

# Wetland Delineation and Stream Identification Report

Lightsource BP Bellflower Solar

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Lightsource BP Bellflower Solar Henry and Rush Counties, Indiana

December 2019 Public

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## Acronyms

CWA	Clean Water Act
DBH	diameter at breast height
DD	decimal degrees
GIS	Geographic Information System
GPS	Global Positioning System
HGM	hydrogeomorphic method
HUC	hydrologic unit code
IPaC	Information for Planning and Conservation
Lightsource	Light Source BP
NASIS	National Soil Information System
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OHWM	Ordinary High-Water Mark
PCN	Pre-Construction Notification
PEM	palustrine emergent wetland
PFO	palustrine forested wetland
PJD	Preliminary Jurisdictional Determination
Project	Light Source BP Bellflower Solar Project
PSA	Project Study Area
PSS	palustrine scrub-shrub wetland
QA/QC	quality assurance/quality control
RPW	Relatively Permanent Waters
RU	representative upland photo plot
RW	representative wetland photo plot
SC	stream crossing plot
SSURGO	Soil Survey Geographic database
TNW	Traditional Navigable Water
UNT	unnamed tributaries

USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WBD	Watershed Boundary Dataset
WD	wetland determination plot
WF	wetland boundary flag plot
WOUS	Waters of the United States

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# 1 Introduction

#### **1.1 General Overview and Applicant Information**

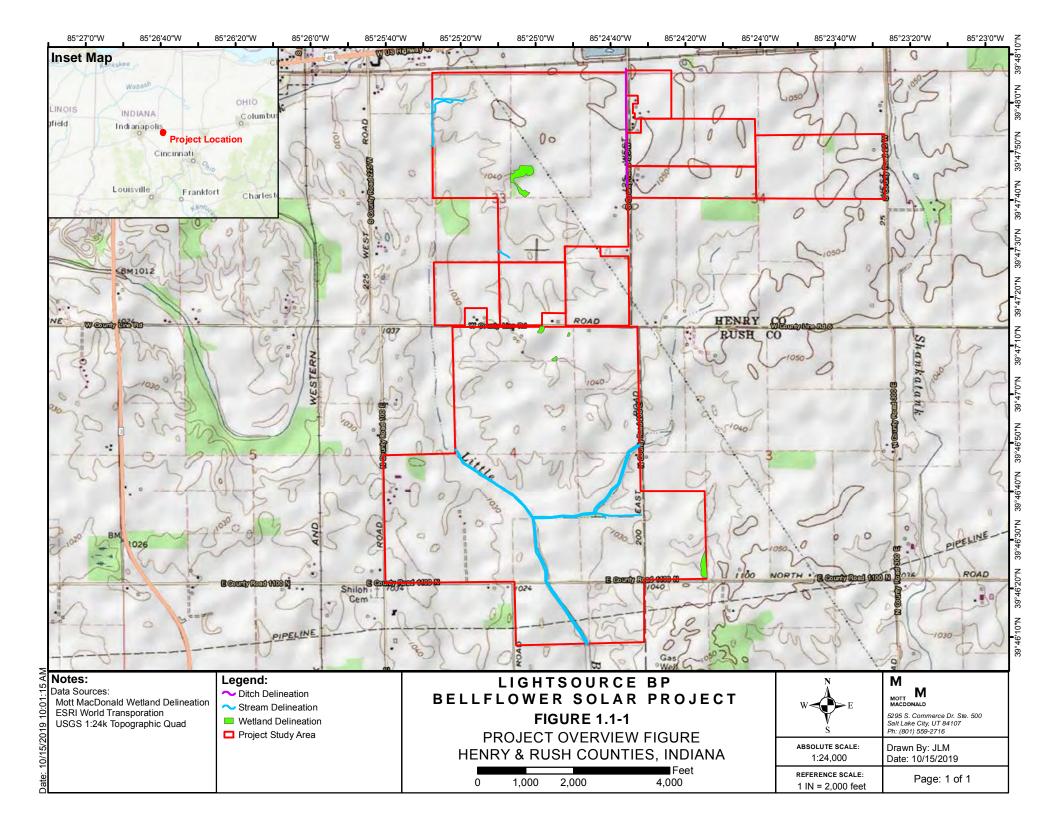
Mott MacDonald, on behalf of Lightsource BP (Lightsource), conducted wetland and waterbody field delineation surveys from September 10, 2019 through September 11, 2019 to identify potential "Waters of the United States (WOUS)" as defined by the United States Army Corps of Engineers (USACE) (33 CFR 328.3) present within the environmental survey corridor developed for the proposed Bellflower Solar Facility Project (Project). The Project is located within Henry and Rush Counties, Indiana.

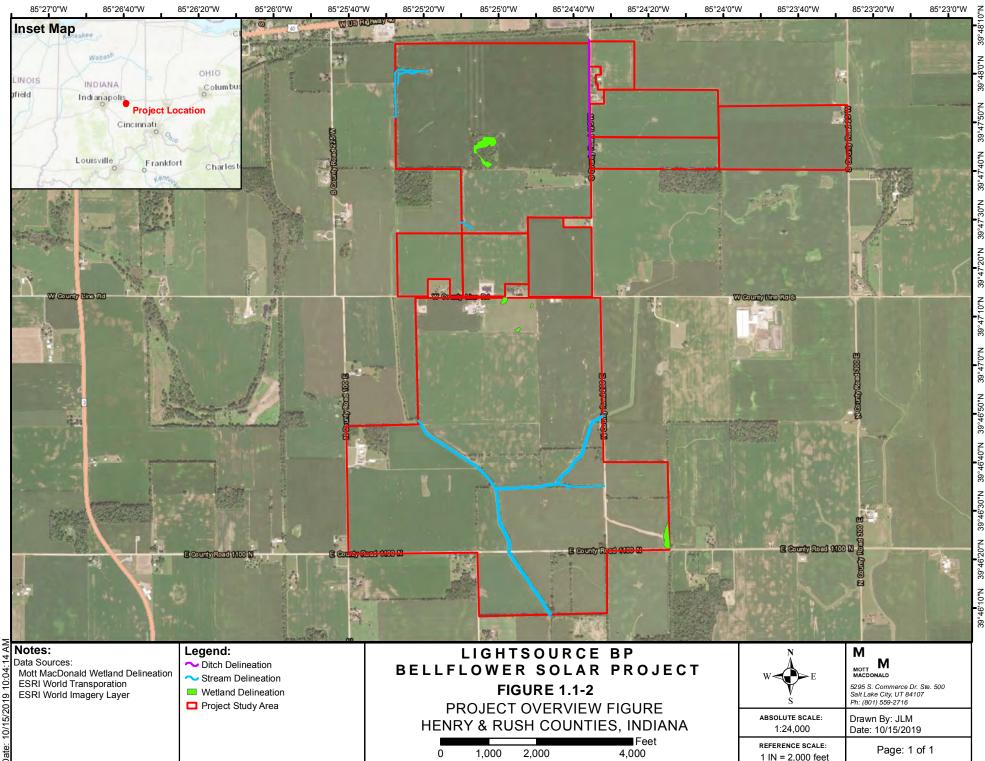
The findings included in this report are based on review of publicly available mapping and on-site pedestrian field surveys. Publicly available mapping includes 7.5-minute United States Geological Survey (USGS) topographic quadrangles, USGS National Hydrography Dataset (NHD) streams and waterbodies, USGS Watershed Boundary Dataset (WBD), United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, and aerial photography.

The field survey area for the proposed Project consisted of approximately 1,337.7 acres. The field survey area for the proposed Project is referred to herein as the Project Study Area (PSA). The PSA was configured to capture all areas of potential ground disturbance and impacts to WOUS. Figure 1.1-1 provides an overview map of the Project location and configuration of the PSA on USGS topographic maps. Figure 1.1-2 illustrates the location of the PSA and proposed alignment on aerial imagery.

The remainder of this report describes the Project's purpose and need, location, and land requirements; and includes a discussion of the methods used to identify and delineate wetlands and waterbodies for the Project and provides the results of the wetland and waterbody delineation.

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## 2 Project Overview

#### 2.1 Project Description

The PSA developed for the proposed Bellflower Solar site occupies approximately 1,337.7 acres of area in Henry (640.6 acres) and Rush (697.1 acres) Counties, Indiana. The PSA is made up of 18 separate parcels consisting of mostly agricultural land and is located within Spiceland and Franklin Townships in Henry County, and within Washington and Center Townships in Rush County, approximately 40 miles from Indianapolis, the state capital. Currently, the property is used for cattle grazing and other agricultural uses. A 138 kV electrical transmission line easement bisects the PSA.

The Project is located approximately 1,000 feet south of Interstate 40 and is accessible via South County Road. The approximate latitude and longitude for the center of the Project is 39.787230°N, -85.416231°W. The PSA is located within the USGS Dunreith, Indiana 7.5-minute topographic quadrangle.

Table 2.1-1 provides a summary for the private parcels within the PSA. Parcel information listed in Table 2.1-1 was obtained from Beacon public access portal for Henry County<sup>1</sup> and Rush County<sup>2</sup>.

#### 2.2 Purpose and Need

The purpose of this Project is to provide a safe and reliable solution for producers in Indiana and provide market access to growing renewable energy demand.

No.	Acres <sup>1</sup>	County	Location	APN	Current Zoning	Property Owner (last updated)
1	153.81	Rush	15N 10E – 4	700304200001000002	Cash grain/general farm	McFarland Farms Holdings LLC (04/28/2017)
2	109.13	Rush	15N 10E – 4, 9	700304300002000002	Other agricultural use	Surface-Russell, Dorothy Elaine (04/28/2017)
3	95.92	Rush	15N 10E – 4, 5, 9	700304300001000002	Cash grain/general farm	Surface-Russell, Dorothy Elaine (04/28/2017)
4	81.76	Rush	15N 10E – 4, 9	700304400004000002	Ag – Vacant lot	Surface-Russell, Dorothy Elaine (04/28/2017)
5	24.81	Rush	15N 10E – 4	700304400003000002	Ag – Vacant lot	Surface-Russell, Dorothy Elaine (04/28/2017)
6	15.27	Rush	15N 10E – 4	700304400001000002	Ag – Vacant lot	McFarland Farms Holdings LLC (04/28/2017)
7	40.54	Rush	15N 10E – 4	700304200003000002	Ag – Vacant lot	McFarland Farms Holdings LLC (04/28/2017)

#### Table 1.2-1: Parcel Information

<sup>&</sup>lt;sup>1</sup> https://beacon.schneidercorp.com/Application.aspx?AppId=478&LayerId=6864&PageTypeId=2&PageID=3658

<sup>&</sup>lt;sup>2</sup> https://beacon.schneidercorp.com/Application.aspx?AppId=470&LaverId=6610&PageTypeId=2&PageID=3605

No.	Acres <sup>1</sup>	County	Location	APN	Current Zoning	Property Owner (last updated)
8	40.62	Rush	15N 10E – 4	700304200002000002	Other agricultural use	McFarland Farms Holdings LLC (04/28/2017)
9	82.56	Rush	15N 10E – 4, 9	700309200001000002	Ag – Vacant lot	Surface-Russell, Dorothy Elaine (04/28/2017)
10	54.96	Rush	15N 10E – 3, 4	700303300002000015	Ag – Vacant lot	Surface-Russell, Dorothy Elaine (04/28/2017)
11	42.27	Henry	15N 10E – 4, 16N 10E – 33	331733000406000024	Vacant Land	Dishman, James B & Joseph T (02/28/2017)
12	38.63	Henry	15N 10E – 4, 16N 10E – 33	331733000403001024	Other agricultural use	McFarland Farms Holdings LLC (02/28/2017)
13	37.15	Henry	15N 10E – 4, 16N 10E – 33	331733000303000024	Vacant Land	McFarland Farms Holdings LLC (02/28/2017)
14	316.39	Henry	16N 10E – 28, 33	331733000404000024	Agricultural Land With PP Mobile Home	Surface, Russell & Dorothy Elaine (02/28/2017)
15	40.51	Henry	16N 10E – 33, 34	331734000107000007	Cash grain/general farm	Dishman, Joe V (02/28/2017)
16	58.92	Henry	16N 10E – 33, 34	331734000106000007	Vacant Land	Dishman, Joseph Trent Joe V J K (02/28/2017)
17	19.58	Henry	16N 10E – 27, 28, 33, 34	331734000101000007	Other agricultural use	McFarland Farms Holdings LLC (02/28/2017)
18	82.18	Henry	16N 10E – 34	331734000203000007	Cash grain/general farm	Dishman, Joseph T & James B (02/28/2017)
	1,335.01					

Notes: <sup>1</sup> Acre Value as provided by the Beacon public database.

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## 3 Regulatory Authority

#### 3.1 Regulatory Overview

Wetlands in Indiana are regulated under the Federal Clean Water Act (CWA), Section 404 program. The USACE under authority of the CWA Section 404(b)(1) guidelines, authorizes the discharge of dredge and fill material into WOUS as defined by 33 CFR 328.3 and 329.4, which defines WOUS as "Traditional navigable waters; interstate waters, including interstate wetlands; the territorial seas; impoundments of traditional navigable waters, interstate waters, including interstate wetlands, the territorial seas, and tributaries, as defined, of such waters; tributaries, as defined, of traditional navigable waters, interstate waters, including adjacent wetlands."

Waterbodies under the jurisdiction of USACE, include Traditional Navigable Waterways (TNWs), which include all navigable waters of the United States as defined in 33 CFR 329, and by numerous federal court decisions. In addition, non-navigable tributaries of TNW's that are relatively permanent waterways (RPWs) are also considered to be jurisdictional waters of the United States. The USACE Ordinary High-Water Mark (OHWM) is a jurisdictional benchmark for administering its regulatory program in navigable waterways under Section 10 of the Rivers and Harbors Act and Section 404 of the CWA. The OHWM is the location that represents the approximate line on the shore established by fluctuations of water as indicated by physical characteristics such as shelving, destruction of terrestrial vegetation, presence of litter or debris, or changes in the character of soil. The USACE may also assert jurisdiction over non-navigable tributaries that have a channel and OHWM but do not flow year-round or have continuous flow at least seasonally if they demonstrate a significant nexus with a TNW. These waterbodies are classified as non-navigable, non-RPWs.

For the PSA, all aquatic resources that have an identifiable OHWM or meet the USACE technical guidance and procedures for identifying and delineating wetlands have been identified. The Project will proceed with a Preliminary Jurisdictional Determination (PJD) and will assume that all aquatic resources meeting the technical guidance for OHWM or wetland determination will be considered jurisdictional WOUS.

If the Project, through design, is unable to avoid impacts to WOUS, a Pre-Construction Notification (PCN) will be submitted to the USACE requesting review and authorization for the Project under Nationwide Permit (NWP) 51 – Land-based Renewable Energy Generation Facilities. The Project would likely meet Louisville District General and Regional Conditions for NWP 51 authorization.

