D	V	NI- V
Saturation F		Yes No X	Depth (inches):	·——	wetiand	Hydrolog	y Present?	Yes	_ NoX
•	pillary fringe)								
Describe Re	ecorded Data (stream ga	auge, monitoring we	ell, aerial photos, pre	evious inspec	ctions), if ava	ilable:			
Remarks:									

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen Count		Sampling Da	ate: 8/30/2	2017	
Applicant/Owner:	INDOT				State:	IN Sampling Point: SP-G1			
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and	d 12; To	wnship 30N;	Range 11	E
Landform (hillslope	, terrace, etc.): Drainage swale			Local r	elief (concave, convex,	none): <u>(</u>	Concave		
Slope (%):	0% Lat: 41.074221		Long:	-	-85.230592		Datum: N	AD 83	
Soil Map Unit Name	e: Glynwood silt loam (MrB2)				NW	'l classifi	ication: N	lone	
Are climatic / hydro	logic conditions on the site typical for this time	of year?	Yes	X No	(If no, explain in F	Remarks	i.)		
Are Vegetation	No , Soil No , or Hydrology N	lo significantly d	listurbed?	Are "No	ormal Circumstances" pr	esent?	Yes	X No	
Are Vegetation	No , Soil No , or Hydrology N	lo naturally prob	lematic?	(If need	led, explain any answers	s in Rem	narks.)		
SUMMARY OF	FINDINGS Attach site map show	ving samplin	g point loca	tions, tra	nsects, important	featur	es, etc.		
Hydrophytic Vegeta	ation Present? Yes X	No	Is the	Sampled Are	ea				
Hydric Soil Present		No	within	a Wetland?	Ye	es X	No		
Wetland Hydrology	Present? Yes X	No							
Remarks: Wetland G samplin	g point (PEM1A).								
VEGETATION	Use scientific names of plants.								
Trace Charles (C)	orino.	Absolute	Dominant	Indicator	Bandaan 7 /				
Tree Stratum (Plot 1.		% Cover	Species?	Status	Dominance Test wor	rksheet:			
2.					Number of Dominant	Species			
3.					That Are OBL, FACW			1	(A)
4.									<u> </u>
5			<del></del>		Total Number of Dom				(5)
			= Total Cover		Species Across All Str	rata:		2	_ (B)
Sapling/Shrub Stra	tum (Plot size: 15' radius )				Percent of Dominant S That Are OBL, FACW	•	<b>:</b> 5	0%	(A/B)
2.						, 0	··	0,70	_(,,,,,
3.									
4					Prevalence Index wo	rksheet	:		
5			= Total Cover		Total % Cover	of:	Mı	ultiply by:	
Herb Stratum (Plot	t size: 5' radius )		- Total Cover		OBL species	10%	x1 =	0.1	
1. Juncus tenuis		60%	Yes	FAC	FACW species	10%	x2 =	0.2	
2. Schedonorus a	arundinaceus	20%	Yes	FACU	FAC species	60%	x3 =	1.8	
3. Typha angustif		10%	No No	OBL	FACU species	20%	x4 =	8.0	
Phragmites aus     5.	stralis	10%	No	FACW	UPL species Column Totals:	1.00	x5 = (A)	2.9	(B)
6.					Column Totals.	1.00	(^)	2.5	(D)
7.					Prevalence I	ndex = E	3/A =	2.90	
8.									
9.									
10. 11.					Hydrophytic Vegetat	ion inai	cators:		
12.					1-Rapid Test	for Hydi	rophytic Vege	etation	
13.					2-Dominance				
14.					X 3-Prevalence				
15.					4-Morphologi				orting
16. 17.							on a separate nytic Vegetati		ain)
18.						Пушорі	iyilo vogotati	on (Explo	<i>,</i>
19.					<sup>1</sup> Indicators of hydric so	oil and w	etland hydrol	ogy must	
20.					be present, unless dis	turbed o	or problemation	<b>)</b> .	
		100%	= Total Cover						
Woody Vine Stratu	m (Plot size: 30' radius )				Hydrophytic				
1.					Vegetation				
2.					Present?	Yes	X No	_	
			= Total Cover						
Remarks: (Include	photo numbers here or on a separate sheet.)				<u>I</u>				-
(	, and a sopulate should								
L									
US Army Corps o	T Engineers						iviiawest i	Region ve	rsion 2.0

SOIL Sampling Point: SP-G1

	cription: (Describe to	the depth needed			onfirm the a	bsence of	indicators.)	
Depth	Matrix			lox Features	<b>-</b> 1	. 2		
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-20	10YR 4/2	80	10YR 5/6	20	С	М	SiCL	Prominent mottles
<sup>1</sup> Type: C=C	Concentration, D=Deple	etion, RM=Reduce	d Matrix, CS=Covere	d or Coated S	Sand Grains	. <sup>2</sup> Locatio	n: PL=Pore Linir	ng, M=Matrix.
Hydric Soil	Indicators:					Indica	tors for Problen	natic Hydric Soils³:
Histoso	ol (A1)		Sandy Gleye	d Matrix (S4)			Coast Pra	rie Redox (A16)
Histic E	Epipedon (A2)		Sandy Redox	x (S5)			Iron-Mang	anese Masses (F12)
	Histic (A3)		Stripped Mat				Dark Surfa	· ·
	gen Sulfide (A4)			y Mineral (F1	)			ow Dark Surface (TF12)
	ed Layers (A5)			ed Matrix (F2)	-			olain in Remarks)
	fuck (A10)		X Depleted Ma					,
	ed Below Dark Surface	e (A11)	Redox Dark					
	Dark Surface (A12)	· · · · · /		rk Surface (F	7)		<sup>3</sup> Indicators of by	drophytic vegetation and
	Mucky Mineral (S1)		Redox Depre	-	• ,			ology must be present,
	flucky Peat or Peat (S3	1	Redox Depre	53310113 (1 0)				urbed or problematic.
		"					uniess dist	urbed or problematic.
Restrictive I	Layer (if observed):							
Type:								
Depth (	inches):					Hydric S	ioil Present?	Yes X No
HYDROL	OGV							
_	drology Indicators:	- :	le all that ample à				C	In disators (asiaire use of two years in all
	cators (minimum of on	e is requirea: cnec		/5.	- \			Indicators (minimum of two required)
	e Water (A1)			ed Leaves (B	9)			ace Soil Cracks (B6)
	/ater Table (A2)		Aquatic Faur					age Patterns (B10)
X Saturat	` '			Plants (B14)				Season Water Table (C2)
	Marks (B1)			ılfide Odor (C	•			fish Burrows (C8)
	ent Deposits (B2)			zospheres or	-	ts (C3)		ration Visible on Aerial Imagery (C9)
	eposits (B3)			Reduced Iror				ed or Stressed Plants (D1)
	Mat or Crust (B4)			Reduction in	Tilled Soils (	C6)		norphic Position (D2)
	eposits (B5)		Thin Muck S	urface (C7)			FAC-	Neutral Test (D5)
	tion Visible on Aerial Ir		Gauge or We					
Sparse	ely Vegetated Concave	Surface (B8)	Other (Expla	in in Remarks	s)			
Field Observ	vations:							
Surface Wat		Yes No X	Depth (inches)	):				
Water Table		Yes No X						
Saturation P		Yes X No	Depth (inches)		Wetland	l Hydrology	/ Present?	Yes X No
	pillary fringe)	. 55 <u>/</u> . 110			1.500	, 5109)	,	
	ecorded Data (stream o	auge, monitoring v	well, aerial photos, pr	evious inspe	ctions), if ava	ailable:		
		,g-,g ·	, , , , , , , , , , , , , , , , , , ,		,,			
Remarks:								
Wetland mee	ets hydrology indicator	for geomorphic pos	sition because this sa	impling point	was located	within a dra	inageway.	
i								

Project/Site:	I-69 and S.R. 14 (Des. No. 1401828)		City/County:	Allen County	у	Sampling Date: <u>8/30/2017</u>	
Applicant/Owner:	INDOT				State: IN	Sampling Point: SP-G2	
Investigator(s):	Josh Myers and Ryan Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12; To	ownship 30N; Range 11E	
Landform (hillslope	, terrace, etc.): Hillslope			Local r	elief (concave, convex, none):	None	
Slope (%):	5% Lat: 41.074318		Long:	-	-85.230588	Datum: NAD 83	
Soil Map Unit Name	e: Glynwood silt loam (MrB2)				NWI classi	fication: None	
Are climatic / hydro	logic conditions on the site typical for this time of	year?	Yes_	Х	(If no, explain in Remark	s.)	
Are Vegetation	No , Soil No , or Hydrology No	significantly d	isturbed?	Are "No	ormal Circumstances" present?	Yes X No	
Are Vegetation	No , Soil No , or Hydrology No	naturally prob	lematic?	(If need	led, explain any answers in Rer	narks.)	
SUMMARY OF	FINDINGS Attach site map showing	ng sampling	g point loca	itions, trai	nsects, important featu	res, etc.	
Hydrophytic Vegeta	ation Present? Yes	No X	Is the	Sampled Are	ea		
Hydric Soil Present	? Yes	No X		a Wetland?	Yes	No X	
Wetland Hydrology	Present? Yes	No X					
Remarks:							
Wetland G upland	sampling point.						
\/====							
VEGETATION	Use scientific names of plants.	Absolute	Dominant	Indicator	I		
Tree Stratum (Plot	size: 30' radius )	% Cover	Species?	Status	Dominance Test worksheet	:	
1.	<u> </u>	70 0010.	ороског.	Otatao		•	
2.					Number of Dominant Species	3	
3.					That Are OBL, FACW, or FAC	C: <u> </u>	
4							
5			= Total Cover		Total Number of Dominant	1 (B)	
			= Total Cover		Species Across All Strata:	1 (B)	
Sapling/Shrub Strat	tum (Plot size: 15' radius )				Percent of Dominant Species		
1.					That Are OBL, FACW, or FAC		
2.		·					
3		- ——					
4		- ——			Prevalence Index workshee	t:	
5		- ——	= Total Cover		Total % Cover of:	Multiply by:	
Herb Stratum (Plot	t size: 5' radius )		= Total Cover		OBL species	x1 =	
Schedonorus a		90%	Yes	FACU	FACW species	x2 =	
2. Lotus cornicula		10%	No	FACU	FAC species	x3 =	
3.					FACU species 100%	x4 = 4	
4					UPL species	x5 =	
5		- ——			Column Totals: 1.00	(A) <u>4</u> (B)	
6. 7.					Prevalence Index =	B/A = 4.00	
8.					Trovalorios mask		
9.							
10.					Hydrophytic Vegetation Ind	icators:	
11							
12. 13.		- ——			1-Rapid Test for Hyd 2-Dominance Test is		
14.					3-Prevalence Index		
15.					l ——	ptations <sup>1</sup> (Provide supporting	
16.					data in Remarks or	on a separate sheet)	
17.		·			Problematic Hydrop	hytic Vegetation <sup>1</sup> (Explain)	
					4		
19.					<sup>1</sup> Indicators of hydric soil and v		
20		1000/	= Total Cover		be present, unless disturbed	or problematic.	
		10076	= Total Cover				
Woody Vine Stratu	m (Plot size: 30' radius )				Hydrophytic		
1.					Vegetation		
2.					Present? Yes	No X	
			= Total Cover				
Daniela (L.)	abet and bear has a				<u> </u>		
Remarks: (Include	photo numbers here or on a separate sheet.)						
US Army Corps o	of Engineers					Midwest Region version 2.0	