## 4 Field Investigation and Mapping Methods

#### 4.1 Methods

Wetland delineations were conducted in accordance with the USACE *Corps of Engineers Wetlands Delineation Manual* (USACE, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE, 2010). Wetlands and waterbodies were classified in the field using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). Wetland indicator classification for vegetation identified to the species level were recorded based on the *National Wetland Plant List: 2016* (Lichvar et al., 2016).

Hydrology, soils, and vegetation were examined throughout the PSA at discreet plot locations. Field plot locations and aquatic resource boundaries were delineated in the field by recording positional locations using Trimble GeoXH, Geoexplorer 6000 Series and Geo7x Series, sub-meter hand-held global positioning system (GPS) units. Delineated wetland boundaries were also marked in the field using pink flagging tape unless the boundary extended into a managed hayfield, agricultural cropland, or if livestock were present. If a wetland extended beyond the PSA boundary, the wetland was designated as "open-ended". The OHWM of streams were delineated alongside both banks for streams greater than 12-feet in width. For streams less than 12-feet in width, the centerline of the stream was delineated, and the estimated average width was recorded and used to buffer the delineated centerline. Streams within the PSA were classified as either perennial, intermittent, ephemeral, or ditch (non-jurisdictional and jurisdictional), in accordance with USACE regulations based on the permanence or duration of flow, as follows:

- > Perennial waterbodies typically flow or contain standing water year-round, and under normal circumstances, support populations of fish and macroinvertebrates.
- Intermittent waterbodies flow or contain standing water seasonally, are typically dry for part of the year, and do not usually support populations of fish or macroinvertebrates which are directly dependent on water.
- > Ephemeral waterbodies generally contain water only in response to precipitation, and usually do not support populations of fish or macroinvertebrates dependent on water.
- Ditch waterbodies within the study area include excavated, man-made roadside drainages, agricultural drainages, and straightened or modified natural drainages. Ditches were identified as either jurisdictional or non-jurisdictional waters. Non-jurisdictional ditches are man-made drainages that are excavated in upland areas, only drain upland areas (e.g., roadside ditches), and do not carry a relatively permanent flow of water. Jurisdictional ditches are man-made or modified drainages that transport relatively permanent (continuous at least seasonally) flow directly or indirectly into a TNW or between two or more WOUS, including wetlands. Jurisdictional ditches also include replaced, relocated, or otherwise modified natural drainages that either form connections to or drain other WOUS.

Field surveys were conducted throughout the PSA from September 10, 2019 through September 11, 2019. The pedestrian meander surveys included a visual observation of resources within the PSA and were conducted across all parcels, proposed Project workspaces, and within rights-of-way (ROW) of private and public roads. The field survey PSA for the proposed Project consisted of multiple private parcels under active agricultural production, consisting of approximately 1,337.7 acres. The PSA was configured to

capture all areas of potential impact to WOUS. The PSA configuration, wetland and stream delineations, and GPS points collected are represented in Figure 4.1-1, Appendix A.

Field surveys determined wetland/upland boundaries, stream OHWM boundaries, and identified and described general plant communities and habitats present in the areas of potential disturbance for the proposed Project. Pedestrian meander surveys included transects throughout the PSA to develop a comprehensive plant species list, and to conduct wetland and waterbody delineation surveys at specific habitat edges for determining the areal extent of the wetland and other aquatic resources in the PSA. The PSA was configured to encompass all proposed Project facilities and construction limits at the time of the survey, and to allow for Project modifications within a surveyed area if workspace changes are necessary. The PSA is not the Project area of impact, but a study boundary to encompass all areas of potential ground disturbance for the construction of the proposed Project and to provide information on the extent and character of wetlands, waterbodies and other habitats within vicinity of the Project.

Field surveys were supplemented with a review of USFWS NWI mapping, United States Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS) soils mapping, aerial photography acquired by DigitalGlobe on July 8, 2018, and local landscape topographic 2-foot contours to assist in identifying probable locations for wetlands and waterbodies throughout the PSA. During field evaluations, detailed information at test plots (typically configured as a 30-foot radius circle for forested and scrub-shrub sites, and a 15-foot radius circle for herbaceous vegetation) was recorded in representative vegetation types, often in paired upland and wetland locations for determining wetland boundaries. At detailed test plot locations, a USACE Routine Wetland Determination Data Form for the Midwest Region was completed. These plot locations are considered the Wetland Determination (WD) plot type for this report. For each wetland identified, the wetland/upland boundary was delineated and flagged with pink tape and positions recorded in the field using the Wetland Flagging (WF) GPS plot type. Other plot types utilized during the field evaluation include:

- Representative Upland (RU) The RU plot type is a simple photographic point GPS location used to document the upland habitat type or land use present at a specific location. Soils, vegetation and hydrology indicators are visually assessed prior to making an upland determination.
- Stream Crossing (SC) The SC plot type is used to document the location and OHWM extent of a linear waterbody (i.e., ephemeral, intermittent, or perennial streams and man-made ditches). Photographs and field notes are recorded at the proposed project crossing location, if applicable. The OHWM of the stream is determined in the field in accordance with USACE guidelines. This plot type is also used to delineate non-jurisdictional man-made ditches and canals for erosion and sediment control planning, design, or construction concerns.

Field plot locations, including aquatic resource boundary flag locations, were collected using sub-meter, mapping grade GPS units (e.g., Trimble). All GPS data were post-processed using the appropriate base station for the PSA to achieve accurate positional information. Figure 4.1-1 in Appendix A presents the Project wetland and stream mapping and location of field plot GPS data collected for this evaluation. Field investigators used working field maps with an aerial imagery base and topographic 10-foot contours for orientation and to manually record approximate locations of field plots while in the field. Field notes were recorded for each plot location within a Rite-in-the-Rain<sup>®</sup> field logbook. USACE Wetland Determination Data Forms completed at WD plot locations are provided in Appendix B; organized by Principle Investigator (PI) and then by plot number. Site photos taken at plot locations are included in this report as Appendix C; organized by plot type, PI, and plot number.

Table 4.1-1 provides a summary of the resources used to prepare and perform the wetland delineation field surveys and this report. Additionally, Section 4.1 of this report provides a description of the resources used to map aquatic resources and other habitats or land uses within the Project GIS.

#### Table 4.1-1: Methods and Tools Used to Prepare Report

Parameter	Method/Tool	Website	Reference
	Corps of Engineers Wetlands Delineation Manual	www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf	Environmental Laboratory (1987). Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
Delineation	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)	http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and- Permits/reg_supp/	U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
	USFWS National Wetlands Inventory (NWI) / Cowardin Classification System	http://www.fws.gov/nwi/Pubs_ Reports/Class_Manual/class_ti tlepg.htm	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe 1979. <i>Classification of</i> <i>Wetlands and Deepwater Habitats of the</i> <i>United States</i> . Government Printing Office, Washington, D.C.
	Hydrogeomorphic Classification (HGM) System	http://el.erdc.usace.army.mil/wetlands/pdfs/wrpde4.pdf	Brinson, M. M. (1993). A hydrogeomorphic classification for wetlands, Technical Report WRP- DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
	USFWS National Wetlands Inventory (NWI) Maps	http://www.fws.gov/wetlands/Data/Data-Download.html	Website
Soils	NRCS Soil Surveys - SSURGO GIS Dataset	http://www.nrcs.usda.gov/wps/portal/nrcs/soilsurvey/soils/survey/state/	Website
Hydrology	USGS National Hydrography Dataset	ftp://nhdftp.usgs.gov/DataSets/Staged/States/	Website
Vegetation	USACE 2016 National Wetland Plant List	http://rsgisias.crrel.usace.army.mil/NWPL/	Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. <i>The</i> <i>National Wetland Plant List</i> : 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
	NRCS PLANTS Database	http://plants.usda.gov/java/	Website
	Plant Guides	N/A	Numerous sources

#### 4.2 Evaluation of Existing Data

Prior to initiating field studies within the PSA, existing sources of GIS data with relevance to mapping aquatic and biological resources were identified, compiled and analyzed within the Project GIS. These are described in Sections 4.2.1 through 4.2.4. Mott MacDonald reviewed publicly-available geospatial datasets for wetland/waterbodies located within or proximal to the Project site. These datasets included:

- National Wetland Inventory (NWI) Wetlands<sup>3</sup>
- USGS National Hydrography Dataset (NHD) Flowlines
- USGS National Watershed Dataset (WBD); and
- NRCS Soil Survey data

#### 4.2.1 National Wetlands Inventory Mapping

The USFWS is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetland and aquatic resources. The USFWS's NWI Program has developed a series of topical maps that show the extent and character of the Nation's wetlands and deepwater habitats. The NWI wetlands mapping is often available in two forms, non-digital hard-copy paper maps and digital geospatial data for use in GIS.

NWI mapping for the PSA is available to the public as a digital GIS data layer. The NWI mapped seven resources within the PSA. These include three forested wetlands, two scrub-shrub wetlands, one emergent wetland and one riverine wetland. Table 4.2-1 provides a summary of the NWI mapping within the PSA. For reference, the NWI mapping data layer is presented in Figure 4.1-1, Appendix A.

Resource	<b>NWI Classification</b>	Number of Mapped Resources	Acreage
Freshwater Forested Wetland	PFO1A	2	0.396
Freshwaler Forested Welland	PFO1Ax	1	1.441
Subtotal Forested Wetlands		3	1.837
Freshwater Scrub-Shrub Wetland	PSS1Ax	1	0.864
	PSS1F	1	0.743
Subtotal Scrub-Shrub Wetlands		2	1.607
Freshwater Emergent Wetland	PEM1C	1	0.098
Subtotal Emergent Wetlands		1	0.098
Riverine Intermittent Streambed	R4SBC	1	1.752
Riverine Subtotal		1	1.752
TOTAL NWI Resources		7	5.294

#### Table 4.2-1: NWI Wetlands Summary for the PSA

#### 4.2.2 National Hydrography Dataset

The USGS NHD is developed to identify surface water systems throughout the United States primarily at the 7.5-minute topographic quadrangle scale (i.e., 1:24,000 scale). The NHD represents the drainage network with features such as rivers, streams, canals, lakes, ponds,

<sup>&</sup>lt;sup>3</sup> https://www.fws.gov/wetlands/data/mapper.html

coastline, dams and stream gages. The mapped drainage network is designed to be used for general reference, water resource naming, and in the flow analysis of surface water systems and watersheds. Table 4.2-2 summarizes the waterbodies mapped by the USGS NHD within the PSA. Table 4.2-2 is summarized by the larger drainage systems that are named according to USGS NHD and accounts for the number and length of unnamed tributaries (UNT) to the named resource.

			Length of UNT	
	Length of Named	Number of	Tributaries	Total Length in
Named Resource	Resource (feet)	Tributaries	(feet)	PSA (feet)
Little Blue River	5,095	39	67,844	72,939
Totals		39	67,844	72,939

#### 4.2.3 National Watershed Boundary Dataset

The USGS WBD represents large drainage basins subdivided into smaller watersheds using hydrologic unit code (HUC) classes. The Project is located within the Driftwood 8-digit HUC (i.e., HUC8) drainage basin. Table 4.2-3 lists the USGS HUC08 drainage basin and HUC12 local watersheds for the Project. The NHD and WBD mapping data layers are also presented in Figure 4.1-1, Appendix A.

#### Table 4.2-3: USGS Watersheds Crossed by the Project

HUC08 Basin	HUC12 Watershed	Watershed Name	Area in PSA (Acres)
05120205 – Flatrock-Haw	051202050104	Wikoff Ditch-Flatrock River	0.1
05120204 – Driftwood	051202040201	Headwaters Little Blue River	1,329.0
	051202040105	Knightstown Spring-Buck Creek	8.6

#### 4.2.4 NRCS Soil Survey Geographic (SSURGO) Database

The SSURGO database is a digitized soil mapping GIS dataset developed by the USDA NRCS. Mapping scales generally range from 1:12,000 to 1:24,000. The SSURGO dataset are digitized duplicates of the original soil survey maps and, therefore, are the most detailed level of soil mapping performed by the NRCS. SSURGO is linked to a National Soil Information System (NASIS) attribute database which provides the proportionate extent of component soils and their properties for each map unit. Map units for the SSURGO database consist of one to three components each. Attribute data in the NASIS database apply to the principal component in each soil mapping unit and were used to identify the Project soil units including attributes such as hydric condition, texture, drainage class, and prime farmland classification. Minor components may have hydric conditions that differ from the primary component soils. Table 4.2-4 summarizes the soils mapped by the NRCS within the PSA. The NRCS Soil Map Unit Description report produced from the NRCS Web Soil Survey website, is provided as Appendix D.

Map Unit Symbol	Map Unit Name	Acreage	Percentage	Hydric Rating
CeB2	Celina silt loam, 2 to 6 percent slopes, eroded	94.3	7.1%	No
CrA	Crosby silt loam, 0 to 2 percent slopes	327.4	24.5%	No
Су	Cyclone silty clay loam, 0 to 2 percent slopes	279.7	20.9%	Yes
EdA	Eldean silt loam, 0 to 2 percent slopes	8.5	0.6%	No
EdB2	Eldean loam, 2 to 6 percent slopes, eroded	27.9	2.1%	No
LeB2	Losantville silt loam, 2 to 6 percent slopes, eroded	33.6	2.5%	No
MIA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes	5.0	0.4%	No
MmB2	Miamian silt loam, 2 to 6 percent slopes, eroded	35.4	2.6%	No
MpB2	Miamian silt loam, New Castle Til Plain, 2 to 6 percent slopes, eroded	l 143.7	10.7%	No
MrA	Miami silt loam, gravelly substratum, 0 to 2 percent slopes	7.3	0.5%	No
MuC3	Miamian clay loam, 6 to 12 percent slopes, severely eroded	10.6	0.8%	No
Mx	Millgrove loam	0.8	0.1%	Yes
OcA	Ockley silt loam, 0 to 2 percent slopes	124.3	9.3%	No
OcB2	Ockley silt loam, 2 to 6 percent slopes, eroded	5.1	0.4%	No
Sk	Sleeth silt loam, 0 to 2 percent slopes	0.2	0.0%	No
So	Sloan silt loam, 0 to 2 percent slopes, frequently flooded	12.6	0.9%	Yes
Tr	Treaty silty clay loam, 0 to 1 percent slopes	128.1	9.6%	Yes
We	Westland silt loam	13.2	1.0%	Yes
Ws	Westland clay loam, 0 to 1 percent slopes	80.0	6.0%	Yes
Totals		1,337.7	100.0%	

#### Table 4.2-4: NRCS Mapped Soils for the PSA

Source: USDA Web Soil Survey

#### 4.2.5 Aerial Photography

True-color orthorectified digital aerial photography is available for the PSA at a resolution of 0.3-m<sup>2</sup>, acquired July 8, 2018. This imagery was acquired by the DigitalGlobe satellite system and made available to the public through the World Imagery Layer viewed in ArcGIS software. This imagery was used as the mapping base to complete the delineation of wetlands and waterbodies, including other habitat types and land uses within the PSA.

#### 4.3 Digital Mapping Methods and Process

The standard process of conducting a digital vegetation mapping inventory requires an orthorectified imagery base, ancillary data layers such as elevation, hydrography (i.e., streams and watersheds), field data (i.e., GPS location points, field notes, and site photographs) and the software to analyze and interpret those data layers. The mapping process includes delineating the field delineated wetlands and surface water features (i.e., lakes, ponds, streams, and ditches), and other major vegetation or landuse units from aerial imagery, and then identifying their features or attributes using classification systems. For the proposed Project, wetland delineation and land use/habitat mapping polygons were created using ESRI ArcGIS 10.6.1 software packages. The mapping process described herein includes information on vegetation interpretation techniques, application of the classification systems, and discusses quality assurance/quality control (QA/QC) measures.

#### 4.3.1 Interpretation Techniques

The mapping process used for the Project was a manual interpretation and delineation of the vegetation communities. The manual interpretation of the imagery provides for an accurate delineation of the major vegetation communities, provides statistics on their extent, and nature of their composition. The delineations are completed on-screen, within the GIS mapping environment. This delineation process is known as "heads-up digitizing." There are no inaccuracies created through a transfer process; the delineations are as accurate as the orthorectified imagery and GPS points allow. In addition to major vegetation and landuse breaks, all wetland and waterbody boundaries within the PSA were flagged in the field and boundary flag locations were recorded using a sub-meter accuracy GPS unit. The flagged wetland and waterbody boundaries were digitized in the GIS using the GPS location information.

#### 4.4 Quality Control Measures

Quality control measures are in place to check the field data collected and the field forms completed as well as to assure the integrity and accuracy of the digital mapping data. Digital mapping quality control measures include semi-automated GIS systems and senior scientist review. To ensure the integrity of the GIS digital line work, the files are validated through a semi-automated GIS model. This model evaluates the GIS mapping data and inspects for data gaps, slivers, overlapping polygons, duplicate polygons, and multi-part polygons. All data errors are flagged and corrected as needed. This semi-automated quality control process provides for accurate summary statistics such as acreages reported.

The senior scientist review occurred collaboratively with the scientists who conducted the wetland field surveys. Additionally, field GPS data and field forms were collaboratively reviewed following the completion of the field surveys. Upon completion of the field surveys, the GIS mapping data was reviewed by senior scientists for consistency and to determine that resources were correctly identified according to field data collected. The senior scientist review involves manually reviewing each mapped polygon individually across all coded attributes. Discrepancies between the field data collected and the delineated vegetation unit within the GIS are further inspected and rectified by the senior scientists.

After completion of the senior scientist review the mapping file is passed through the semiautomated GIS model once again to identify and rectify any physical discrepancies with the data. Upon a clean pass through the QA/QC model the data is considered final and made available for statistical analysis.

#### 4.4.1 GPS Equipment Used and Quality Control

Field plot positional locations were collected in the field using a Trimble GeoXH, Geoexplorer 6000 Series and/or Geo 7 Series, sub-meter hand-held GPS units. GPS units are equipped with Terrasync software used for data collection. Prior to mobilizing for field work, GPS units are setup with a Terrasync Data Dictionary to collect specific plot types and to record site characteristics.

Additionally, GPS units are setup with background files to delimit the PSA boundary to help field crews with navigation and data collection across the full extent of the PSA.

For quality control, post-processing differential correction of field collected GPS data was completed using Pathfinder Office software. Post-processing was completed individually for each day field surveys were conducted. The differential correction process used to complete the post-processing for this survey is as follows:

Pathfinder Office GPS Differential Correction

Process Used: Automatic Carrier and Code Processing

Single Base Station

GPS and GNSS Enabled (5 second rate)

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## **5 Wetland/Waterbody Delineation Results**

#### 5.1 Introduction

Wetland and waterbody delineations were conducted throughout the PSA from September 10, 2019 through September 11, 2019. Investigations indicate the presence of seven wetlands, seven streams, and no jurisdictional ditches within the PSA. The locations of these features are shown in Figure 4.1-1 within Appendix A. Two wetland classes, three natural waterbody types, and one man-made waterbody type were identified within the PSA:

- > Palustrine Emergent (PEM) wetlands that are dominated (i.e., having at least 30% areal coverage) by persistent, erect, rooted herbaceous hydrophytes (e.g., grasses, sedges, rushes, herbs and forbs) (Cowardin et al., 1979);
- Palustrine Forested (PFO) wetlands that are dominated (i.e., having at least 30% areal coverage) by woody vegetation that is at least 20-feet tall and has a diameter greater than 3-inches measured at breast height (DBH) (Cowardin et al., 1979);
- Intermittent Streams: Riverine Intermittent Streambed (R4SBC) natural streams that flow only seasonally and are dry or contain pools with no connecting flows for portions of the year (Cowardin et al., 1979);
- Perennial Streams: Riverine Unconsolidated Bottom (R3UBH) natural streams that maintain flows throughout the year (Cowardin et al., 1979);
- Ephemeral Streams: Riverine Ephemeral Streambed (R4SBJ) natural streams or erosional channels that have flows only in response to precipitation events (Cowardin et al., 1979);
- Ditches: Riverine Streambed, Excavated (R4SBAx) man-made or modified, straightened drainages, includes canals, drainage ditches, and drainage swales (Cowardin et al., 1979);

Table 5.1-1 and Table 5.1-2, located at the end of Section 5, summarize the results of the wetland and waterbody field delineations within the PSA.

#### 5.2 General Wetland Descriptions

All delineated wetlands were palustrine wetlands which are non-tidal, freshwater wetlands dominated by trees, shrubs, or persistent emergent herbaceous vegetation, and also includes small open-water ponds. Table 5.1-1, located at the end of Section 5, lists the wetlands identified in the PSA.

#### 5.2.1 Emergent Herbaceous Wetlands

Several PEM wetlands were identified within the PSA including herbaceous margins to mature forested wetlands and depressions. Emergent wetlands within the PSA were classified as either depressional or slope wetlands under the hydrogeomorphic (HGM) classification system. Depressional wetlands occur within closed topographic depressions and slope wetlands occur in swales and on toeslopes where groundwater expressions occur. Depressional wetlands are

maintained primarily by direct precipitation, whereas slope wetlands are maintained primarily by groundwater discharge. In general, PEM wetlands are dominated by non-woody, rooted, erect hydrophytes with less than 30% areal coverage of woody plants.

Herbaceous wetlands were commonly dominated by barnyard grass (*Echinochloa crus-gali.*), clearweed (*Pilea pumila.*), and common ragweed (*Ambrosia artemisiifolia*).

#### 5.2.2 Forested Wetlands

Two palustrine forested wetlands were identified within the PSA and primarily consisted of mature deciduous bottomland hardwood wetland forested communities. The forested wetlands within the PSA were classified as either depressional or slope wetlands under the HGM classification system. Depressional wetlands occur within closed topographic depressions and slope wetlands occur in swales and on toeslopes where groundwater expressions occur. In general, forested wetlands are dominated (i.e., areal extent greater than 30% cover) by woody vegetation greater than 20-feet tall with tree species having an average DBH greater than three inches.

Common trees found in PFO wetlands throughout the PSA include black willow (*Salix nigra*), Eastern cottonwood (*Populus deltoides*), Green ash (*Fraxinus pennsylvanica*), and American black walnut (*Juglans nigra*). Primary midstory and understory associates include saplings of the tree species previously identified, as well as, buttonbush (*Cephalanthus occidentalis*). The herbaceous stratum was dominated by swamp smartweed (*Persicaria hydropiperoides*).

#### 5.3 General Waterbody Descriptions

Within the PSA, the Project identified seven stream channels, of which two as perennial, one as intermittent, and four as ephemeral. Field surveys also identified all man-made ditches within the PSA and field determined their jurisdictional status. One man-made ditch was identified within the PSA determined to be a non-jurisdictional roadside drainage ditch.

Field surveys recorded waterbody characteristics on GPS units and completed field forms to document the following morphologic and flow characteristics observed in the field; stream type (i.e., perennial, intermittent, ephemeral, or ditch), OHWM width, wetted channel width, depth of flow, dominant substrate, bank height, bank slope, flow condition (i.e., flowing, turbid, pools-no flow, or dry), flow direction, and presence of fish.

Table 5.1-2, located at the end of Section 5, lists the waterbodies identified in the PSA and provides the length of stream within the PSA and the average OHWM width.

#### 5.3.1 Perennial Streams

Perennial waterbodies typically flow or contain standing water year-round, and under normal circumstances, support populations of fish and macroinvertebrates. Two perennial streams were identified in the PSA, determined as natural, high-gradient perennial streams supported by a narrow floodplain. Upper perennial streams are typically supported by a narrow floodplain, often upland riparian which does not meet wetland criteria; however, wetland seeps and springs which meet wetland criteria can also be present within the narrow stream valleys.

#### 5.3.2 Intermittent Streams

Intermittent waterbodies flow or contain standing water seasonally, are typically dry or contain pools with no flow for part of the year, and do not usually support populations of fish or macroinvertebrates which are directly dependent on water. Intermittent streams within the PSA were typically high-gradient, incised channels which were either dry, contained pools with no connecting flows, or had low flows that would likely not be sustained throughout the dry season.

#### 5.3.3 Ephemeral Streams

Ephemeral waterbodies generally contain water only in response to precipitation, and usually do not support populations of fish or macroinvertebrates dependent on water. Ephemeral drainages within the PSA were typically high-gradient, incised, erosional channels which were dry or contained pools with no connecting flows. Ephemeral drainages were delineated in the field if they exhibited an OHWM indicator, typically, if they had a bed and bank.

#### 5.3.4 Ditches

Ditch waterbodies within the study area include excavated, man-made roadside drainages, determined to be non-jurisdictional. Non-jurisdictional ditches are man-made drainages that are excavated in upland areas, only drain upland areas (e.g., roadside ditches), and do not carry a relatively permanent flow of water. Jurisdictional ditches are man-made or modified drainages that transport relatively permanent (continuous at least seasonally) flow directly or indirectly into a TNW or between two or more WOUS, including wetlands. Jurisdictional ditches also include replaced, relocated, or otherwise modified natural drainages that either form connections to or drain other WOUS.

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Count	Wetland Name	Cowardin	HGM Class	Date Surveyed	Area (acres)	Latitude (DD)	Longitude (DD)
1	W01-PFO	PFO	Depressional	9/10/2019	2.763	39.795837	-85.417707
2	W02-PEM	PEM	Depressional	9/10/2019	0.056	39.79464	-85.404136
3	W03-PEM	PEM	Depressional	9/10/2019	0.045	39.794643	-85.402509
4	W04-PEM	PEM	Depressional	9/11/2019	0.304	39.787091	-85.416316
5	W05-PEM	PEM	Depressional	9/11/2019	0.072	39.786824	-85.414271
6	W06-PEM	PEM	Slope	9/11/2019	0.165	39.785425	-85.415308
7	W07-PFO	PFO	Slope	9/11/2019	1.091	39.773538	-85.404323
TOTAL					4.496		

#### Table 5.1-1: Wetlands Delineated within the PSA

#### Table 5.1-2: Waterbodies Delineated within the PSA

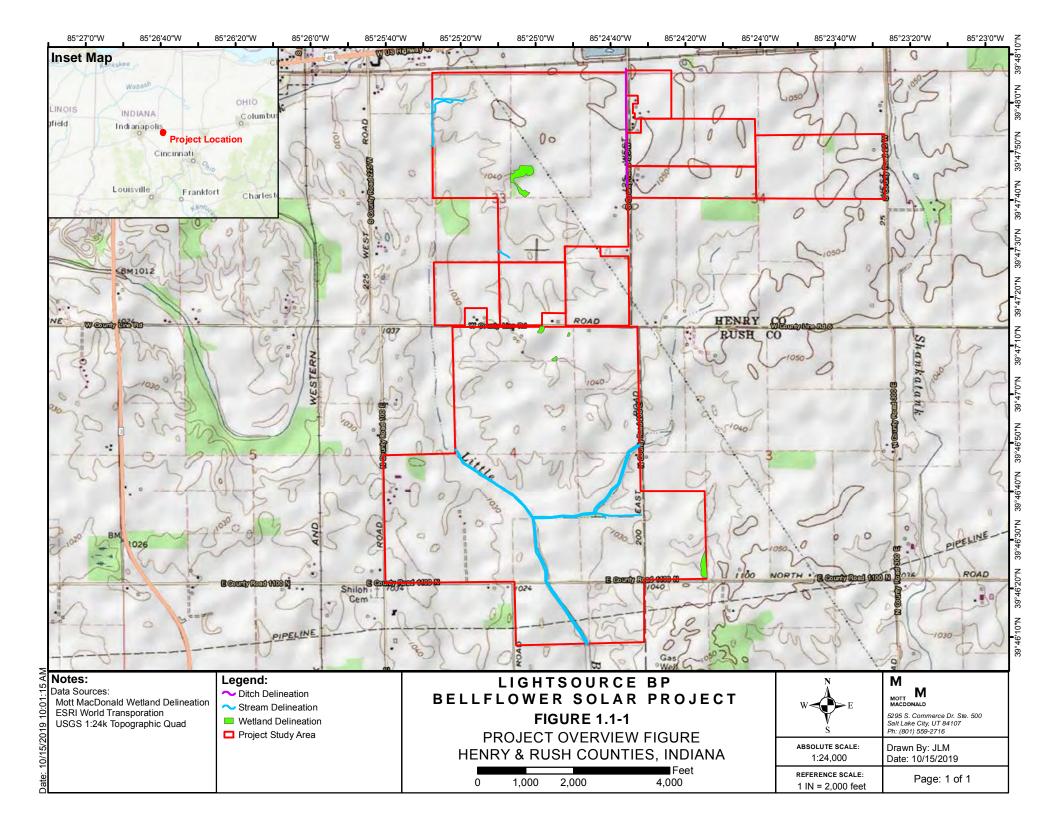
	Waters		Date	OHWM Width	Length	Latitude	Longitude
Count	Name	Туре	Surveyed	(feet)	(feet)	(DD)	(DD)
Streams							
1	S01-EPH	Ephemeral	9/10/2019	10	814	39.800327	-85.424078
2	S02-EPH	Ephemeral	9/10/2019	3	886	39.800155	-85.423243
3	S03-EPH	Ephemeral	9/10/2019	2	267	39.791432	-85.419059
4	S04-PER	Perennial	9/11/2019	8	3,070	39.776988	-85.412237
5	S05-INT	Intermittent	9/11/2019	6	965	39.776453	-85.410663
6	S06-EPH	Ephemeral	9/11/2019	4	94	39.776437	-85.411701
7	S07-PER	Perennial	9/11/2019	12	5,075	39.775604	-85.416891
Streams Subtotal				3,026			
Ditches							
1	D01-NOJ	Ditch	9/10/2019	3	2,458	39.798654	-85.409975
Ditches S	Ditches Subtotal						
Waters T	OTAL				5,484		