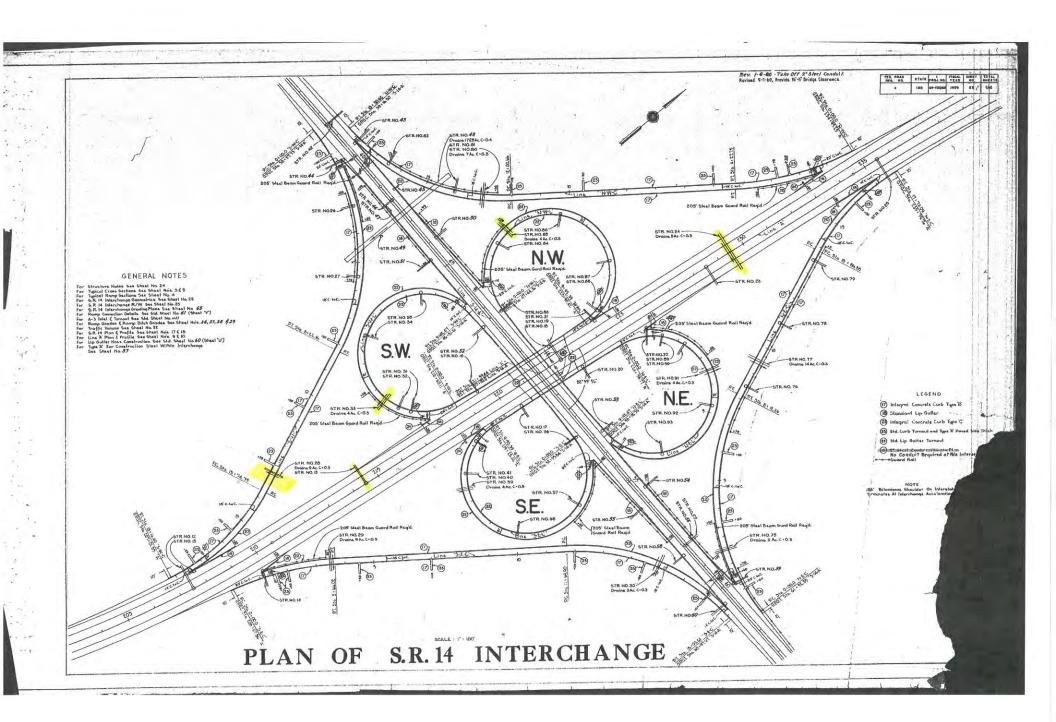
**SOIL** Sampling Point: SP-G2

	ription: (Describe to	the depth needed t		ndicator or collox Features	onfirm the a	bsence of i	ndicators.)		
Depth (inches)	Matrix	% C			Type <sup>1</sup>	Loc <sup>2</sup>	Toyturo	Domarko	
(inches)	Color (moist)		Color (moist)	%	туре	LOC	Texture	Remarks	
0-20	10YR 4/2	100					SiL		
l									
l —									
		_							
	concentration, D=Deple	tion, RM=Reduced	Matrix, CS=Covere	d or Coated S	Sand Grains.		n: PL=Pore Linin		
Hydric Soil			0 1 01			indicat		natic Hydric Soils <sup>3</sup> :	
Histoso			Sandy Gleye			-		rie Redox (A16)	
	Epipedon (A2)		Sandy Redox			-		anese Masses (F12)	
	Histic (A3)		Stripped Mat			-	Dark Surfac		
	en Sulfide (A4)	-		y Mineral (F1)		-		w Dark Surface (TF12)	
	ed Layers (A5)		Loamy Gleye			-	Other (Exp	lain in Remarks)	
	luck (A10)		Depleted Ma						
· ·	ed Below Dark Surface	(A11)	Redox Dark		_,		3		
	Dark Surface (A12)			rk Surface (F7	7)		-	drophytic vegetation and	
	Mucky Mineral (S1)	-	Redox Depre	essions (F8)			•	ology must be present,	
5 cm N	lucky Peat or Peat (S3)						unless dist	urbed or problematic.	
Restrictive I	ayer (if observed):								
Type:									
Depth (	inches):					Hydric S	oil Present?	Yes NoX	·
HYDROL	OGY								
	drology Indicators:								
1	cators (minimum of one	is required: check :	all that annly)				Secondary	Indicators (minimum of two required	d)
	e Water (A1)	is required. criccit		ed Leaves (B9	3)			ce Soil Cracks (B6)	u)
	ater Table (A2)	-	Aquatic Faur	•	")			age Patterns (B10)	
	tion (A3)	-	True Aquatic					leason Water Table (C2)	
	Marks (B1)	-		ılfide Odor (C				ish Burrows (C8)	
	ent Deposits (B2)	•	Oxidized Rhi		-	s (C3)		ation Visible on Aerial Imagery (C9)	۸
	eposits (B3)	•		Reduced Iron	-	3 (00)		ed or Stressed Plants (D1)	,
	lat or Crust (B4)	•		Reduction in 1	` '	C6)		norphic Position (D2)	
I ——	eposits (B5)	•	Thin Muck S			00)		Neutral Test (D5)	
	tion Visible on Aerial Im	nagery (B7)	Gauge or We					(= -,	
	ly Vegetated Concave			in in Remarks	s)				
Field Observ	vations:	•							
Surface Wat		Yes No X	Depth (inches)	:					
Water Table		Yes No X	Depth (inches)						
Saturation P		Yes No X	Depth (inches)		Wetland	l Hydrology	Present?	Yes No X	
	pillary fringe)		2 0 0 11 (11 10 10 0)	·		,			
<u> </u>	corded Data (stream ga	auge, monitoring we	ell, aerial photos, pr	evious inspec	ctions), if ava	ailable:			
	, ,			·	•				
Remarks:									

Applicant/Owner:	I-69 and S.R. 14 (De	es. No. 1401828)		City/Courity.	Allen Count	y Sampling Date: 8/30	)/2017		
Applicant o mion	INDOT			State: IN Sampling Point: SF					
nvestigator(s):	Josh Myers and Rya	an Hennessey		Sect	ion, Townshi	p, Range: Section 1 and 12; Township 30N; Range 1	1E		
andform (hillslope	, terrace, etc.): <u>Drai</u>					relief (concave, convex, none): Concave			
lope (%):	0% Lat:	41.07481	3	Long:		-85.230856 Datum: NAD 83			
oil Map Unit Name	e: Glynwood si	ilt loam (BmA)				NWI classification: None			
re climatic / hydro	logic conditions on the	site typical for this tim	e of year?	Yes_	X No	(If no, explain in Remarks.)			
re Vegetation	No , Soil N	o, or Hydrology	No significantly d	listurbed?	Are "No	ormal Circumstances" present? Yes X No			
re Vegetation	No , Soil N	o, or Hydrology	No naturally prob	olematic?	(If need	led, explain any answers in Remarks.)			
SUMMARY OF	FINDINGS Att	ach site map sho	wing sampling	g point loca	tions, tra	nsects, important features, etc.			
Hydrophytic Vegeta Hydric Soil Present Wetland Hydrology Remarks:	?	Yes Yes Yes X	No X		Sampled Are a Wetland?				
	Use scientific	names of plants.							
		•	Absolute	Dominant	Indicator				
ree Stratum (Plot	size: 30' radius	)	% Cover	Species?	Status	Dominance Test worksheet:			
1									
						Number of Dominant Species			
3			— ——			That Are OBL, FACW, or FAC: 0	(A)		
4 5.						Total Number of Dominant			
J				= Total Cover		Species Across All Strata: 1	(B)		
							``		
1.	tum (Plot size: 15' r					Percent of Dominant Species That Are OBL, FACW, or FAC: 0%	(A/B		
_									
4						Prevalence Index worksheet:			
5.									
				= Total Cover		Total % Cover of: Multiply by	:		
lerb Stratum (Plot		)				OBL species x1 =			
1. <u>Schedonorus a</u> 2.	arundinaceus		100%	Yes	FACU	FACW species x2 = FAC species x3 =			
2. 3.			<del></del>			FACU species 100% x4 = 4			
4.						UPL species x5 =			
5.						Column Totals: 1.00 (A) 4	(B		
6.									
7. 8.						Prevalence Index = B/A = 4.00			
o. 9.									
0.						Hydrophytic Vegetation Indicators:			
1									
2. 3.						1-Rapid Test for Hydrophytic Vegetation 2-Dominance Test is >50%			
3 4.						3-Prevalence Index is ≤3.0 <sup>1</sup>			
 5.						4-Morphological Adaptations <sup>1</sup> (Provide sup	porting		
6.						data in Remarks or on a separate sheet)			
						Problematic Hydrophytic Vegetation <sup>1</sup> (Exp	olain)		
7.									
						<sup>1</sup> Indicators of hydric soil and wetland hydrology mus	st		
8. 9.									
8. 9.			10001	Takal O		be present, unless disturbed or problematic.			
8. 9.			100%	= Total Cover		be present, unless disturbed or problematic.			
8. 9. 0. Voody Vine Stratu	m (Plot size: 30' r	radius )	100%	= Total Cover		be present, unless disturbed or problematic.  Hydrophytic  Vegetation			
7. 8. 9. 10.  Woody Vine Stratur 1. 2.	<u>m</u> (Plot size: <u>30' r</u>	radius )				Hydrophytic			
8. 9. 0. Voody Vine Stratul 1.	<u>m</u> (Plot size: <u>30' r</u>	radius )		= Total Cover		Hydrophytic Vegetation			
8. 9. 0. Woody Vine Stratur 1. 2.		· · · · · · · · · · · · · · · · · · ·				Hydrophytic Vegetation			
8. 9. 0. Voody Vine Stratur 1. 2.	m (Plot size: 30' r	· · · · · · · · · · · · · · · · · · ·				Hydrophytic Vegetation			

SOIL Sampling Point: SP-1

Profile Desc	ription: (Describe to th	e depth need	ed to document the i	indicator or c	onfirm the	absence of	indicators.)	
Depth	Matrix		Re	dox Features				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 4/2	95	10YR 3/1	5	D	M	SiCL	Faint mottles
10-20	10YR 3/1	90	10YR 5/6	10		M	SiCL	Prominent mottles
1= 0.0						21		
	oncentration, D=Depletion	on, RIVI=Reduc	ed Matrix, CS=Cover	ed or Coated	Sand Grains			ELining, M=Matrix.
Hydric Soil I Histoso			Sandy Clay	ad Matrix (C1)		maic		oblematic Hydric Soils³:
				ed Matrix (S4)	1			st Prairie Redox (A16)
	Epipedon (A2)		Sandy Redo					Manganese Masses (F12)
	listic (A3)		Stripped Ma		\			Surface (S7)
	en Sulfide (A4) ed Layers (A5)			ky Mineral (F1	-			Shallow Dark Surface (TF12) r (Explain in Remarks)
	* '			red Matrix (F2)	)		Other	r (Explain in Remarks)
	uck (A10)	<b>111</b>	Depleted M	Surface (F6)				
	ed Below Dark Surface (A	411)		, ,	7\		3Indicators	of hydrophytic vegetation and
	Park Surface (A12) Mucky Mineral (S1)			ark Surface (F ressions (F8)	7)			of hydrophytic vegetation and hydrology must be present,
	ucky Peat or Peat (S3)		Redox Depi	essions (Fo)				s disturbed or problematic.
							unies.	s disturbed of problematic.
	.ayer (if observed):							
Type:								
Depth (i	ncnes):					Hydric	Soil Present	? Yes No X
HYDROL								
-	Irology Indicators: cators (minimum of one i	a raquiradı aba	ok all that apply)				Cooor	adam (Indicatora (minimum of two required)
	•	s required. Crie		ad Lagyas /P	0)			ndary Indicators (minimum of two required)
	e Water (A1) ater Table (A2)		Aquatic Fau	ed Leaves (B	9)			Surface Soil Cracks (B6) Drainage Patterns (B10)
	ion (A3)			c Plants (B14)	١			Dry-Season Water Table (C2)
	Marks (B1)			ulfide Odor (C				Crayfish Burrows (C8)
	ent Deposits (B2)			nizospheres or		its (C3)		Saturation Visible on Aerial Imagery (C9)
	eposits (B3)			Reduced Iron	-	no (00)		Stunted or Stressed Plants (D1)
	lat or Crust (B4)			Reduction in		(C6)		Geomorphic Position (D2)
	posits (B5)			Surface (C7)		()		FAC-Neutral Test (D5)
	ion Visible on Aerial Ima	igery (B7)		/ell Data (D9)				
	ly Vegetated Concave S			ain in Remark	s)			
Field Observ					l			
Surface Wat		res X No	Depth (inches	s): 0.2				
Water Table		res A No res No		· ——				
Saturation P		es X No			Wetlan	d Hydrolog	y Present?	Yes X No
(includes car		63 <u>X</u> NU	Deptil (illiches	5)	Wellan	u riyurolog	y rieseiit:	Yes <u>X</u> No
	corded Data (stream gai	ige monitoring	well aerial photos n	revious inspe	ctions) if av	ailable		
200020 . 10	ooraoa zata (otroam ga	.go,og	,, aca. pc.cc, p		oo,, a.	u		
Remarks:								
	•	ignificant rainfa	II event (8/29/17). We	etland meets h	ydrology ind	dicator for g	eomorphic po	osition because this sampling point was
located within	a drainageway.							



## Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

## **BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PJD:** January 30, 2018

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Kathleen Sexton Metric Environmental, LLC 6971 Hillsdale Court Indianapolis, IN 46250 317-207-4286

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

# D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The proposed project is located at I-69 and S.R. 14 in Allen County (Des. No. 1401828). Specifically, the project is in Sections 1 and 12, Township 30 North, Range 11 East, of the Fort Wayne West, Indiana 7.5 minute United States Geological Survey (USGS) topographic quadrangle. The proposed improvements consist of closing the southwest I-69 off-ramp loop and routing that traffic onto the northwest I-69 off-ramp loop. The median barrier will be removed at the location. Two left turn lanes will be constructed in addition to the two existing right-turn lanes on the northwest I-69 off-ramp loop and the eastbound segment of S.R. 14/Illinois Rd. from the southwest I-69 off ramp loop to the bridge will be expanded to three lanes.

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

State: IN County/parish/borough: Allen County City: Huntington

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

Lat.: 41.074949° Long.: -85.229419°

Universal Transverse Mercator: 16N, 648743.05 m E 4548587.49 m N

Name of nearest waterbody: Durnell Ditch

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)
Wetland E	41.072646	-85.22934	0.033 ac 160 LFT	Wetland	Section 404
Wetland F	41.073429	-85.229074	0.142 ac 660 LFT	Wetland	Section 404
Durnell Ditch	41.074548	-85.231036	330 LFT (piped) 0.091 ac	Non-wetland waters	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 "preconstruction 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 aguatic 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: <u>Dated 1/30/2018</u> 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: Fort Wayne West, IN 7.5 min, 1963 ■ Natural Resources Conservation Service Soil Survey. Citation: SSURGO Allen County ■ National wetlands inventory map(s). Cite name: <a href="http://www.fws.gov/wetlands/">http://www.fws.gov/wetlands/</a> State/local wetland inventory map(s):\_\_\_\_\_\_ FEMA/FIRM maps: ; Effective— 100-year Floodplain Elevation is:\_\_\_\_\_\_.(National Geodetic Vertical Datum of 1929) Photographs: Aerial (Name & Date): Indiana Aerial Photograph, 2012 Other (Name & Date): Site Photographs, 8/30/17 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. 1/30/2018 katies@metricenv.com Signature and date of Signature and date of Regulatory staff member person requesting PJD completing PJD (REQUIRED, unless obtaining the signature is impracticable)1

<sup>&</sup>lt;sup>1</sup> 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.

## **Amy Smith**

**From:** Cooper, Nicholas <NCooper5@indot.IN.gov>

Sent: Tuesday, January 30, 2018 1:26 PM

**To:** Amy Smith

Cc: Perry, Damien N (INDOT); Marc.Rape@strand.com; Bailey, Andrea; Alex Gray; Katie Sexton; Susan

Castle

**Subject:** RE: Des. No. 1401828 Waters Determination Report, I-69 at S.R. 14 Interchange Modification, Aboite

Township, Allen County, Indiana

Amy,

Thank you for submitting the waters report for **I-69 at SR 14 Intersection Modification, DES 1401828**. Your most recent submission has been reviewed and approved. For the INDOT Project Manager, the approved report can be found on Projectwise through this link: <u>Waters Report Des. No. 1401828</u>. It is the responsibility of the Project Manager to forward a copy of this report to the Project Designer.

The information in this report should be used by the Project Designer to determine if waters of the U.S. will be impacted by the project. Avoidance and minimization of impacts must occur before mitigation will be considered. If mitigation is required, the Project Manager or Project Designer must coordinate with the Ecology and Waterway Permitting Office to discuss how adequate compensatory mitigation will be provided.

The Project Manager should notify the Ecology and Waterway Permitting Office if there is any change to the project footprint presented in this report. Such changes may require additional fieldwork and submittal of an updated waters report covering areas not previously investigated. This report is only valid for a period of five years from the date of earliest fieldwork. If the report expires prior to waterway permit application submittal, additional fieldwork and a revised waters report will be required.

It will not be sent to the United States Army Corps of Engineers (USACE) or the Indiana Department of Environmental Management (IDEM) until the waterways permit applications are submitted to these agencies.

#### **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698

From: Amy Smith [mailto:amys@metricenv.com]
Sent: Tuesday, January 30, 2018 12:25 PM
To: Cooper, Nicholas <NCooper5@indot.IN.gov>

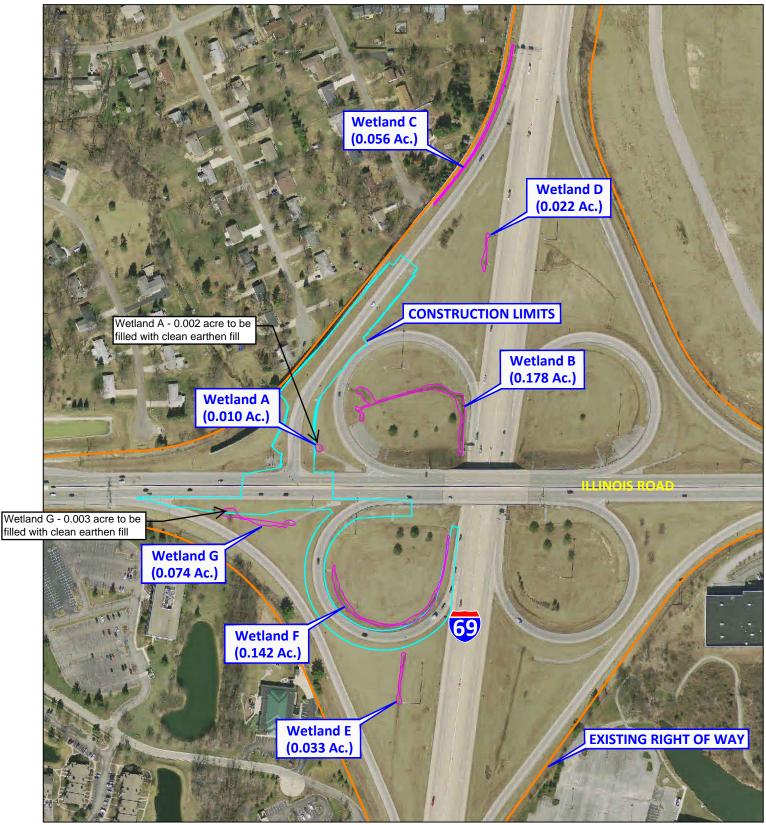
Cc: Perry, Damien N (INDOT) < DPerry1@indot.IN.gov>; Marc.Rape@strand.com; Bailey, Andrea

<Andrea.Bailey@strand.com>; Alex Gray <alexg@metricenv.com>; Katie Sexton <katies@metricenv.com>; Susan Castle <susanc@metricenv.com>

**Subject:** RE: Des. No. 1401828 Waters Determination Report, I-69 at S.R. 14 Interchange Modification, Aboite Township, Allen County, Indiana

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

Nick,



Source: http://maps.indy.gov/MapIndy/

2015 Aerial Photograph with Wetlands I-69 at S.R. 14 Interchange Modifications Aboite Township, Allen County, Indiana Des. No. 1401828 All locations approximate

w

Scale



Jessica,

Since all work is above the BFE elevation as you stated, then a CIF won't be needed. Additionally, that floodplain shown is also not completely accurate given that the stream is now piped under the roadway there.

#### **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

Sent: Monday, May 21, 2018 11:48 AM

**To:** Cooper, Nicholas < NCooper5@indot.IN.gov>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

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

Hi again Nick,

Just wondering – what was the deciding factor in your determination that no CIF will be required?

Thanks,

#### JESSICA R. PETERSON, MS

Project Manager
 Office: 317.983.5328
 Mobile: 812.325.2809

Email: <u>JessicaP@MetricEnv.com</u>

**From:** Cooper, Nicholas < NCooper5@indot.IN.gov>

**Sent:** Monday, May 21, 2018 9:52 AM

**To:** Jessica Peterson < <u>jessicap@metricenv.com</u>>

**Cc:** Amy Smith <a href="mailto:amys@metricenv.com">amys@metricenv.com</a>; Alex Gray <a lexa@metricenv.com</a>; Couch, Gregory <a learning of the second of

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

Jessica,

Thanks for this information. Based on the information provided, the following permits are needed for **Des. No. 1401828, RFC 5/19/19** (the designer should confirm all schedules with the Project Manager):

- 401/404 NWP (Use State Form 51937) due to 0.005 acre of wetland impacts. Please submit to our office for review by 1/19/19.
- Rule 5 due to soil disturbance exceeding 1.0 acre. Please submit to our office for review by

1/19/19.

We are providing **preliminary** permit determinations based on the information presented at the time of the request. **If scope and plans change the designer should contact us for a revised determination.** A final permit determination will be done at the time of permit application submittal and/or any changes to the scope of the project.

## **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

**Sent:** Monday, May 21, 2018 9:39 AM

**To:** Cooper, Nicholas < <a href="MCooper5@indot.IN.gov">MCooper5@indot.IN.gov</a>>

**Cc:** Amy Smith <a href="mailto:amys@metricenv.com">amys@metricenv.com</a>>; Alex Gray <a href="mailto:alexg@metricenv.com">alexg@metricenv.com</a>>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

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

Hi Nick,

There will be approximately 2.14 acre of unpaved ground disturbance. Feel free to contact me if you have any other questions.

Thank you,

## JESSICA R. PETERSON, MS

Project Manager Office: 317.983.5328

Mobile: 812.325.2809

Email: <u>JessicaP@MetricEnv.com</u>

From: Cooper, Nicholas < NCooper5@indot.IN.gov>

**Sent:** Monday, May 21, 2018 8:19 AM

**To:** Jessica Peterson < <u>jessicap@metricenv.com</u>>

**Cc:** Amy Smith <a href="mailto:amys@metricenv.com">amys@metricenv.com</a>>; Alex Gray <a href="mailto:alexg@metricenv.com">alexg@metricenv.com</a>>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

Jessica,

Thanks for this information. What is the total acreage of soil disturbance for this project?

#### **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698 From: Cooper, Nicholas
To: <u>Jessica Peterson</u>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

**Date:** Wednesday, May 23, 2018 9:51:25 AM

Attachments: image001.png

image002.png image003.png image004.png image005.png

#### Jessica,

I discussed this correspondence with Sandy to get some additional input. Our view is still that a CIF permit will not be needed for this project and that we will not be completing one. Please make sure this is reflected in the CE.