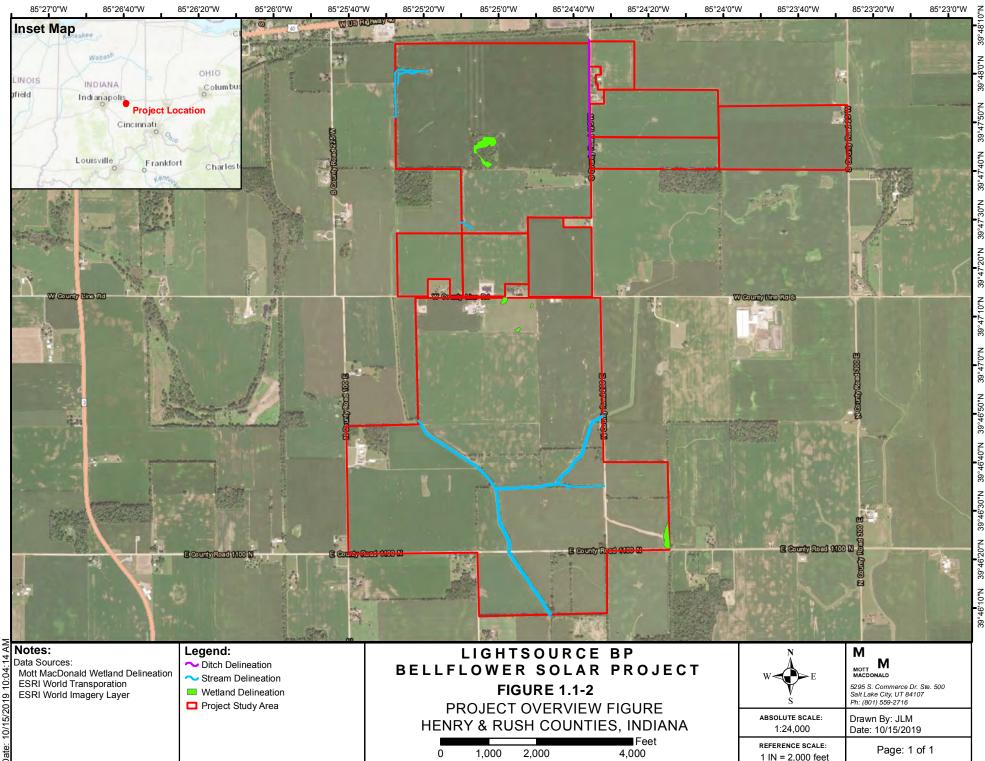
## 6 References

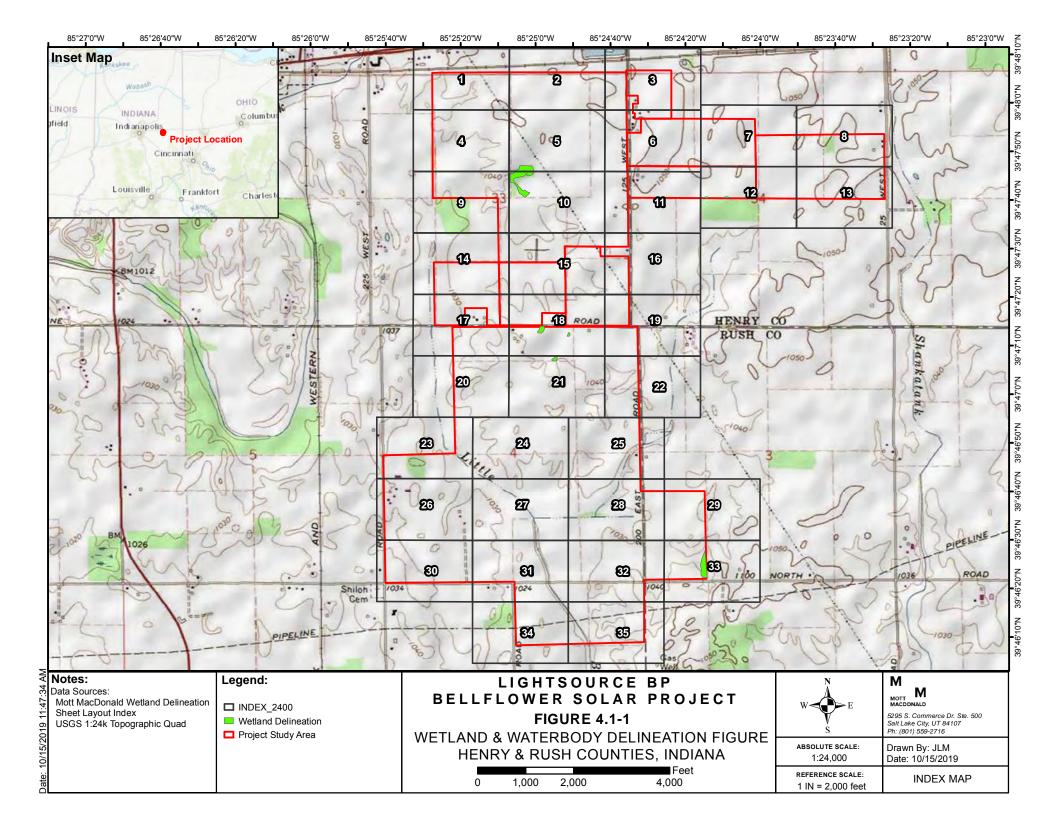
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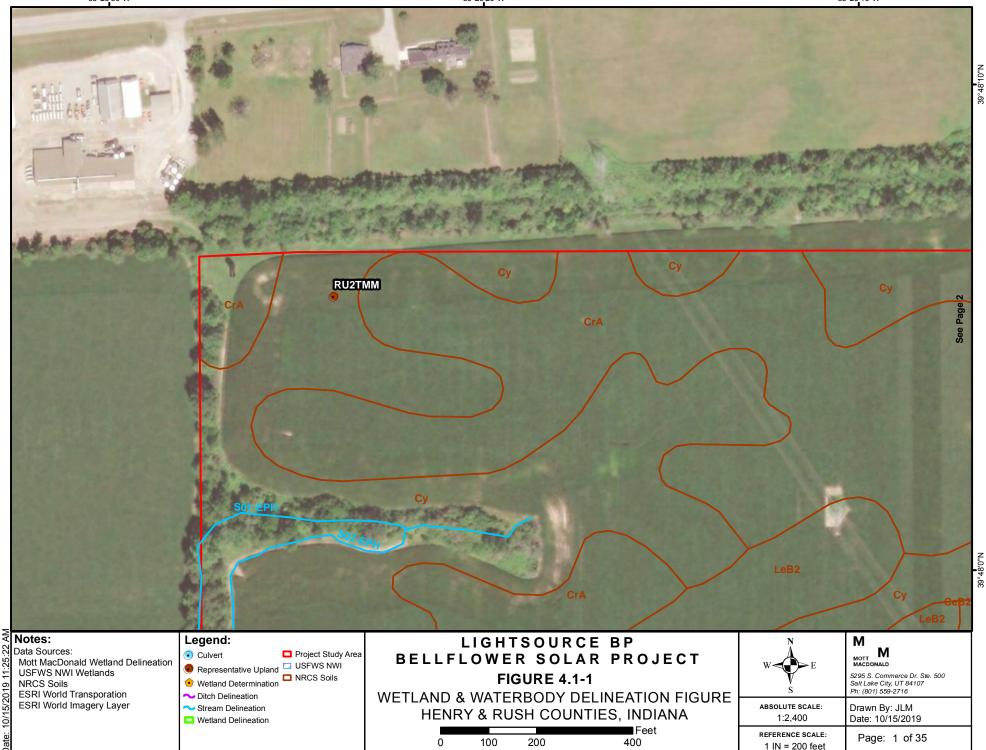
# Appendices

# A. Figures and Maps











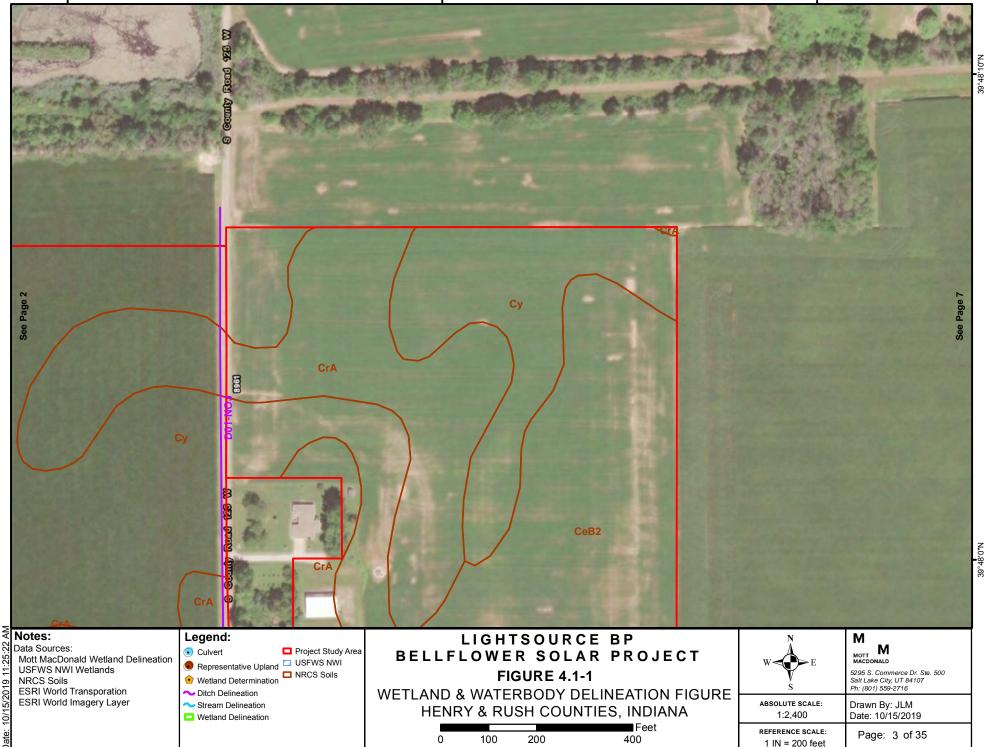
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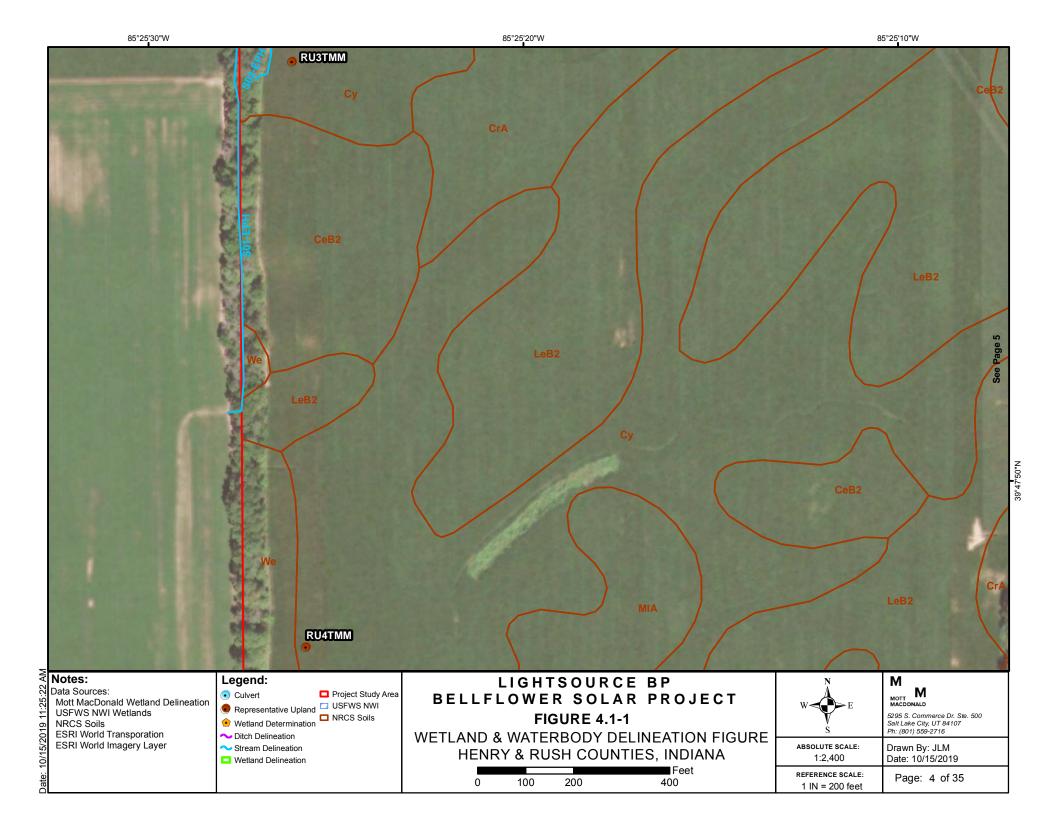
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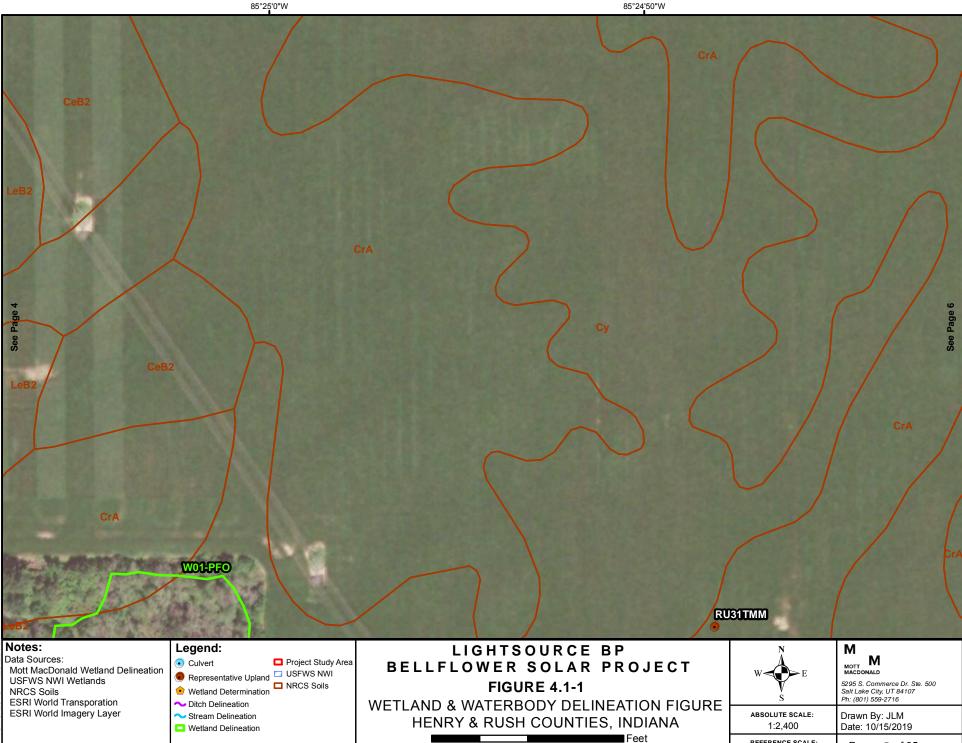
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1 IN = 200 feet

39°48'10"N







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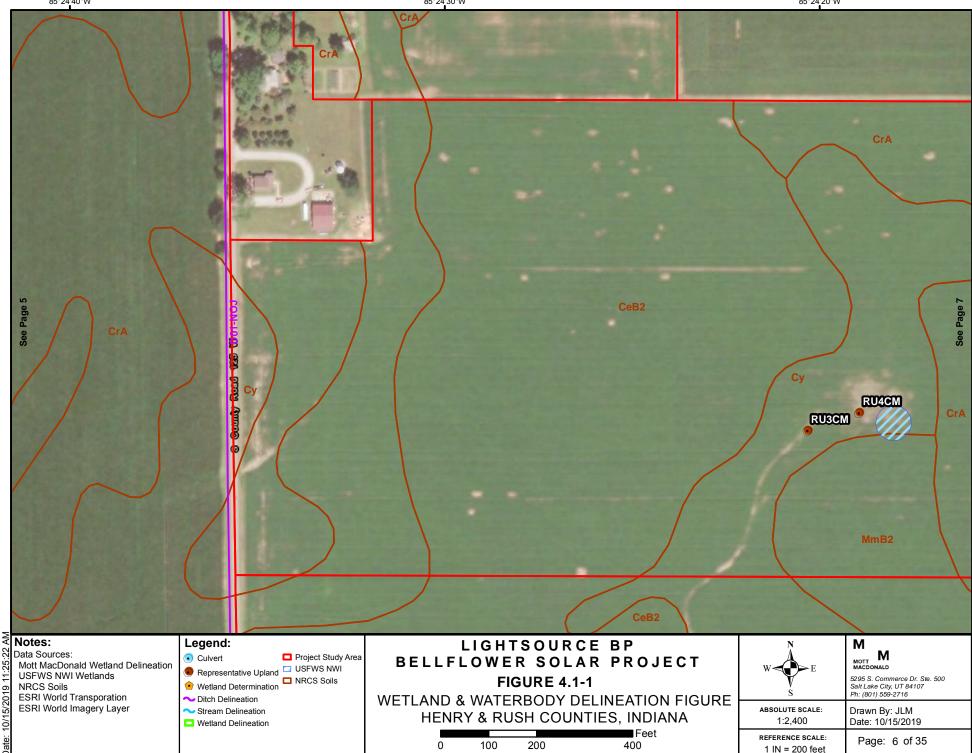
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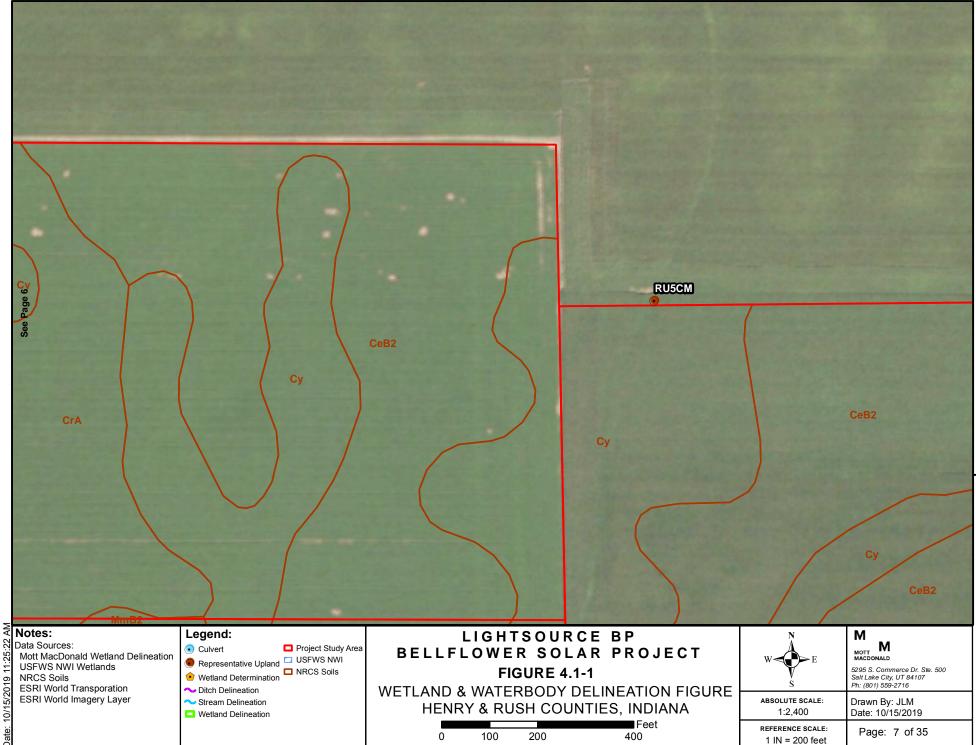
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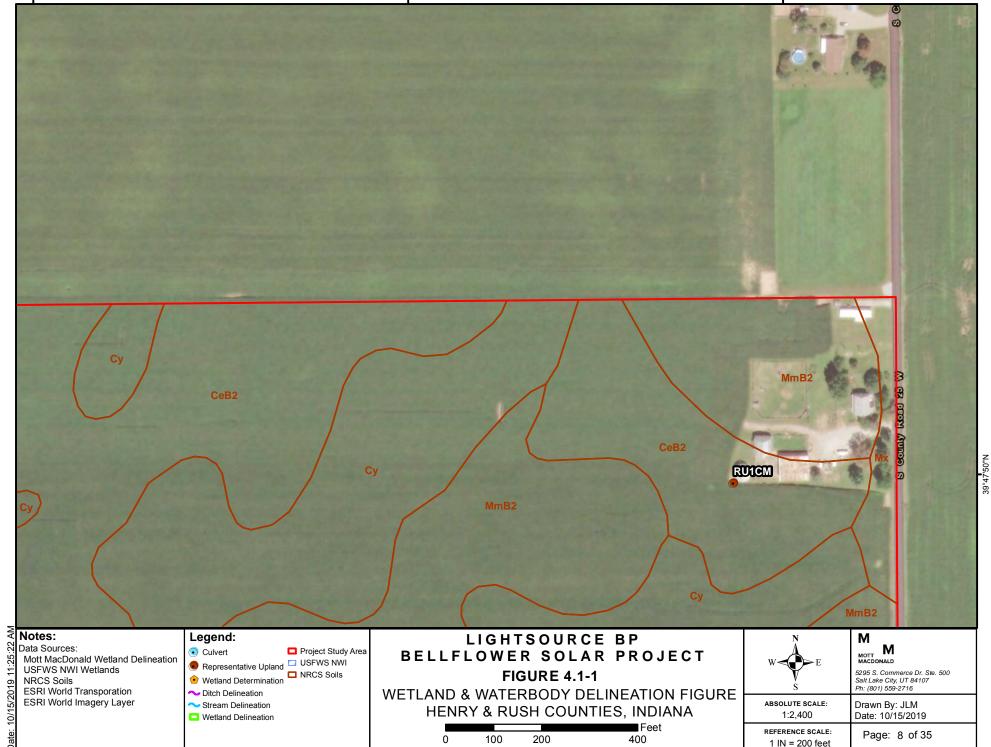
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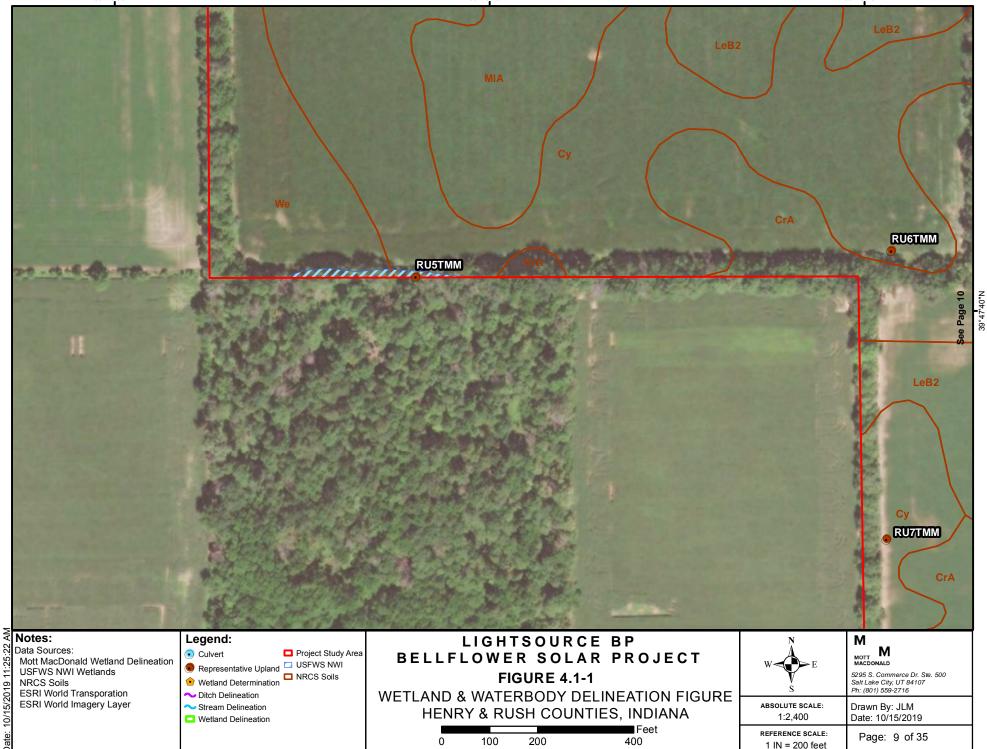
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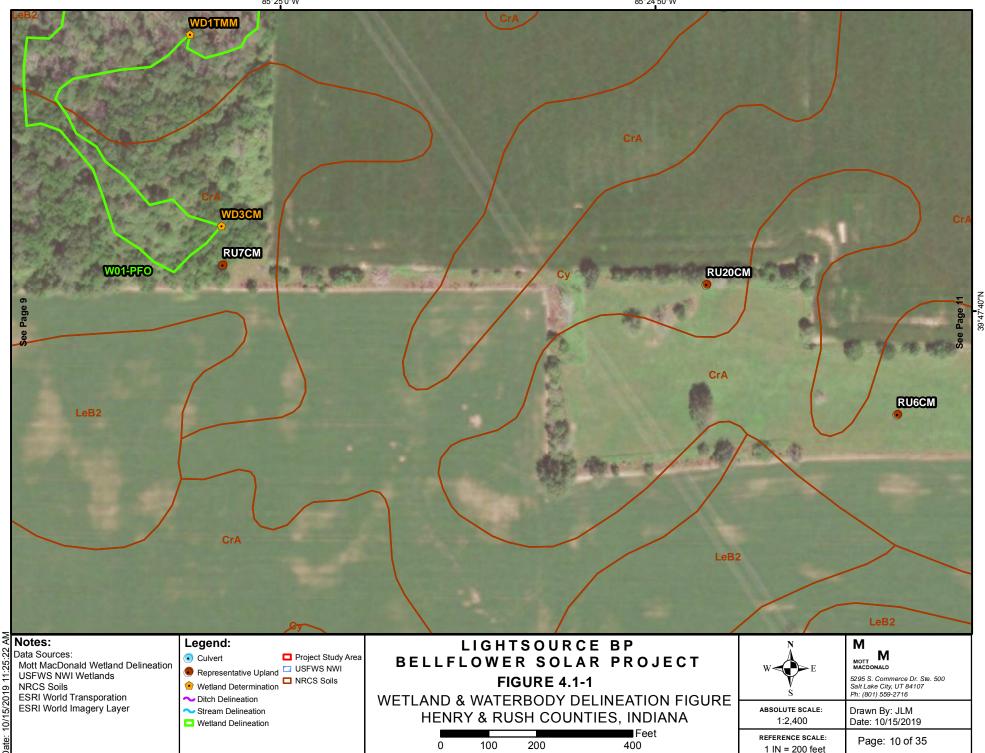






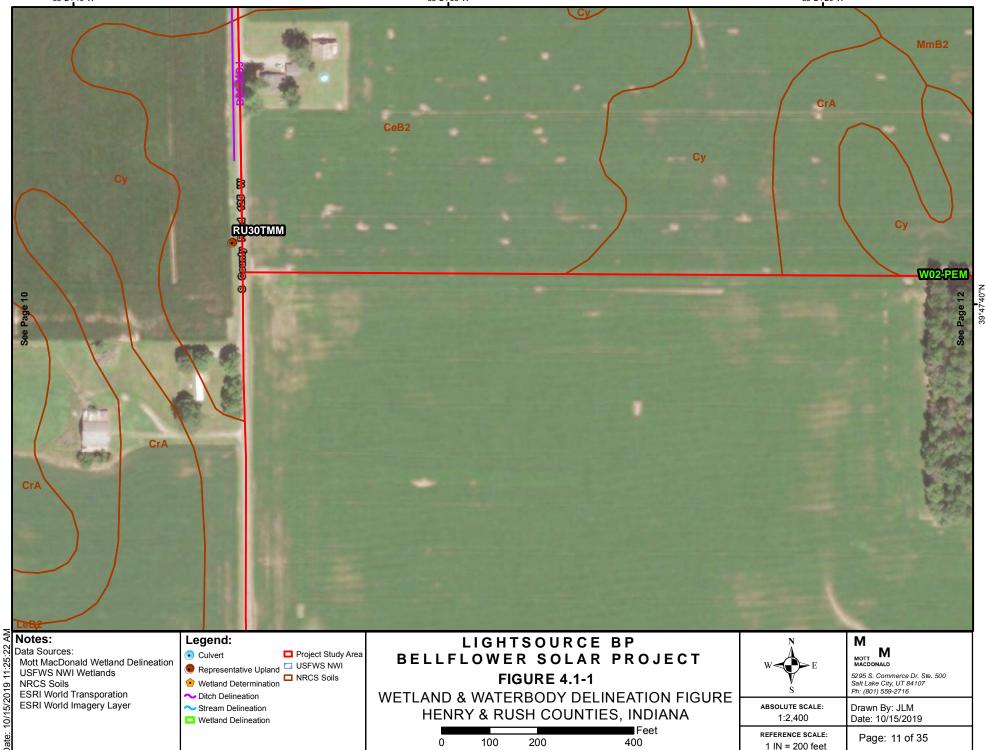
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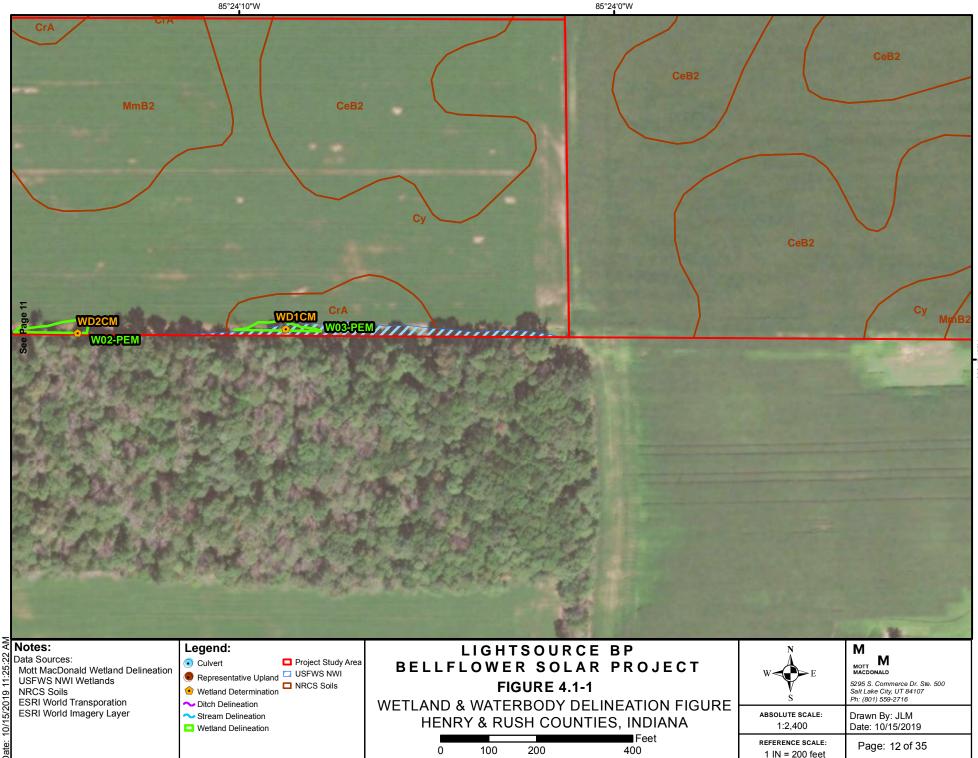