#### Thanks,

## **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

**Sent:** Tuesday, May 22, 2018 11:16 AM

To: Cooper, Nicholas < NCooper5@indot.IN.gov>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

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

#### Hi Nick,

Please see attached the email with IDNR. They responded that the floodway has "infinitely vertical limits", and being above the BFE is still in the floodway. So, if a construction project is within a floodway of a stream with a drainage area over 1 square mile, a CIF permit is required (unless it meets one of the listed exemptions). If it's agreeable to you, since there will be excavation and fill within the floodway, and the project doesn't seem to qualify for any other exemptions, I'll write in the CE that a CIF permit will be necessary. Please let me know.

## Thank you,

#### JESSICA R. PETERSON, MS

Project Manager Office: 317.983.5328 Mobile: 812.325.2809

Email: <u>JessicaP@MetricEnv.com</u>

From: Cooper, Nicholas < NCooper5@indot.IN.gov>

**Sent:** Monday, May 21, 2018 2:49 PM

**To:** Jessica Peterson < <u>jessicap@metricenv.com</u>>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

Jessica,

I asked Kristi as well and we couldn't come up with a concrete reference for you. I don't believe that the DNR cites the BFE anywhere specifically, but I know this is how they have looked at projects with a similar situation in the past. If you want, you are welcome to email the DNR to see if they can get you a better reference.

Let me know if you find out anything contrary to the determination I provided.

Thanks,

#### **Nick Cooper**

Ecology and Waterway Permitting Specialist Indiana Department of Transportation Ph. (317) 233-3698

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

**Sent:** Monday, May 21, 2018 1:38 PM

**To:** Cooper, Nicholas < NCooper5@indot.IN.gov>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

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

Hi Nick,

Sorry to keep bothering you about this! In their response to the early coordination letter, IDNR said that, if excavation or fill would occur, a CIF permit would be required for this project unless it met criteria for the bridge exemption. So, last week, I did some research looking for the regulation where it's written that no CIF permit is required for projects above the BFE. I was unable to find this. There is one place in the Flood Control Act that says the lowest floor of a home or abode must be at or above the BFE, but this isn't really applicable here. I try to file all my primary sources for any rules I cite in the CE document, so that we have them in case there are questions or issues later on. If possible, will you please send me a link or citation where I can find this exemption? Or, if it's easier for you, I can email IDNR—just let me know.

Thank you,

## JESSICA R. PETERSON, MS

Project Manager

Office: 317.983.5328

Mobile: 812.325.2809

Email: JessicaP@MetricEnv.com

From: Cooper, Nicholas < NCooper5@indot.IN.gov>

**Sent:** Monday, May 21, 2018 11:58 AM

**To:** Jessica Peterson < <u>jessicap@metricenv.com</u>>

Subject: RE: Des. No. 1401828, I-69 at SR 14, Interchange Modification, Allen County

From: Stanifer, Christie
To: <u>Jessica Peterson</u>

Subject: RE: Des. No. 1401828, Interchange Modification, I-69 at SR 14, Fort Wayne, Allen County

**Date:** Wednesday, May 23, 2018 12:18:42 PM

Attachments: image001.png

image002.png image003.png image004.png image005.png

Des1401828FEMAmap.pdf

#### Hi Jessica,

The DNR regulates the floodway portion of the floodplain (or the floodplain if the floodway has not been determined). The waters of the US and any 401/404 permitting is irrelevant to DNR's permitting (unless a wetland is within the floodway), though IDEM may require comments from us on ETR species for their permitting sometimes. Technical Services will likely not tell you if a permit is required. They usually leave it up to engineering firms to know if they need a permit or not based on the following:

\*\*Any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile will require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for a general license (they don't determine if the project qualifies for the general license).

However, you can contact them at 317-232-4160 to discuss this and see if they're willing to look it over. If a project is really small in nature, they sometimes will approve a project with a letter, but I doubt that would be the case here. But basically, if there is any work within the floodway limits of Durnell Ditch (red & blue hashed area on attached map), and it doesn't qualify under the bridge general license or the INDOT bridge maintenance MOU, then a Construction in a Floodway permit is required.

If there's anything that needs clarification, I'd be happy to try to explain better or shed light on.

#### Thanks,

Christie L. Stanifer
Environmental Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
402 West Washington St, Room W273
Indianapolis, IN 46204
Direct (217) 232 8463

Direct: (317) 232-8163 Fax: (317) 232-8150

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

**Sent:** Wednesday, May 23, 2018 10:40 AM **To:** Stanifer, Christie <cstanifer@dnr.IN.gov>

Subject: RE: Des. No. 1401828, Interchange Modification, I-69 at SR 14, Fort Wayne, Allen County

#### Hi Christie,

I do have some more info to add/expand upon, and would like a formal permit determination. I'd very much appreciate it someone in the Technical Services Section could respond via email, so that I'll have a written record for the environmental document. Will you please forward this, and/or send me the email of someone in the Technical Services Section who provides permit determinations?

There will be construction over what is shown as the floodplain of Durnell Ditch. I've attached an exhibit of the construction limits overlaid on the DFIRM and the exhibits/plans. Construction limits cross the floodplain at around Station 42+50 on SR 14 (Plan Sheets 6, 10, and 15). Within the floodplain on SR 14, they're constructing an additional travel lane on the south side of SR 14. Construction limits also cross the floodplain at Stations 12 and 13 on Ramp C (Plans Sheets 8 and 14). Within the floodplain on Ramp C, it looks like it'll just be "incidental" construction. There are lanes being added to the east side of Ramp C but it seems they'll be out of the floodplain. The new limits of Ramp C will still be about 40' east of the floodplain. There will be no trees removed as a result of this project.

One factor I failed to mention is that, during the waters of the US determination and delineation, Durnell Ditch was found to be entirely encapsulated (i.e., piped) within the project limits. Since it is piped, no impact below the OHWM of Durnell Ditch is anticipated. There is one wetland (Wetland G) within the floodplain, of which approximately 0.003 acre will be impacted through discharge of 5 cys. of clean earthen fill. I attached an exhibit showing that too. Wetland A is out of the floodplain. I'm not sure if you need this info, but it might be useful. We will be acquiring the appropriate 401/404 permits for the wetland impacts.

Please let me know if you have questions or if there is any other information you need to make a final determination.

Thank you,

## JESSICA R. PETERSON, MS

Project Manager Office: 317.983.5328 Mobile: 812.325.2809

Email: JessicaP@MetricEnv.com

**From:** Stanifer, Christie < <a href="mailto:cstanifer@dnr.IN.gov">cstanifer@dnr.IN.gov</a>>

**Sent:** Tuesday, May 22, 2018 9:07 AM

**To:** Jessica Peterson < <u>jessicap@metricenv.com</u>>

Subject: RE: Des. No. 1401828, Interchange Modification, I-69 at SR 14, Fort Wayne, Allen County

Hi Jessica. I appreciate you asking about this. I attached the last page of the original submittal showing that the "project area" in yellow encompases a portion of the floodway of Durnell Ditch. Since there wasn't enough information submitted to know what type of work might be in the floodway in that area (bridge, road, or what-not), we had to say that a permit might be required. Keep in mind also that the floodway has infinitely vertical limits, so if you are doing any road/bridge work that crosses over a stream with a drainage area greater than 1 square mile, it doesn't matter if you're above the BFE....you're in the floodway regardless (not saying that's the case here, but something to keep in mind). In this case, if there's no work in the floodway of Durnell Ditch (including the bridge over it), then a permit isn't required. There isn't another exemption that would apply here if you are working in the floodway (other exemptions are: utility, obstruction removal, outfall, and wetland restoration).

Hopefully this answers your question. If you need any further clarification, the Division of Water's Technical Services Section is in charge of permitting, and they can be reached at 317-232-4160.

## Sincerely,

Christie L. Stanifer
Environmental Coordinator
Indiana Department of Natural Resources
Division of Fish and Wildlife
402 West Washington St, Room W273
Indianapolis, IN 46204

Direct: (317) 232-8163 Fax: (317) 232-8150

**From:** Jessica Peterson [mailto:jessicap@metricenv.com]

**Sent:** Monday, May 21, 2018 5:22 PM

**To:** Stanifer, Christie < <a href="mailto:cstanifer@dnr.IN.gov">cstanifer@dnr.IN.gov</a>>

Subject: Des. No. 1401828, Interchange Modification, I-69 at SR 14, Fort Wayne, Allen County

Hello Ms. Stanifer:

Please feel free to forward this to whoever is most appropriate to respond, if needed. I am seeking help determining if this project will need a CIF permit, and need pointed to the section in IDNR regulations for an exemption I've been seeing applied a lot lately.

In the early coordination response, you said that, if excavation or fill would occur, a CIF permit would be required for this project, unless it met criteria for the bridge exemption. The project doesn't include any bridge or structure work, so that exemption won't apply. Based on the current design plans, and data on the IN Flood Information Portal, no work will be performed below the base-flood elevation (810 ft.). The plans show that nearly all work is to occur at elevations ranging from 815 to 825 ft, with some areas slightly above or below that, but none under 810'. Is it correct then that a CIF is not required, since there will be no construction, excavation, or fill below the BFE?

I received an INDOT permit determination stating the above (no CIF required since all work above BFE), but they were unable to provide a citation for the exemption being used there. I read through the Flood Control Act and several other IDNR guidance docs, but was unable to find this specific exemption. It could possibly be inferred from some documents, but I've been unable to find it explicitly stated anywhere in my search. Will you please provide the source (e.g., which act, regulation, guidance document, etc.) and section where I can find this, if it is actually a defensible permit exemption?

Thank you in advance. Please let me know if you need any other information to provide a response.

Sincerely,

JESSICA R. PETERSON, MS

Project Manager

Phone: 317.983.5328 Mobile: 812.325.2809

Email: jessicap@metricenv.com

6971 Hillsdale Court, Indianapolis, IN 46250

www.metricenv.com









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## **APPENDIX G: Public Involvement**

## **APPENDIX H: Air Quality**

#### Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2016 - 2019

State Preservation			<del></del>	WORK TYPE	LOCATION	DISTRICT	MIL EC	FEDERAL	Fatimate d	DDOODAM	DUAGE	FEDERAL	MATOU				
SPONSOR	DES	STIP	ROUTE	WORK TYPE	LOCATION	DISTRICT		FEDERAL	Estimated	PROGRAM	PHASE	FEDERAL	MATCH	2016	2017	2018	2019
		NAME						CATEGORY	Cost left to								
									Complete								
									Project*								
Allen County																	
Indiana Department	1500349	A 01	169	New Signal	On Top of Lower Huntington	Fort Wayne	0	STP		District Other	CN	\$138,600.00	\$15,400.00	\$154,000.00			
of Transportation				Installation	Rd Interchange-W Ramps, 2.45					Construction				***************************************			
					M. N. of S. Jct of I-469												
		Comments	: IN MPO	NIRCC - Add project to 2	2016-2019 STIP for CN in FY2016. In	old 2014-2017 NIRCC T	IP. Ameno	lment 14-125. Also in N	lew 2016-2019 NIF	CC TIP, approved on	June 24.20	15.		•	•	<u> </u>	
Indiana Department	1401828	A 01	I 69	Interchange	I-69 @ SR 14 interchange	Fort Wayne	2.125	STP	\$922,500.00	Safety Consulting	PE	\$180,000.00	\$0.00		\$180,000.00		
of Transportation				Modification											,,		
		L Comments	: CN in FY	<u>I</u> 2020.  In Ft Wayne MPO.	Add project to 2016-2019 STIP for Pl	E FY2017. NIRCC TIP a	<b>I</b> amendmer	<u>l</u> nt #16-5.	l								
Indiana Department	1500781	A 01	SR 101	Bridge Deck Overlay	Bridge Over Hamm Ditch, 1.49	Fort Wayne	I 0	STP	Τ	Bridge	CN	\$547,440.00	\$136,860.00			\$684,300.00	
of Transportation				,	Miles North of SR 37.					Construction		. ,	,			Ψ004,000.00	
·																	
	•	•		•	•	•	•	•	•	Bridge Consulting	PE	\$76,000.00	\$19,000.00	\$95,000.00			
														,			

Comments: NO MPO. Add project to 2016-2019 STIP for PE in FY2016 and CN in FY 2018. .