85°25'0"W

85°24'50"W

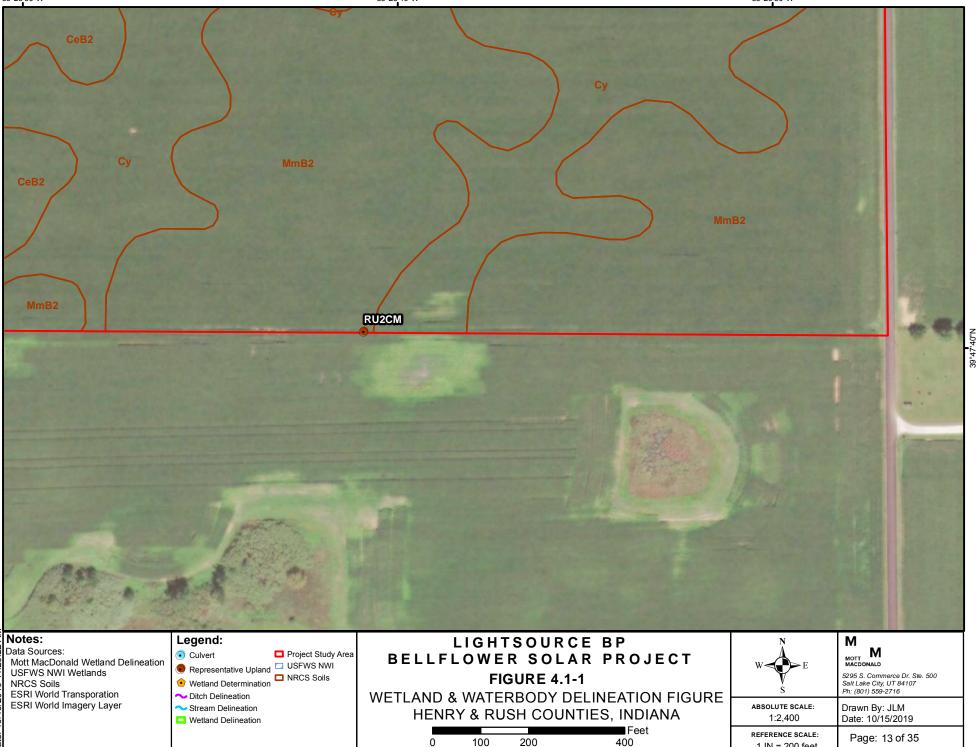


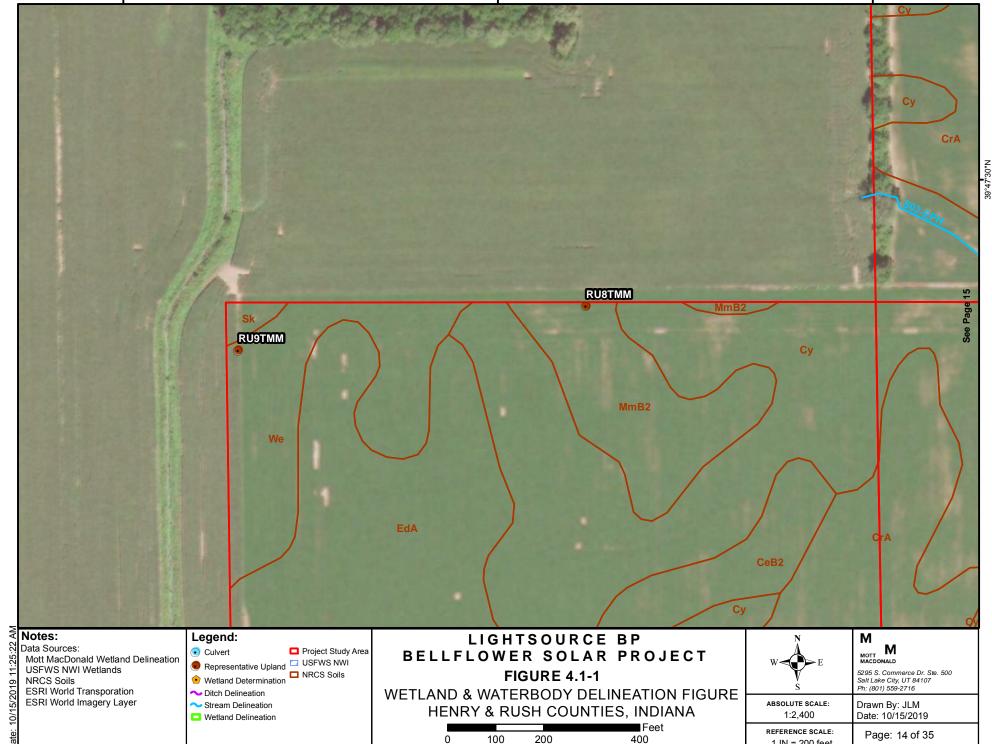


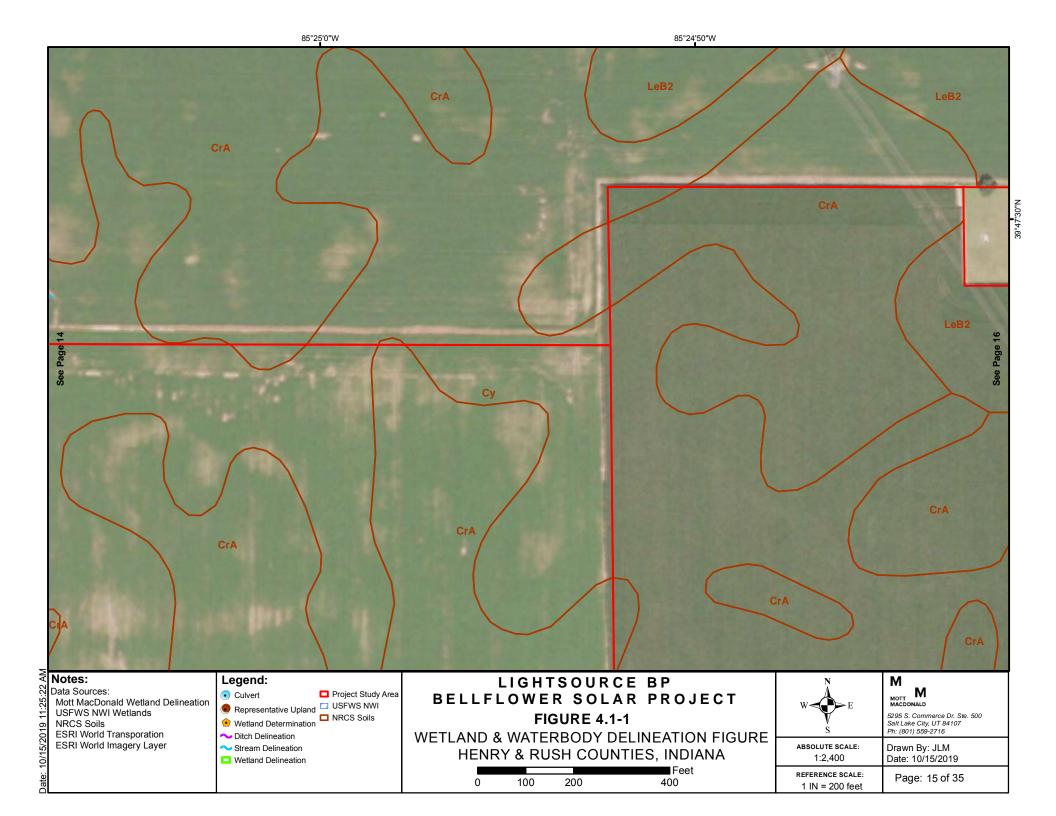
39°47'40"N

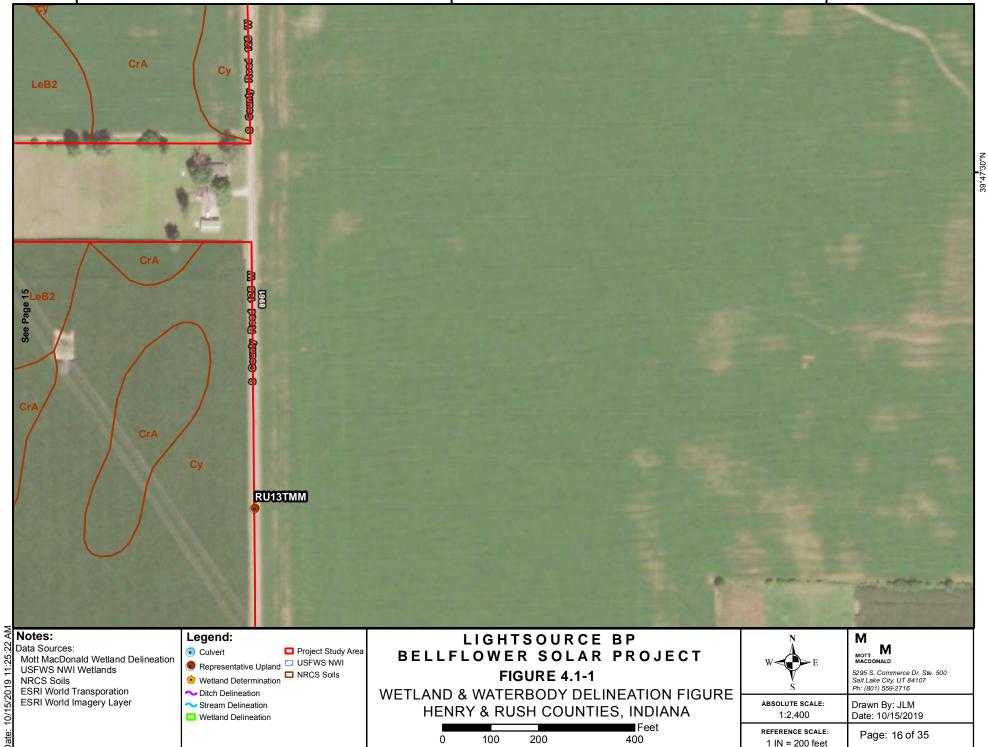
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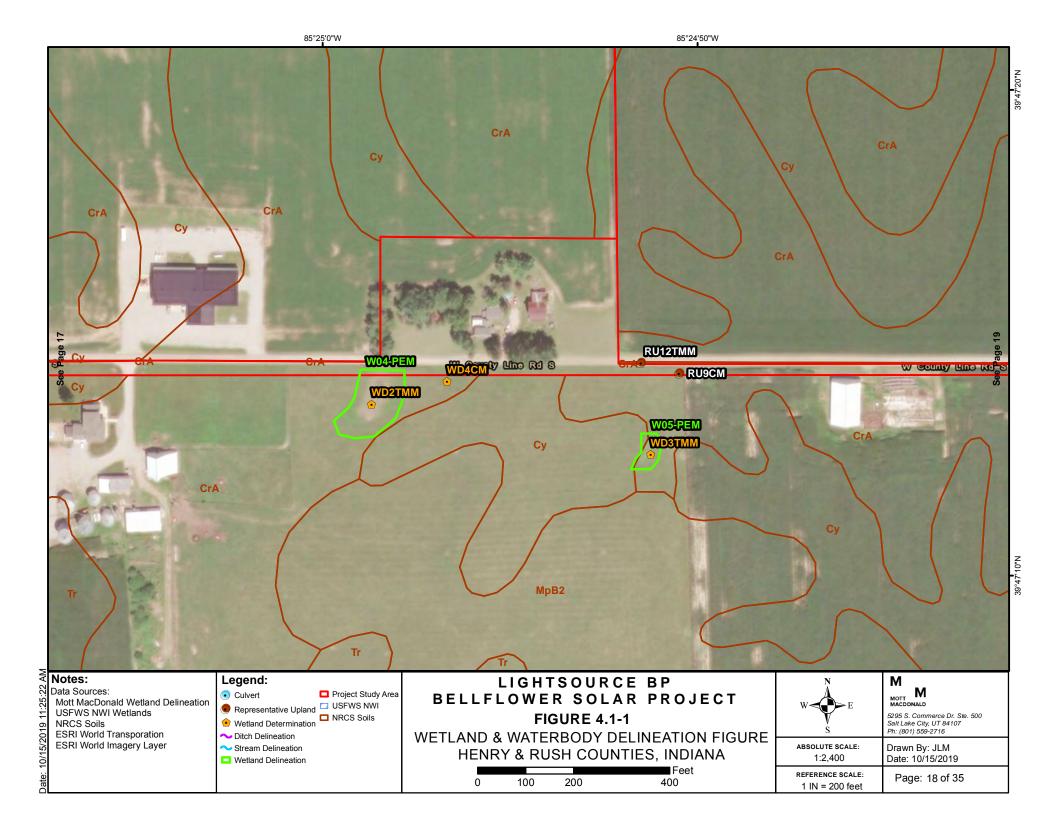