Allen County Total

Federal: \$942,040.00 Match:\$171,260.00 2016: \$249,000.00 2017: \$180,000.00 2018: \$684,300.00

2019:

State Preservation and Local Initiated Projects FY 2018 - 2021

				cts FY 2018 - 2021					-	•							
SPONSOR	CONTR ACT#/ LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2018	2019	2020	2021
Allen County	38005 / 1401273	Init.	IR 1025	Road Reconstruction (3R/4R Standards)	Bass Rd: from Scott Rd to Hadley Rd	Fort Wayne	7	STP		Fort Wayne MPO	RW1	\$1,856,230.00	\$0.00		\$1,856,230.00		
Indiana Department of Transportation	38562 / 1600115	Init.	SR 14	HMA Overlay, Preventive Maintenance	2.44 miles W of I-69 to 0.28 miles E of I-69	Fort Wayne	2.447	STP		Road Construction	CN	\$1,241,060.00	\$310,265.00		\$1,551,325.00		
Indiana Department of Transportation	38564 / 1383542	Init.	SR 37	Small Structure Pipe Lining	Over Branch #2, Sowers Ditch, 3.05 miles N of SR 101	Fort Wayne		STP		Bridge Construction	CN	\$164,474.40	\$41,118.60			\$205,593.00	
							•	•		Bridge ROW	RW1	\$4,000.00	\$1,000.00		\$5,000.00		
Indiana Department of Transportation	38564 / 1383553	Init.	SR 101	Small Structure Pipe Lining	Imback Ditch, 6.64 miles N of US 30	Fort Wayne	(	STP		Bridge Construction	CN	\$57,790.40	\$14,447.60			\$72,238.00	
Indiana Department of Transportation	38564 / 1592638	Init.	SR 3	HMA Overlay, Preventive Maintenance	From I-69 to 3.63 miles N of I-69	Fort Wayne	3.562	NHPP		Road Construction	CN	\$2,173,720.00	\$543,430.00			\$2,717,150.00	
Indiana Department of Transportation	38564 / 1700224	Init.	US 33	Bridge Deck Overlay	Bridge over Johnson Ditch, 5.3 3 miles N of US 30	Fort Wayne	(	NHPP		Bridge Construction	CN	\$277,720.00	\$69,430.00			\$347,150.00	
Indiana Department of Transportation	38565 / 1401828	Init.	I 69	Interchange Modification	I-69 at SR 14 interchange	Fort Wayne	2.125	NHPP		Safety Construction	CN	\$830,250.00	\$92,250.00			\$922,500.00	
Indiana Department of Transportation	38565 / 1401828	A 01	I 69	Interchange Modification	I-69 at SR 14 interchange	Fort Wayne	2.125	NHPP	\$937,500.00	Safety Consulting	PE1	\$13,500.00	\$1,500.00	\$15,000.00			
Comments:NIRCC Re	esolution 17-	-318. Addi	ng PE to F	Y 2018 into FY 2018 - 202	21 STIP.		l	ı									
Indiana Department of Transportation	38565 / 1700224	A 04	US 33	Bridge Deck Overlay	Bridge over Johnson Ditch, 5.3 3 miles N of US 30	Fort Wayne	(	NHPP	\$422,000.00	Bridge Consulting	PE1	\$60,000.00	\$15,000.00	\$75,000.00			
Comments:NO MPO.	Adding PE	to FY 201	8 into FY 20	018 - 2021 STIP.	•	•				•			<u>.</u>		<u>.</u>		
Indiana Department of Transportation	38565 / 1701341	A 04	SR 930	HMA Overlay, Preventive Maintenance	From 4.97 miles W of I-469 (Clo verleaf) to 0.54 miles W of I-46 9 (Minnich	Fort Wayne	4.723	NHPP	\$2,897,000.00	Road Construction	CN	\$2,157,276.80	\$539,319.20			\$2,696,596.00	
										Road Consulting	PE1	\$160,000.00	\$40,000.00	\$200,000.00			
Comments:NIRCC Re	esolution 18-	-39. Addin	g PE to FY	2018 and CN to FY 2020	into FY 2018 - 2021 STIP.					•			•				
Indiana Department of Transportation	38565 / 1701348	A 04	I 469	Bridge Rehab-Pipe Lining	CIPP Pipe Liner, 6.0 miles E of US 27	Fort Wayne	(	NHPP	\$257,000.00	Bridge Construction	CN	\$172,741.50	\$19,193.50			\$191,935.00	
								•	•	Bridge Consulting	PE1	\$54,000.00	\$6,000.00	\$60,000.00			
										Bridge ROW	RW1	\$4,500.00	\$500.00		\$5,000.00		
Comments:NIRCC Re	esolution 18-	-40. Addin	g PE to FY	2018, RW to FY 2019, ar	nd CN to FY 2020 into FY 2018 - 202	1 STIP.				<u> </u>							
	38565 / 1701352	A 04		Bridge Deck Overlay	Bridge over Hoffman Creek EB, 0.65 miles W of SR 101	Fort Wayne		NHPP	\$905,000.00	Bridge Consulting	PE1	\$100,000.00	\$25,000.00	\$125,000.00			
	1	<u> </u>		l	l			<u> </u>		Bridge Construction	CN	\$623,903.20	\$155,975.80			\$779,879.00	

Project Location (Description of Project)	LRP # DES #	Phase	Est. Cost (\$1000)	Year	Federal (\$1000)	State (\$1000)	A/M
l-69: NB & SB bridge over US 24, 3.21 mi s/o	1401770	CN	25.3	2016	22.8	2.5	
SR 14							
Repair or Replace Joints	1401771	CN	25.3	2016	22.8	2.5	
NB - 1401770 SB - 1401771							
-69: SB & NB bridge over NS RR, 0.53 mi	1401774	CN	100.0	2016	90.0	10.0	
/o SR 14	1401775	CN	101.4	2016	91.2	10.1	
Repair or Replace Joints							
B - 1401774 WB - 1401775							
-69: bridge over McCulloch Ditch & NS RR, 0.8	1401776	PE	103.0	2016	92.7	10.3	
ni s/o US 24		CN	101.4	2016	91.2	10.1	
Repair or Replace Joints							
-69: SB & NB bridge over CFE RR, 1.9 mi							
/o US 30	1401788	CN	101.4	2016	91.2	10.1	
Repair or Replace Joints	1401789	PE	67.8	2016	61.0	6.8	
B - 1401788 WB - 1401789		CN	101.4	2016	91.2	6.8	
I-69 at SR 14 Interchange	1401828	PE	160.0	2016	144.0	16.0	16-144
nterchange Modification	1101020	PE	15.0	2018	13.5	1.5	17-318
-		CN	922.5	TBD	TBD	TBD	16-5
69: SB ramps at Lower Huntington Rd lew Signal Installation	1500340	CN	154.0	2016	138.6	15.4	
iew Signal installation	1500349	CN	154.0	2010	130.0	15.4	
I-69 at SR 3: from 1.4 mi north to 1.94 mi n/o							
JS 30	1592429	CN	350.0	2016	315.0	35.0	16-29
IMA Overlay, Preventive Maintenance							
I-69: 0.68 mi s/o US 224 to 9.52 mi n/o US 224							16-104
	1592633	PE	20.0	2017	18.0	2.0	16-204
IMA Overlay, Preventive Maintenance		PE/CE	450.0	2018	405.0	45.0	17-322
I-69: NB over NS RR. 0.53 mi n/o SR14	1592908	CN PE	6686.2 15.0	2018	6017.6 13.5	668.6 1.5	16-183
Bridge Maintenance and Repair	1002000	'-	13.0	2017	10.5	1.5	16-124
	1592908	CN	134.0	2018	107.2	26.8	16-210
I-69: NB over NS RR, 0.53 mi n/o SR14	1592914	PE	15.0	2017	13.5	1.5	
ridge Maintenance and Repair	1592914	CN	101.8	2018	81.4	20.4	16-125 16-211
l-69: NB over CFE RR, 0.81 mi n/o SR 14	1592914	PE	15.0	2017	13.5	1.5	10-211
Bridge Maintenance and Repair	1002010	'-	10.0	20	10.0		16-126
	1592916	CN	101.8	2018	81.4	20.4	16-212
I-69: SB over CFE RR, 0.81 mi n/o SR 14	1592917	PE	15.0	2017	13.5	1.5	40.40
Bridge Maintenance and Repair		CN	101.8	2018	81.4	20.4	16-127 16-213
-69: NB over US 24, 3.21 mi s/o SR 14		PE	30.0	2017	27.0	3.0	17-290
Bridge Maintenance and Repair	1592926	CN	26.8	2018	21.4	5.4	16-51
							16-107
I-69: SB over US 24, 3.21 mi s/o SR 14	4500	PE	30.0	2017	27.0	3.0	17-291
Bridge Maintenance and Repair	1592927	CN	26.8	2018	21.4	5.4	16-52
I-69: NB over NS RR, 0.53 mi n/o SR 14	1592928	CN	42.8	2018	<del>34.2</del>	<del>8.6</del>	16-108
Bridge Maintenance and Repair	1002020	974	TE.0	<del>-010</del>	<del>01.2</del>	0.0	16-109
g.:aa. a.i.a.i topaii							

Project Location	LRP#		Est. Cost		Federal	State		Percentage Split
(Description of Project)	DES#	Phase	(\$1000)	Year	(\$1000)	(\$1000)	A/M	/ Comments
SR 37								
Bridge over Wann Ditch, 0.38 miles S of SR 101	1592648	CN	69.1	2018	55.3	13.8		80/20 12/13/2017
Scour Protection (Erosion)								
*SR 37								
Bridge over Dietzen Ditch, 3.71 mi n/o SR101	1602284	PE	37.5	2018	30.0	7.5	18-6	
Bridge Replacement, Other Construction		PE	122.5	2019	98.0	24.5		
*SR 37								
Bridge over Hamm Ditch, 0.80 mi n/o SR 101	1701392	PE	30.0	2018	24.0	6.0	18-8	
Replace Superstructure		PE	130.0	2019	104.0	26.0		
*SR 37								
Bridge over Roth Ditch, 3.15 mi n/o I-469	1701400	PE	42.5	2018	34.0	8.5	18-9	
Bridge Replacement		PE	132.5	2019	106.0	26.5		
*SR 37								
Bridge over Porter Creek, 1.52 mi n/o SR 101	1701401	PE	42.5	2018	34.0	8.5	18-10	
Bridge Replacement		PE	132.5	2019	106.0	26.5		
*I-69								
Hillegas Road Bridge over I-69, 0.48 miles S of US 30	1006172	CN	2789.7	2018	2510.7	279.0	18-66	90/10
*HSIP Urban Funding **match funding is Fort Wayne	1401164	CN	1049.5	2018	*944.6	**105	18-67	12/13/2017
Bridge Deck Replacement & Widening								
I-69								
I-69 Various Locations - SR 5 to 1.24M S of US24 & US6								
to 1.18M. N of SR4.	1297947	CN	3313.0	2018	2650.4	662.6		90/10
								02/07/2018
Install New Cable Rail Barriers								
*I-69								
I-69 at SR 14 interchange	1401828	PE	15.0	2018	13.5	1.5	17-318	
		CN	922.5	2020	738.0	184.5		08/07/2019
Interchange Modification								
*I-69								
0.68 miles S of US 224 to 9.52 miles N of US 224	1592633	PE/CE	450.0	2018	405.0	45.0	17-322	•
		CN	6686.2	2018	5349.0	1337.2		02/07/2018
HMA Overlay, Preventive Maintenance								
I-69								
Bridge over NS Railroad(Chicago), NB Lane, 0.53 miles N								
of SR 14	1592908	CN	101.8	2018	81.4	20.4		90/10
								08/09/2017
Substructure Repair And Rehabilitation								
I-69								
Bridge over NS Railroad(Chicago), SB Lane, 0.553 miles N	1592914	CN	101.8	2018	81.4	20.4		90/10
								08/09/2017
Substructure Repair And Rehabilitation								
I-69								
Bridge over CFE Railroad, NB Lane, 0.81 miles N of SR 14	1592916	CN	101.8	2018	81.4	20.4		90/10
								08/09/2017
Substructure Repair And Rehabilitation								
1-69								
				_				
Bridge over CFE Railroad, SB Lane, 0.81 miles N of SR 14	1592917	CN	101.8	2018	81.4	20.4		90/10
								08/09/2017
Substructure Repair And Rehabilitation								

## **APPENDIX I: Additional Studies**

## Report for INDOT, Fort Wayne District

**Engineering Assessment Report** 

I-69 at SR 14 Interchange Modification

Des. No. 1401828

Allen County–Fort Wayne District

Note: Only pages applicable to Purpose and Need section of the CE are included.