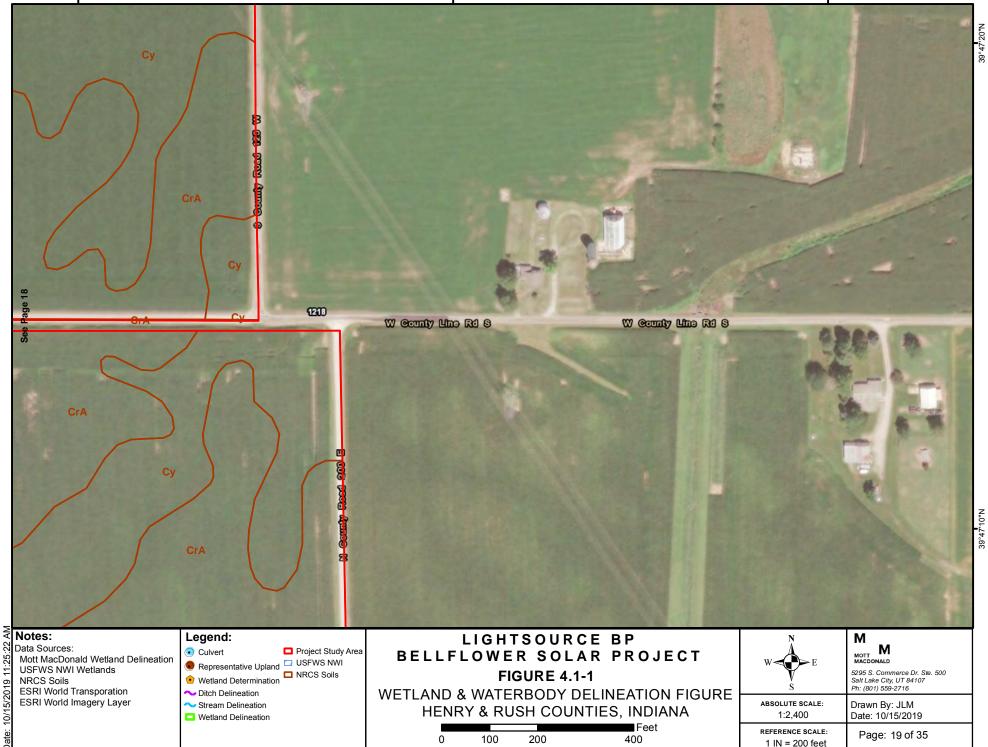


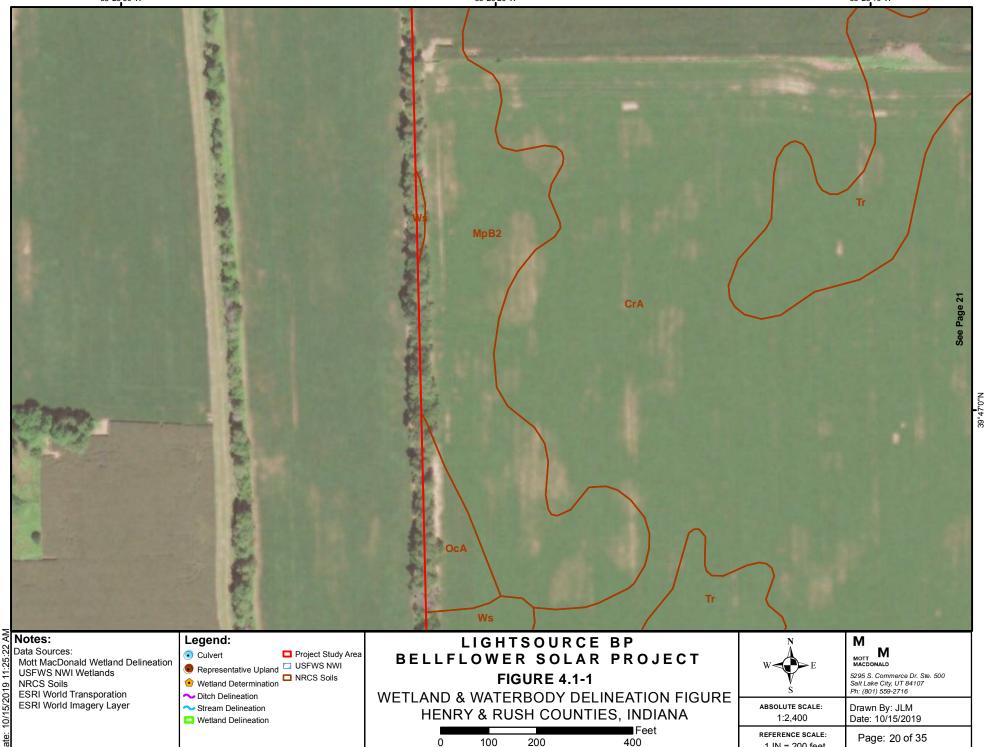


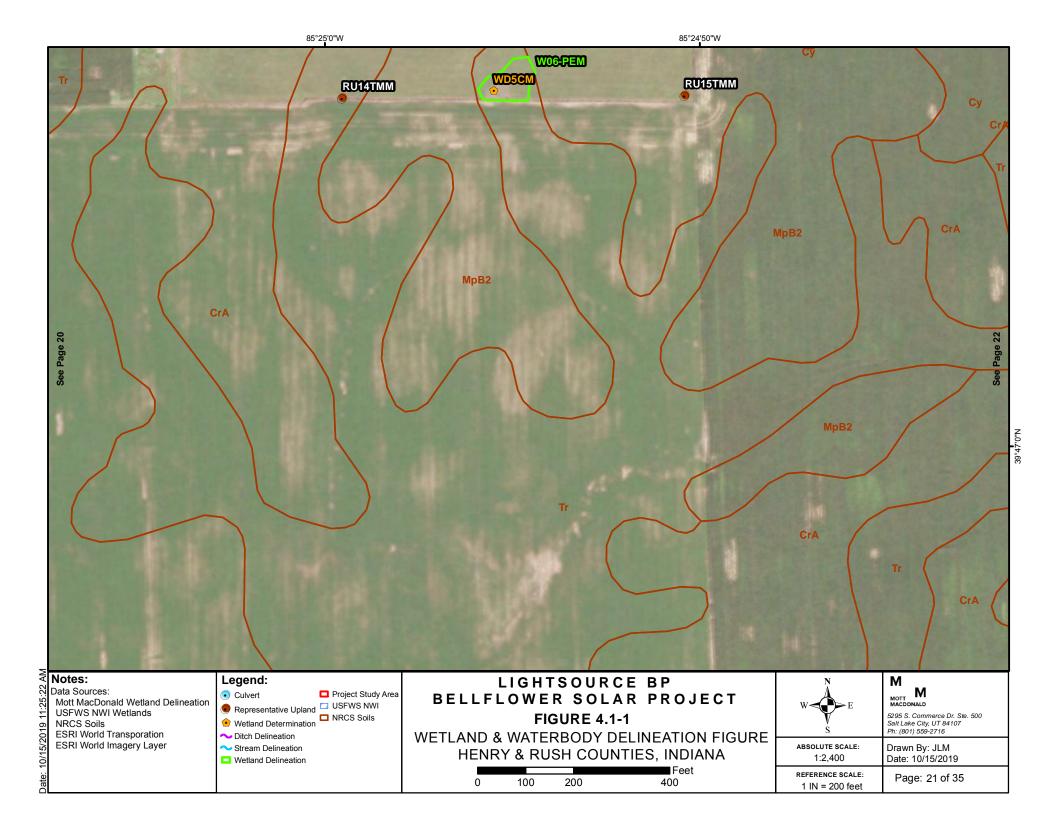




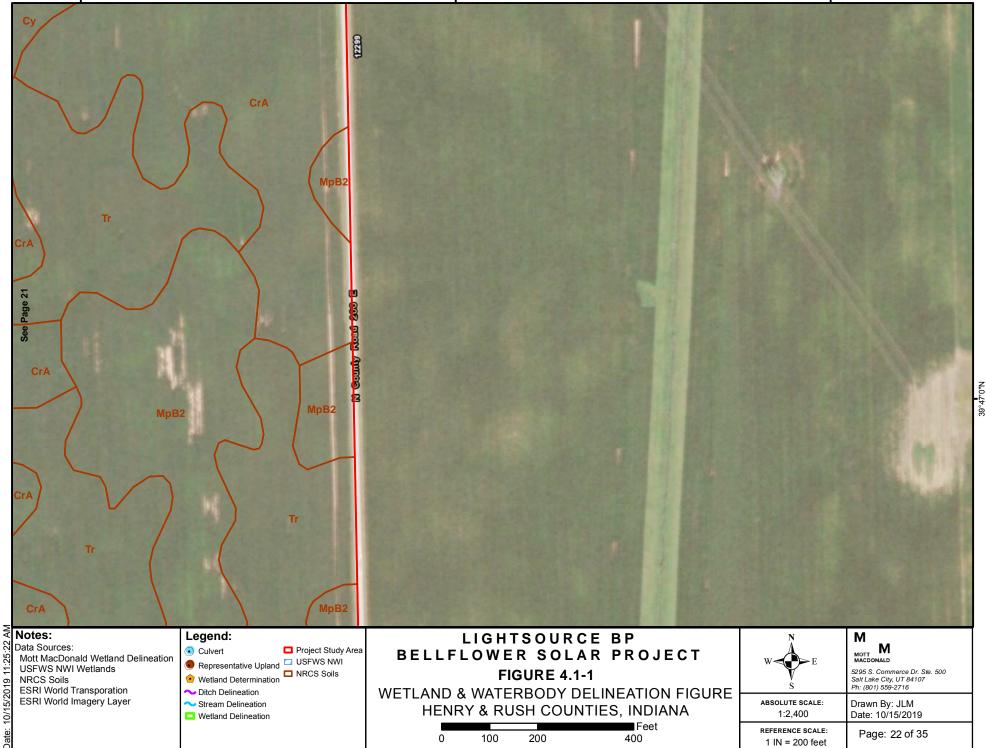


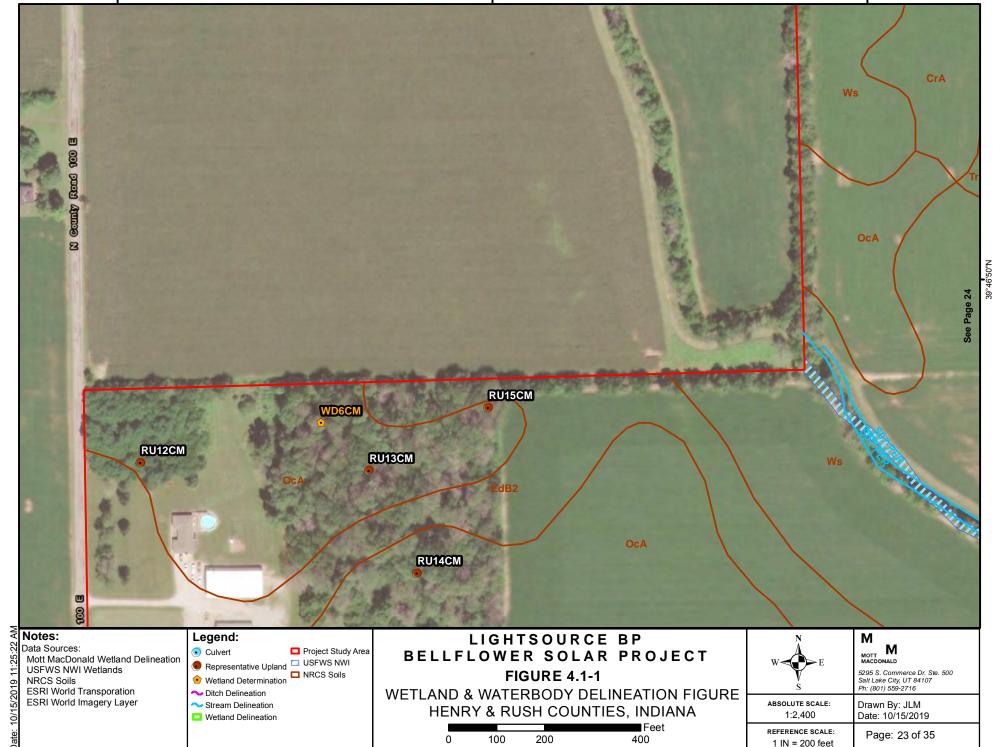








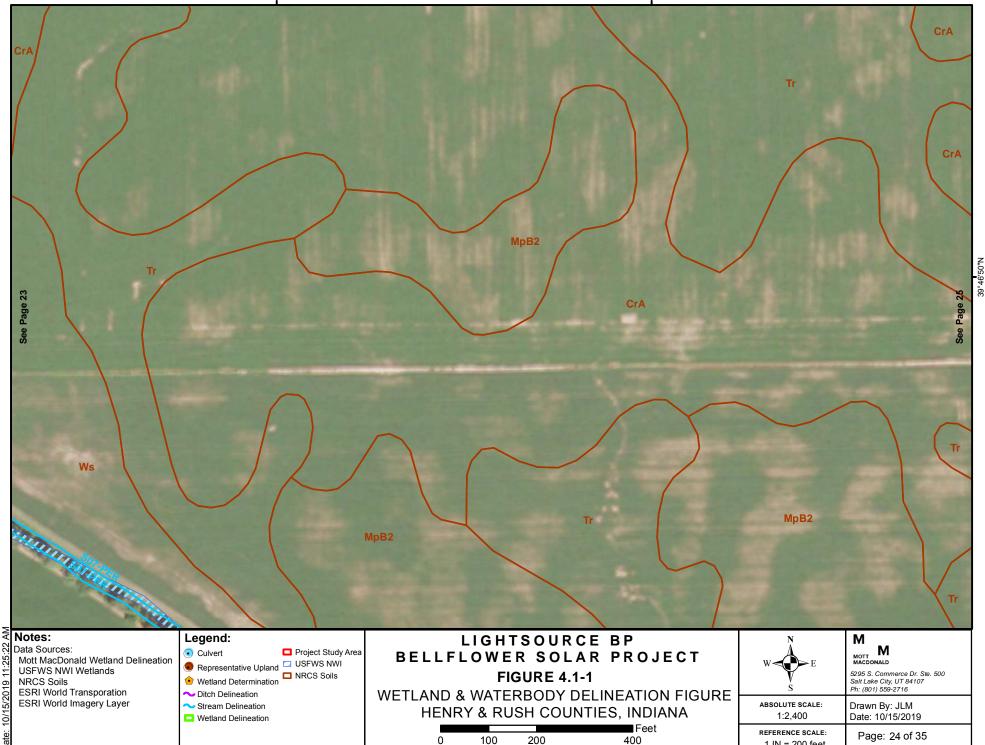


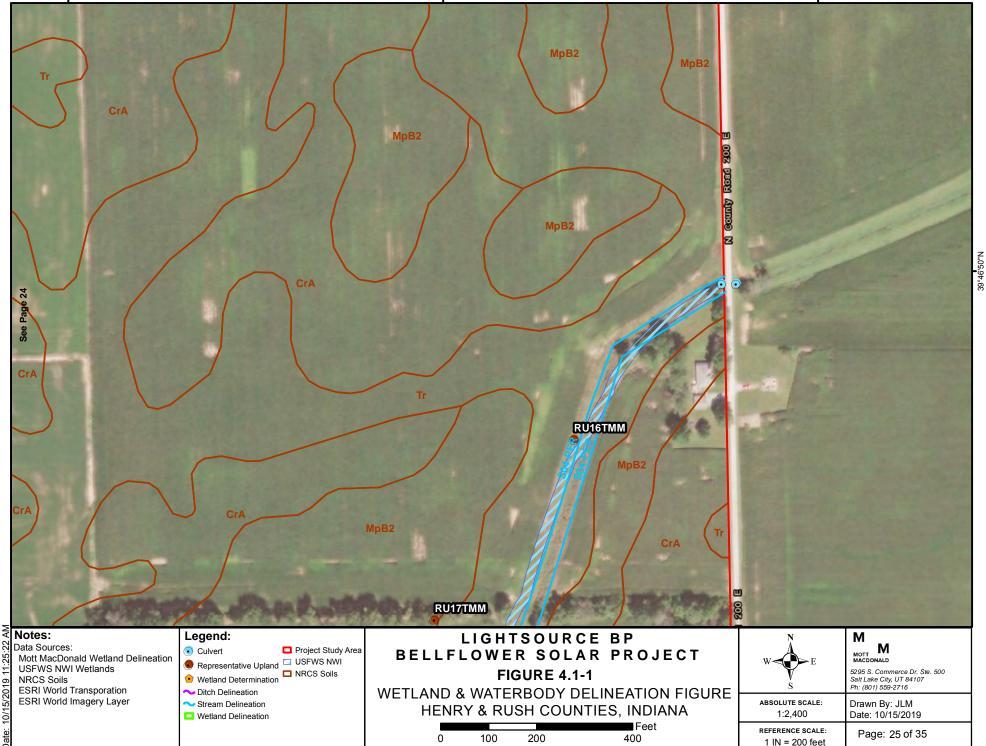