Prepared by:

STRAND ASSOCIATES, INC.® 629 Washington Street Columbus, Indiana 47201 www.strand.com

April 2017



#### **ENGINEER'S REPORT**

I-69 at SR 14/Illinois Road Interchange Modification Des. No. 1401828

#### I. PURPOSE OF REPORT

The purpose of this Engineer's Report is to outline the proposal to improve safety at the interchange of I-69 at SR 14/Illinois Road. This Engineer's Report is intended to serve as a guide for the ongoing development of the environmental document and succeeding site survey and design.

#### II. PROJECT LOCATION

This interchange modification project is located at I-69 at the SR 14/Illinois Road interchange in Allen County within the Fort Wayne District. The project site is located at I-69 from Reference Post 305+18 to Reference Post 305+37. Project location maps are provided in Appendices A–1 and A–2.

#### III. PROJECT PURPOSE AND NEED

The need for this project is evidenced by the high traffic volumes on loop ramps H southwest (SW) and E southeast (SE), weaving with eastbound (EB) through traffic on Illinois Road. Drivers have reported confusion over how to legally merge and who should yield to whom. American Association of State Highway and Transportation Official's (AASHTO) *A Policy on Geometric Design of Highways and Streets* (Green Book) does not recommend adjacent loops when the sum of the volumes on those two ramps exceeds 1,000 because of the weaving problem and its effect on mainline traffic. Current counts show a combined morning peak-hour volume of nearly 1,800 vehicles per hour (vph) on the two loops previously mentioned.

#### IV. EXISTING FACILITY

#### A. ROADWAY HISTORY AND CONDITION

This urban section of I-69 has a Functional Classification of Interstate Highway. The current alignment of I-69 was constructed in 1960 (69-4(13)105) as a four-lane freeway with a full cloverleaf interchange at SR 14/Illinois Road. In 2003, travel lanes were added on I-69 and Ramp C (northwest) was converted from a free-flow ramp into a signalized intersection to minimize weaving conflict (R-26484). SR 14/Illinois Road is classified as Principal Arterial 3.

The I-69 typical cross section features three lanes in each direction, 12 feet in width, consisting of 14-inch concrete pavement (PCCP). The outside shoulders are 12 feet and the median shoulders are 14 feet wide. Underdrain pipes 6 inches in diameter were also included in the construction. The concrete median barrier is 2 foot 6 inches in width and 45 inches in height. Ramps were originally constructed as 10 inch PCCP with 13.5-inch asphalt shoulders but were overlaid with 4 inches of asphalt in 2003.

SR 14/Illinois Road consists of two through lanes in each direction, 12 feet in width, with 12 foot auxiliary lanes. The pavement consists of approximately 16 inches of asphalt. West

	Existing	2030	2040
Hadley Road	0.78	0.82	0.85
Ramp Terminals	0.78	0.82	0.85
Magnavox Way	0.73	0.77	0.80

Table VI-4 AM Peak Hour Factors

#### VII. CRASH DATA AND ANALYSIS

As mentioned in the project need section of this report, many crashes in this area of influence are caused by merging or weaving scenarios. Crashes at Hadley Road and Magnavox Way along SR 14/Illinois Road are included because of the current weaving patterns caused by free-flow movements between Hadley Road and the southbound (SB) On Ramp as well as between the northbound (NB) Off Ramp and Magnavox Way. The nearest intersection listed (I-69 or SR 14/Illinois Road) in the crash report was used to determine the type of crash for the loops and ramps. Crashes were excluded for the following primary factors listed in the crash report: animal/object in roadway; roadway surface condition, provided speed was not a contributing issue; and driver asleep or fatigued.

A total of 201 intersection-related crashes occurred in the 5-year period from 2012 through 2016. They involved 347 vehicles, 37 total injuries, and one fatality. These crashes are summarized in Table VII-1.

			Cras	h Severit	У		Cra	sh Type	
Year	Crashes	Vehicles Involved	Property Damage Only	Injury	Fatal	Rear End	Ran off Road	Same- direction Sideswipe	Other
2012	33	56	26	6	1	11	11	8	3
2013	37	61	30	7	0	14	15	8	0
2014	37	65	33	4	0	16	14	7	0
2015	49	83	39	10	0	21	17	9	2
2016	45	82	38	7	0	20	14	10	1
Total	201	347	166	34	1	82	71	42	6
% Total			82.6%	16.9%	0.5%	40.8%	35.3%	20.9%	3.0%

Table VII-1 Summary of Crash Types and Severities

The crash type distribution shows three primary types: rear end, ran off road, and same-direction sideswipe. These three types often have lower severity levels, which corresponds with the large majority of crashes that are classified as property damage only. Additionally, there is a relatively high proportion of same-direction sideswipe crashes, and all three of those crash types are frequently found in congested areas with high merging volumes.

Table VII-2 shows the Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) for each interchange road segment, diagonal ramp, and loop. The annual average daily traffic (AADT) value used was the average of the AADT for 2012 through 2016 from the TCDS (for both directions, if applicable). The positive values for SR 14/Illinois Road, Loop E, and Loop H are

indicative of the observed weaving problem involving those loops, and the ICF for Loop H is particularly high. The short-term solution will directly address these higher crash indexes. Ramp C also has a significantly high ICF, which may be affected by this project. Ramp A has a higher-than-average crash frequency but the crashes at Ramp A would not be addressed until the second phase of the project. The RoadHAT reports can be found in Appendix B-5.

	2012 Through 2016 Crashes								
Segment Name	Length	Average AADT	PDO*	Non- Incap. Injury	Incap. Inj./Fatal	Total	ICF	ICC	
I-69	1.09	57,071	53	9	1	63	-0.42	-0.62	
SR 14/Illinois Rd	0.55	33,431	35	7	2	44	0.44	0.75	
Ramp A	0.35	2,678	10	2	1	13	1.34	1.15	
Ramp B	0.35	7,578	10	1	0	11	0.35	0.25	
Ramp C	0.29	6,967	26	4	1	31	3.45	1.75	
Ramp D	0.35	1,769	1	0	0	1	-0.49	-0.59	
Loop E	0.20	6,733	7	2	0	9	0.89	0.62	
Loop F	0.20	1,577	3	0	0	3	0.02	-0.28	
Loop G	0.20	2,732	2	1	0	3	-0.03	-0.01	
Loop H	0.20	7,086	23	3	0	26	3.03	1.92	

<sup>\*</sup>Property Damage Only (PDO)

Table VII-2 RoadHAT Analysis

#### VIII. DISCUSSION OF SHORT-TERM ALTERNATIVES/IDENTIFICATION OF PROPOSAL

Currently, money is programed to construct a short-term solution to the operations at this interchange. The alternatives evaluated in this section of the report are the "No Build" alternative, the "Modified Loop" alternative, and the recommended "Closed Loop" alternative. The short-term alternatives have been analyzed with an interim design year of 2030.

Certain assumptions were made for the analysis of these alternatives. First, count data were limited for SR 14/Illinois Road. The TCDS had comprehensive data for the interstate and ramps; however, counts for SR 14/Illinois Road were only available at points west and east of the interchange, and no truck information was available. A peak hour factor (PHF) was estimated for all ramp intersections by adding 15-minute counts from SR 14/Illinois Road and each ramp to determine an approximate PHF for the interchange. Heavy vehicle percentages were estimated for EB and westbound (WB) Illinois Road by comparing percentages from counts at Hadley Road and Magnavox Way. For the A.M. peak hour, the EB and WB percentages at each intersection were the same. For the P.M. peak hour, the WB percentages were the same but EB differed by 2 percent, so the average of the two percentages was used for the interchange intersections.

To project traffic counts to design year, a 1.1 percent linear annual growth rate (LGR) was used for Illinois Road, 0.2 percent for I-69, and 0.7 percent for the freeway ramps. Traffic operations were analyzed using Synchro 9.1 and Highway Capacity Manual (HCM) 2010 wherever possible. Similar to the existing condition, HCM 2000 was used for the modified loop alternative because of its phasing structure; HCM 2010 shows no delays for the right-turning ramp movements. If the optimal network signal timing was greater than 120 seconds, the network was set to a cycle length of 120 seconds consistent with IDM 41-5.0.

#### A. NO-BUILD ALTERNATIVE

# Report for Indiana Department of Transportation, Fort Wayne District

Draft Interstate Access Document I-69 at SR 14/Illinois Road Interchange Modification



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October 2017



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#### **APPENDICES**

APPENDIX A-1-CLOSED LOOP PLAN APPENDIX A-2-PROJECT LOCATION APPENDIX A-3-AREA OF INFLUENCE APPENDIX A-4-CONCEPTUAL SIGN PLAN APPENDIX B-1-ALTERNATIVE SELECTION REPORT Appendices removed for space conservation. Appendix A-1--Closed Loop Plan is provided in this document as B-4.

#### INTERSTATE ACCESS DOCUMENT

I-69 at SR 14/Illinois Road Interstate Modification

#### I. INTRODUCTION

The purpose of this interchange modification is to improve safety and mobility at the interchange of I-69 at SR 14/Illinois Road. Currently, there are mobility and safety problems with the weaving segment on SR 14/Illinois Road and the two loops on the south side of the road.

The project schedule is as follows:

- Stage 1 Plans: July 31, 2017
- Preliminary Field Check: September 15, 2017
- Stage 2 Plans and Categorical Exclusion completed: April 27, 2018
- Stage 3 Plans: June 1, 2019
- Tracings: August 1, 2019
- Letting: November 14, 2019

The layout of the proposed design from the *Alternative Selection Report* is shown in Appendix A-1, and the *Alternative Selection Report* can be found in Appendix B-1.

#### II. PROJECT AND STUDY AREAS

This project is located at the I-69 and SR 14/Illinois Road interchange in Allen County within the Indiana Department of Transportation (INDOT)—Fort Wayne District. The project site is located at I-69 from Reference Post 305+18 to Reference Post 305+37. With the proposed geometrics, the project will begin west of the southwest ramp and end at the concrete bridge approach on SR 14/Illinois Road. A project location map is provided in Appendix A–2.

The study area will include intersections along the SR 14/Illinois Road corridor on each side of I-69, from Hadley Road to the west through Magnavox Way, Getz Avenue, and Avenue of Autos to the east. Each of these signalized intersections will be included in the Synchro model network. Segments of I-69 immediately north and south of the interchange will be analyzed for capacity, along with each merging, diverging, and weaving segment on I-69 and SR 14/Illinois Road. A study area map is provided in Appendix A-3.

#### III. EXISTING CONDITIONS

The current interchange layout is a full cloverleaf. All loops and ramps are single-lane and free-flow, with the exception of a signal at the northwest ramp (Ramp C) to control the dual right-turn lanes and westbound SR 14/Illinois Road traffic. SR 14/Illinois Road has two through lanes in each direction, while I-69 has three through lanes in each direction. Direction of travel on both roads is separated by median barrier wall. The weaving sections between loops measure approximately 580 feet on SR 14/Illinois Road and 390 feet on I-69. Another weave is created by northbound traffic on Hadley Road, just west of the interchange, having a free-flow right turn into the lane on SR 14/Illinois Road that terminates into the I-69 southbound ramp

#### IV. STATEMENT OF NEED AND PURPOSE

The need for this project is evidenced by the high traffic volumes on loop ramps H southwest (SW) and E southeast (SE), weaving with eastbound (EB) through traffic on Illinois Road. Drivers experience confusion when merging and it has led to a higher rate of crashes. The volume on these adjacent ramps far exceeds the recommendation of American Association of State Highway and Transportation Officials (AASHTO) for a full cloverleaf design. A Highway Capacity Software (HCS) analysis shows that the weaving segment on EB SR 14/Illinois Road under existing conditions in the AM peak hour is Level of Service (LOS) F; it is currently LOS C for the PM peak hour, but worsens to LOS D in 2040. Additionally, a RoadHAT analysis showed that Loop H had an index of crash frequency and cost significantly higher than expected.

To eliminate this deficiency, the southwest ramp will be closed in order to eliminate the weaving conflict with the southeast ramp. This traffic will use the northwest ramp, to which left-turn lanes will be added to accommodate eastbound traffic on SR 14/Illinois Road. Signal modification will also be required because of the additional phases.

#### V. FRAMEWORK

The existing conditions, a short-term solution, and a long-term solution were studied in the *Alternative Selection Report*. The short-term alternatives were analyzed for opening year (2020), interim design year (2030), and horizon year (2040). Long-term alternatives were analyzed for 2020 and 2040. A capacity analysis was performed for the no-build condition and each alternative in the AM and PM peak hours. Level of service and density were determined for each merge, diverge, and weave segment using Highway Capacity Software. Level of service and delay were determined for signalized intersections using Synchro. Safety was studied at this interchange using RoadHAT 3.0 for each road segment.

#### VI. ALTERNATIVES

For the short-term analysis, three alternatives were evaluated: no-build, modified loop, and closed loop. The no-build alternative was quickly eliminated because it would not solve the safety or capacity problems as defined in the purpose and need statement. The modified loop would possibly be slightly more operationally effective because of having a two-phase signal, and it would require less pavement removal. However, it would require more pavement construction, risked queuing back on the interstate, and did not transition easily into the long-term design. Some of the difference in intersection delay could be accounted for by the different methodology used. The recommended "closed loop" alternative is discussed in more detail in the subsequent section, and a comparison of the alternatives is shown in Table V-1. Although the delay and LOS at the signalized intersection are better under the no build condition, the proposed alternatives eliminate a weaving segment currently operating at LOS F as seen in Table V-2.

		SB Ramp	Terminal	
Alternative	Peak	Delay (s)	LOS	Cost
No Build	AM	8.1	Α	
INO Bulla	PM	18.9	В	
Madified Look	AM	34.8	С	NI/A
Modified Loop*	PM	27.8	С	N/A
Classed Lases	AM	36.1	D	<b>#000 000</b>
Closed Loop	PM	36.6	D	\$892,000

<sup>\*</sup>Uses HCM 2000 because of non-NEMA phasing.

Table V-1 Short-Term Alternatives Comparison (Design Year 2040)

		2015	5	204	10
Road	Peak	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
L CO ND	AM	13.7	В	15.4	В
I-69 NB	PM	9.9	Α	11.0	В
1.60.CD	AM	12.0	В	13.5	В
I-69 SB	PM	16.0	В	17.7	В
CD 44/III:	AM		F		F
SR 14/Illinois Rd. EB	PM	22.9	С	29.7	D
	AM	6.5	Α	8.1	Α
SR 14/Illinois Rd. WB	PM	14.2	В	21.4	С

Table V–2 Existing Weaving Operations

The long-term alternatives evaluated were a diverging diamond interchange (DDI), a partial cloverleaf Type B, and a partial cloverleaf Type A. A diverging diamond, while it operated well, was not worth the significantly higher cost when compared to the Partial Cloverleaf Type A. The Parclo B was eliminated based on poor operation at the southbound ramp terminal. The Partial Cloverleaf Type A was recommended based on a combination of LOS and project cost; additionally, this alternative is halfway completed by constructing the "closed loop" alternative as the short-term solution. Information about each long-term alternative can be found in Table V-3.

		NB Ramp T	erminal	SB Ramp Te	erminal	
Alternative	Peak	Delay (s)	LOS	Delay (s)	LOS	Cost
Diverging Diamond*	AM	17.9	В	28.2	С	¢0,060,000
Diverging Diamond*	PM	21.2	С	26.0	С	\$8,960,000
Dartial Clayerland Type A	AM	20.0	В	36.4	D	¢4.000.000
Partial Cloverleaf Type A	PM	18.8	В	33.2	С	\$1,008,000
Partial Cloverleaf Type B*	AM	18.8	В	108.5	F	N/A
	PM	48.1	D	64.3	Е	

<sup>\*</sup>Uses HCM 2000 because of clustered intersections (DDI) and non-NEMA phasing (Parclo B).

Table V-3 Long-Term Alternatives Comparison (Design Year 2040)

#### VII. INTERSTATE SYSTEM ACCESS POLICY POINTS

#### A. POLICY POINT 1: OPERATIONAL AND SAFETY ANALYSIS

An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, and ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis should, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (Title 23, Code of Federal Regulations (CFR), paragraphs 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, should be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access should include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute, and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request should also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).

This section provides an analysis of the recommended short-term solution, the closed loop, and the recommended long-term solution, the Partial Cloverleaf Type A. Information about traffic counts, growth rates, peak-hour factors, and other assumptions can be found in the Alternative Selection Report (Appendix B-1).

#### Short-Term Recommended Alternative: Closed Loop

The "closed loop" alternative consists of closing and removing the southwest loop and expanding the northwest ramp to accommodate southbound, left-turning vehicles. Two left-turn lanes will be added, median barrier removed, and the signal modified. Additionally, a third eastbound lane on SR 14/Illinois Road will be added beginning at the southwest ramp, making the lane for that ramp a shared through/right lane, and terminating at the southeast loop. Table VI-1 shows the intersection delay and LOS for the construction year, interim design year, and design year at the signalized SB ramp terminal.

		202	0	203	0	2040		
Intersection	Peak	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	
SP Down Torminal	AM	29.5	С	33.5	С	36.1	D	
SB Ramp Terminal	PM	25.4	С	28.1	С	36.6	D	

Table VII-1 SB Ramp Terminal Operations for Closed Loop Alternative

An additional recommendation is to coordinate signals for this arterial. Currently, the intersections at Hadley Road and the southbound (SB) ramp terminal operate separately from Magnavox Way, Getz Avenue, and Avenue of Autos because they fall under different jurisdictions (INDOT and the Northeastern Indiana Regional Coordinating Council, respectively). Information about improvements to adjacent signals can be found in the "Local Improvements" section.

Some sign modifications would be required at the interchange. Signs to be removed include: the 305A "Illinois Road 1/4 Mile" exit on the box truss on I-69 SB, the cantilever

sign for the exit on I-69 SB, the ground-mounted exit sign near the removed loop; and the merging lane sign on eastbound SR 14/Illinois Road. The sign on the box truss and the ground-mounted sign near Ramp C would need to be modified to show "Exit 305" instead of "Exit 305B." However, the majority of sign modifications would occur well in advance of the intersection; all the guide signs and service signs would need to be changed to reflect the new exit number and configuration. A conceptual signing plan can be found in Appendix A-4.

#### Long-Term Recommended Alternative: Partial Cloverleaf Type A

Partial Cloverleaf Type A was analyzed because of its similarity with the recommended short-term "Closed Loop" alternative. The short-term alternative would have already closed the SW loop, so a Partial Cloverleaf Type A would already be partially built. One of the primary benefits of a partial cloverleaf is that it would entirely eliminate weaving conflicts along SR 14/Illinois Road and along I-69.

Improvements for this alternative would consist of widening the arterial to six lanes between Hadley Road and Magnavox Way and adding a deceleration lane for westbound traffic using Ramp B NE to access I-69 northbound (NB). It would also include closing the northeast (NE) loop, reconstructing Ramp A SE to intersect perpendicularly with SR 14/Illinois Road, and adding a signal at that intersection. This configuration also eliminates weaving associated with the EB right turns onto Magnavox Way. Operations of each ramp terminal are shown in Table VI-2.

		2020		2040			
Ramp	Peak	Delay (s)	LOS	Delay (s)	LOS		
CD Down Torminal	AM	29.5	С	36.4	D		
SB Ramp Terminal	PM	21.7	С	33.2	С		
ND Down Torminal	AM	12.9	В	20.0	В		
NB Ramp Terminal	PM	8.6	Α	18.8	В		

Table VII-2 Partial Cloverleaf Type A

#### Merge, Diverge, and Weave Analysis

To ensure adequate safety and operation on I-69, HCS 2010 was used to analyze merging, diverging, and weaving segments. Free-flow speeds for I-69 and SR 14/Illinois Road were taken as 5 miles per hour (mph) over the posted speed limit and loops and ramps were taken as 10 mph over the posted speed limit, all of which are generally consistent with the 85th percentile speed according to the Traffic Count Database System (TCDS). Table VI-3 shows that each segment has an acceptable level of service in 2040. The only segment with LOS D is the diverging segment of SR 14/Illinois Road and Loop E. However, this is a safety improvement over the existing configuration; the weaving segment on SR 14/Illinois Road between Loop H and Loop E operated at LOS F during the AM peak hour in 2015.

Road	Туре	Peak	Density (pc/mi/ln)	LOS
SR 14/Illinois Road and Ramp D SW	Diverge	AM	23.4	С
31 14/IIIII1013 Road and Ramp B 3W	Diverge	PM	16.5	В
I-69 and Ramp D SW	Merge	AM	11.6	В
1-03 and Namp D OW	ivierge	PM	12.6	В
SR 14/Illinois Road and Ramp B NE	Diverge	AM	10.0	В
ON 14/IIIIIIOIS NOAG ANG NAIMP BINE	Diverge	PM	25.2	С
I-69 and Ramp B NE	Merge	AM	18.8	В
1-03 and Namp D NE	ivierge	PM	19.5	В
I-69 and Ramp C NW + Loop H SW	Diverge	AM	20.5	С
1-03 and Namp C NVV 1 Loop 11 OVV	Diverge	PM	25.4	С
I-69 and Ramp A SE + Loop F NE	Diverge	AM	12.2	В
1-03 and Namp A OE 1 Eoop 1 NE	Diverge	PM	9.1	Α
SR 14/Illinois Road and Loop E SE	Diverge	AM	32.8	D
ON 14/IIIII1013 Noad and Loop E OE	Diverge	PM	14.4	В
I-69 and Loop E SE	Merge	AM	22.1	С
1-09 and Loop L SL	ivierge	PM	16.5	В
SR 14/Illinois Road and Loop G NW	Diverge	AM	5.9	Α
Ort 14/IIIIIIOI3 Road and Loop G NW	Diverge	PM	15.0	В
I-69 and Loop G NW	Merge	AM	17.5	В
1-03 and 200p & 1444	wierge	PM	23.4	С

Table VII-3 2040 HCS 2010 Freeway Operations

The 2040 results for the "closed loop" alternative that differ from the Partial Cloverleaf Type A recommendation are shown in Table VI-4. All movements perform at LOS D or better, so leaving the closed loop as a long-term solution would be acceptable. However, the Partial Cloverleaf Type A is still recommended as the long-term solution because of its operational and safety benefits, particularly the removal of the weaving section.

Road	Туре	Peak	Density (pc/mi/ln)	LOS
L 60 NP and Loan E/Loan E	Weave	AM	15.4	В
I-69 NB and Loop E/Loop F	vveave	PM	11.0	В
CD 14/Illinois Bood WB and Loan E/Loan C	Weave	AM	8.1	Α
SR 14/Illinois Road WB and Loop F/Loop G	vveave	PM	21.4	С
L 60 ND and Damp A	Divorgo	AM	10.9	В
I-69 NB and Ramp A	Diverge	PM	8.0	Α
CD 14/Illinois Bood and Bown A	Morgo	AM	26.7	С
SR 14/Illinois Road and Ramp A	Merge	PM	13.3	В

Table VII-4 2040 HCS 2010 Freeway Operations for Closed Loop Alternative

#### **Local Improvements**

Local improvements are recommended to ensure the network functions properly. An EB right-turn lane is recommended at Magnavox Way; otherwise, the right-turning vehicles risk queuing back near the interstate ramps during the morning peak hour. This improvement is the most time-sensitive because this intersection operates at LOS E in 2020 and LOS F in 2030. It is also recommended that the northbound lanes be reconfigured to provide for dual left-turn lanes and a NB shared through and right-turn lane. At Hadley Road, an additional left-turn lane and a separate right turn lane are also recommended because of NB and SB approaches having LOS F in the no-build scenario. LOS and delay for the existing, no-build, and proposed scenarios are shown in Table VI-5.

		2015		2040 (No	Build)	2040 (Proposed)		
Road	Peak	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	
Hadlar Daad	AM	38.8	D	46.1	D	34.4	С	
Hadley Road	PM	29.7	С	50.3	D	35.2	D	
Magnayay May	AM	42.7	D	99.0	F	56.6	Е	
Magnavox Way	PM	33.5	С	38.0	D	24.6	С	

Table VII-5 Intersection Operations at Adjacent Intersections

#### B. POLICY POINT 2: FULL ACCESS TO PUBLIC ROADWAY

The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access, such as managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)). In rare instances where all basic movements are not provided by the proposed design, the report should include a full-interchange option with a comparison of the operational and safety analyses to the partial-interchange option. The report should also include the mitigation proposed to compensate for the missing movements, including wayfinding signage, impacts on local intersections, mitigation of driver expectation leading to wrong-way movements on ramps, etc. The report should describe whether future provision of a full interchange is precluded by the proposed design.

The preferred alternative design, just as with the current interchange layout, provides full access to and from I-69 at SR 14/Illinois Road. After the interchange modifications, it will still provide for all traffic movements. Although one loop will be removed, its movements will be diverted to a different ramp. SR 14 to the west is under State jurisdiction while Illinois Road to the east is a public road under Fort Wayne jurisdiction. The design will satisfy all design standards for an interchange according to the Indiana Design Manual and AASHTO policy.



## INDIANA DEPARTMENT OF TRANSPORTATION

#### **MEMORANDUM**

To:

Trevor Mills, Engineering & Asset Management Deputy Commissioner

From:

Brad Steckler, Traffic Engineering Division Director

Cc:

Daniel McCoy, Corridor Development Traffic Engineer

Date:

November 13<sup>th</sup>, 2017

Re:

Interstate Access Determination of Engineering and Operational Acceptability at I-69 and SR 14

According to the Programmatic Agreement between FHWA and INDOT permitting our internal review and approval of specific types of changes in Interstate-System access, only the INDOT Deputy Commissioner of Engineering and Asset Management has the authority to make a determination that an Interstate Access Request (IAR) meets or does not meet Engineering and Operational Acceptability, and that a request to change Interstate-System access has met all FHWA criteria. Only the INDOT Director of Traffic Engineering has the authority and responsibility to make a recommendation to the Deputy Commissioner.

The Corridor Development Office of the Traffic Engineering Division has reviewed, on behalf of INDOT, the Interstate Access Request regarding the proposal to modify access at I-69 and SR 14 (Exit 305) in Allen County. The project was originally programmed to remove the southwest loop ramp thereby converting the west half of the interchange to a Partial Cloverleaf Type A. The IAR and associated documents fully evaluate the interchange, not just the short-term plan. The report details the demands of projected traffic and determines that the proposed modification of the interchange is necessary and appropriate. The proposed modification will improve traffic operations at the interchange in a cost effective and safe manner.

Your signature below signifies your determination that the proposed change in Interstate access meets Engineering and Operational Acceptability. I recommend this action.

Trevor Mills, Engineering & Asset Management Deputy Commissioner

Date

#### United States Department of the Interior National Park Service Land & Water Conservation Fund

#### **Detailed Listing of Grants Grouped by County**

Grant ID & Element	Туре	Grant Element Title	Grant Sponsor	Amount	Status	Date Approved	Exp. Date	Cong. District	
Allei	Allen								
30 - XXX	A	FRANKE PARK	FORT WAYNE PARK BOARD	\$3,750.00	C	12/30/1967	7/31/1969	3	
32 - XXX	A	KREAGER PARK	FORT WAYNE PARK BOARD	\$54,110.00	C	12/30/1967	6/24/1969	3	
67 - XXX	A	FOX ISLAND NATURAL PARK	ALLEN COUNTY PARK BOARD	\$97,213.65	C	5/14/1970	12/31/1972	3	
97 - XXX	D	JURY PARK DEVELOPMENT	NEW HAVEN-ADAMS TWP. PARK BOARD	\$24,640.91	С	8/30/1971	6/30/1974	3	
105 - XXX	A	FRANKE PARK-AFRICAN VELDT	FORT WAYNE PARK BOARD	\$49,297.50	C	2/15/1972	12/31/1974	3	
153 - XXX	D	MOSER PARK LIGHTING PROJECT	NEW HAVEN-ADAMS TWP. PARK BOARD	\$11,535.12	C	5/24/1973	12/31/1975	3	
188 - XXX	A	LAND ACQ. FOR FRANKE PARK	FORT WAYNE PARK BOARD	\$13,150.00	C	2/4/1975	12/31/1977	99	
201 - XXX	D	FOSTER PARK LIGHTED TENNIS COURTS	FORT WAYNE PARK BOARD	\$39,603.98	C	3/3/1975	12/31/1977	3	
315 - XXX	A	D/FOX ISLAND PARK ACQ.	ALLEN COUNTY PARK BOARD	\$62,500.00	C	5/1/1978	6/30/1980	4	
369 - A	C	D/FOX ISLAND PARK - PHASE III	ALLEN COUNTY PARK BOARD	\$137,184.93	C	2/26/1980	12/31/1984	4	
369 - K	R	MOSER PARK POND	NEW HAVEN-ADAMS TWP. PARK BOARD	\$12,500.00	C	2/26/1980	12/31/1984	99	
369 - N	A	FRANKE PARK - FOX ACQUISITION	FORT WAYNE PARK BOARD	\$40,000.00	C	2/26/1980	12/31/1984	3	
371 - XXX	C	JEHL PARK	FORT WAYNE PARK BOARD	\$40,074.50	C	1/9/1980	12/31/1984	4	
392 - XXX	D	HAVENHURST PARK DEVELOPMENTS	NEW HAVEN-ADAMS TWP. PARK BOARD	\$50,000.00	С	2/9/1981	12/31/1985	3	
396 - XXX	D	SHERMAN ST. RIVERGREENWAY	FORT WAYNE PARK BOARD	\$280,000.00	C	7/27/1981	12/31/1986	4	
408 - XXX	D	ALLEN COUNTY ROADSIDE PARKS	ALLEN COUNTY PARK BOARD	\$5,782.14	C	9/23/1983	6/30/1988	99	
419 - XXX	D	FT. WAYNE RIVERGREENWAY-PHASE II	FORT WAYNE PARK BOARD	\$75,000.00	С	3/20/1984	6/30/1989	3	
465 - XXX	D	ST. MARY'S RIVERGREENWAY	FORT WAYNE PARK BOARD	\$48,877.00	C	6/27/1988	12/31/1992	3	
469 - XXX	D	ST. MARY'S RIVERGREENWAY-PHASE II	FORT WAYNE PARK BOARD	\$100,000.00	С	7/18/1989	6/30/1994	3	
500 - XXX	C	GRABILL COMMUNITY PARK EXPANSION	GRABILL PARK BOARD	\$34,200.00	С	5/20/1994	6/30/1999	3	
526 - XXX	С	BUCKNER FARM PARK	FORT WAYNE PARK BOARD	\$178,300.00	С	4/1/2002	12/31/2006	3	

#### United States Department of the Interior National Park Service Land & Water Conservation Fund

#### **Detailed Listing of Grants Grouped by County**

Grant ID & Element	Type	Grant Element Title	Grant Sponsor	Amount	Status	Date Approved	Exp. Date	Cong. District
Alle	en							
527 - XXX	D	METEA PARK NATURE CENTER	ALLEN COUNTY PARK BOARD	\$200,000.00	C	4/4/2002	12/31/2006	3
570 - XXX	D	KREAGER PARK BOUNDLESS PLAYGROUND	FORT WAYNE PARK BOARD	\$200,000.00	C	5/5/2010	12/31/2014	3
577 - XXX	C	RIVERSIDE GARDEN PARK	LEO-CEDARVILLE PARK BOARD	\$199,550.00	С	4/18/2012	12/31/2016	3
			Allen County Total:	\$1,957,269.73		County Count:	24	
BAl	RTHOLO	DMEW						
269 - XXX	D	CLIFTY PARK DEV	COLUMBUS PARK BOARD	\$88,376.89	C	2/4/1977	12/31/1980	2
398 - XXX	C	D/HARRISON RIDGE PARK	COLUMBUS PARK BOARD	\$87,490.47	C	2/13/1981	12/31/1985	2
399 - XXX	C	D/ANDERSON FALLS NATURE PRESERVE	BARTHOLOMEW COUNTY PARK BOARD	\$55,000.00	C	2/17/1981	12/31/1985	2
412 - XXX	D	HARRISON RIDGE PARK - PHASE II	COLUMBUS PARK BOARD	\$9,174.47	C	6/21/1983	9/15/1984	2
518 - XXX	C	D/MCCULLOUGHS RUN PARK	COLUMBUS PARK BOARD	\$143,166.85	С	9/6/2000	12/31/2006	9
			BARTHOLOMEW County Total:	\$383,208.68		County Count:	5	;
BE	NTON							
27 - XXX	D	FOWLER COMMUNITY SWIMMING POOL	FOWLER PARK BOARD	\$15,879.30	C	12/28/1967	9/1/1969	3
66 - XXX	D	FOWLER PARK	VIGO COUNTY PARK BOARD	\$7,950.74	C	3/13/1970	9/1/1971	5
535 - XXX	D	FOWLER POOL AND PARK RENOVATIONS	FOWLER PARK BOARD	\$117,970.00	C	3/19/2003	12/31/2008	5
569 - XXX	R	FOWLER PARK POOL REPLACEMENT	FOWLER PARK BOARD	\$133,737.09	C	3/30/2009	12/31/2013	1
			BENTON County Total:	\$275,537.13		County Count:	4	,
BL	ACKFOR	LD.						
347 - XXX	С	D/MONTPELIER COMMUNITY PARK	MONTPELIER PARK BOARD	\$55,186.00	С	2/23/1979	6/30/1984	5
			BLACKFORD County Total:	\$55,186.00		County Count:	1	