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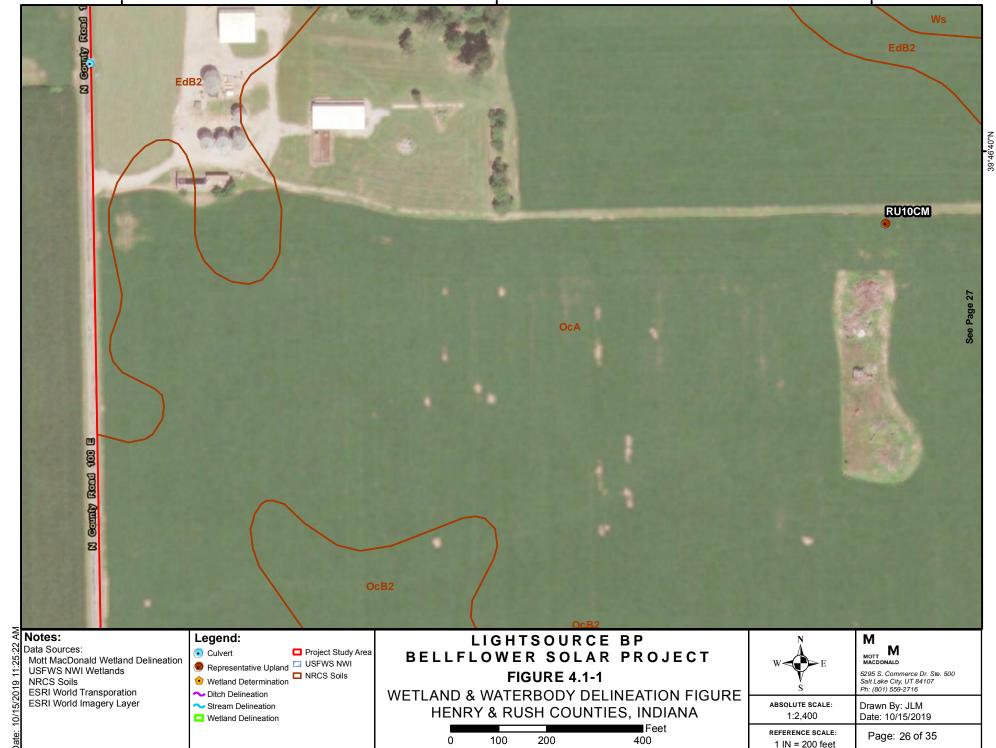


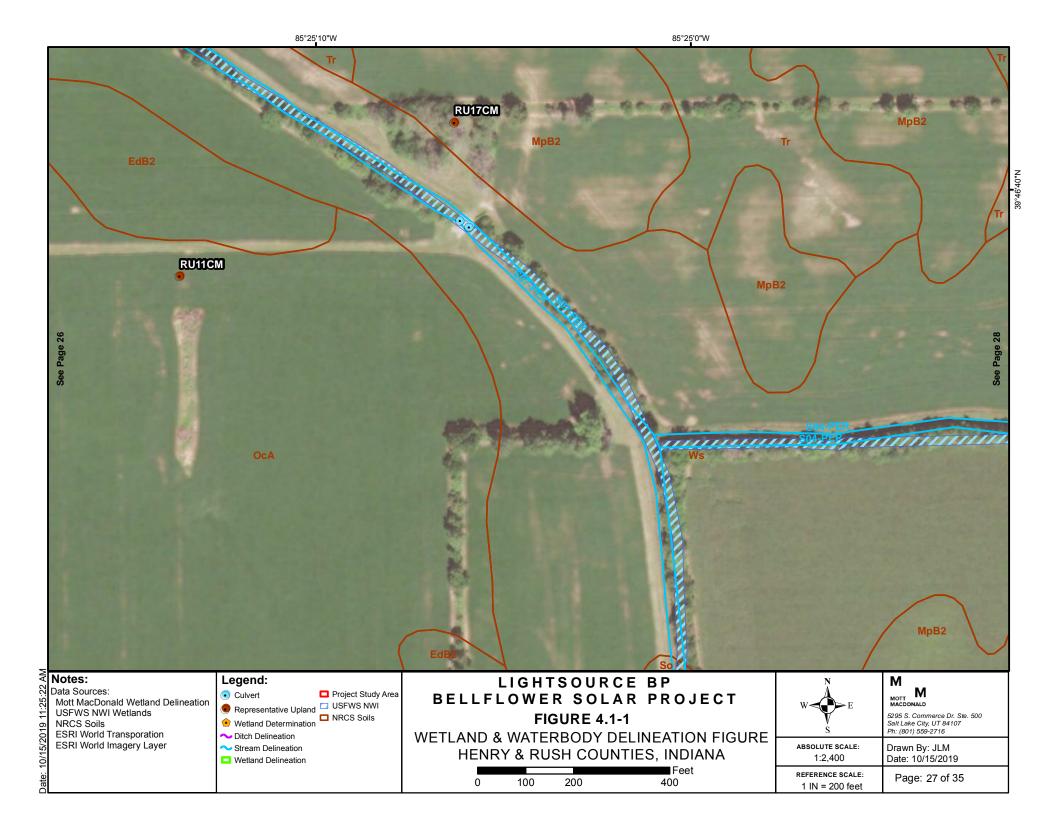


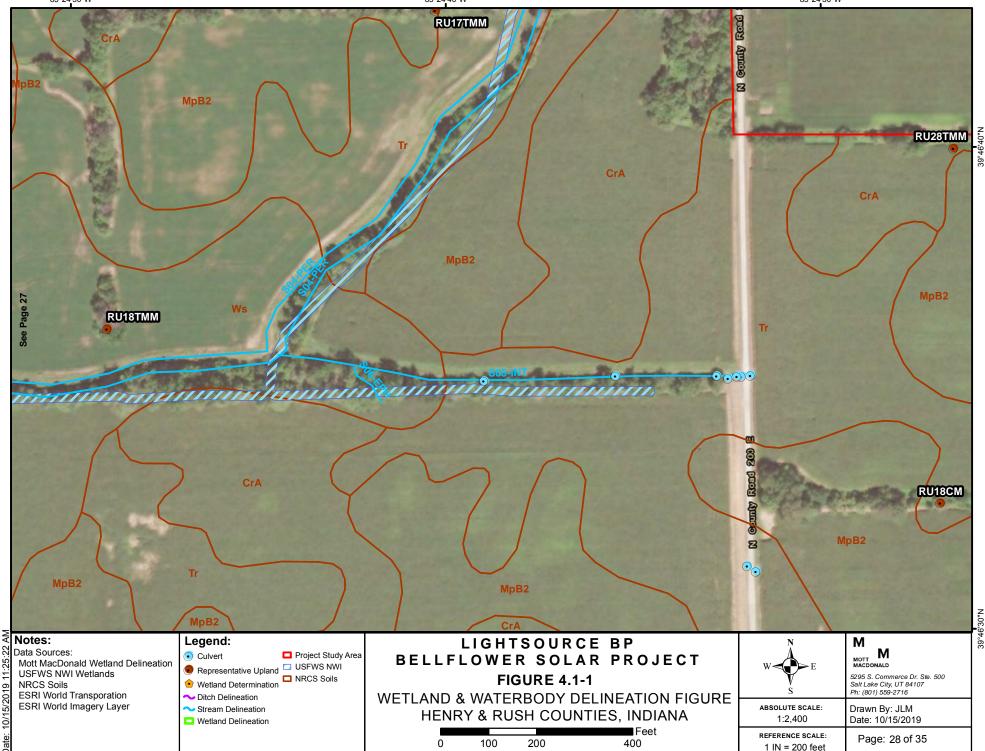
85°24**'**40"W

85°24'30"W







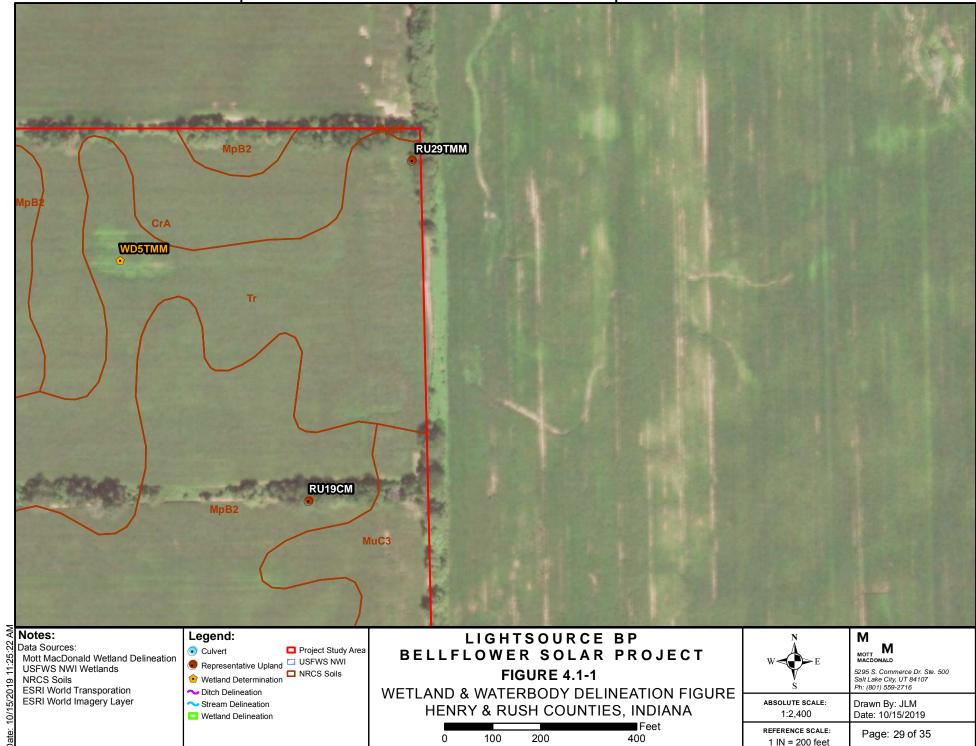


85°24'50"W

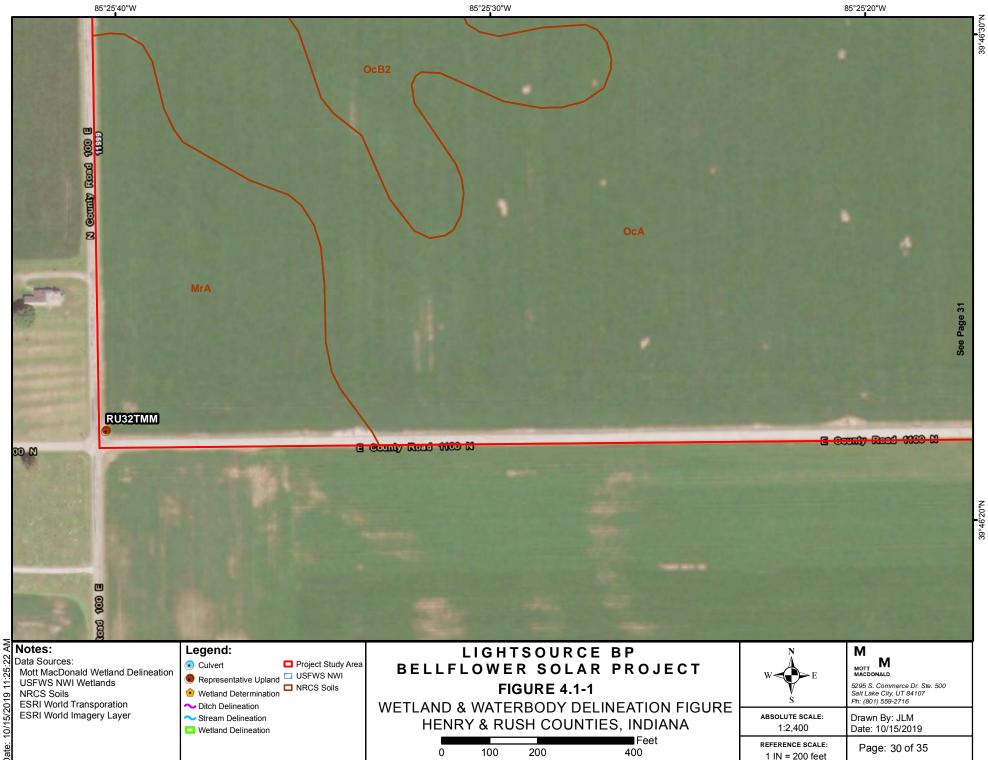
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85°24'30"W

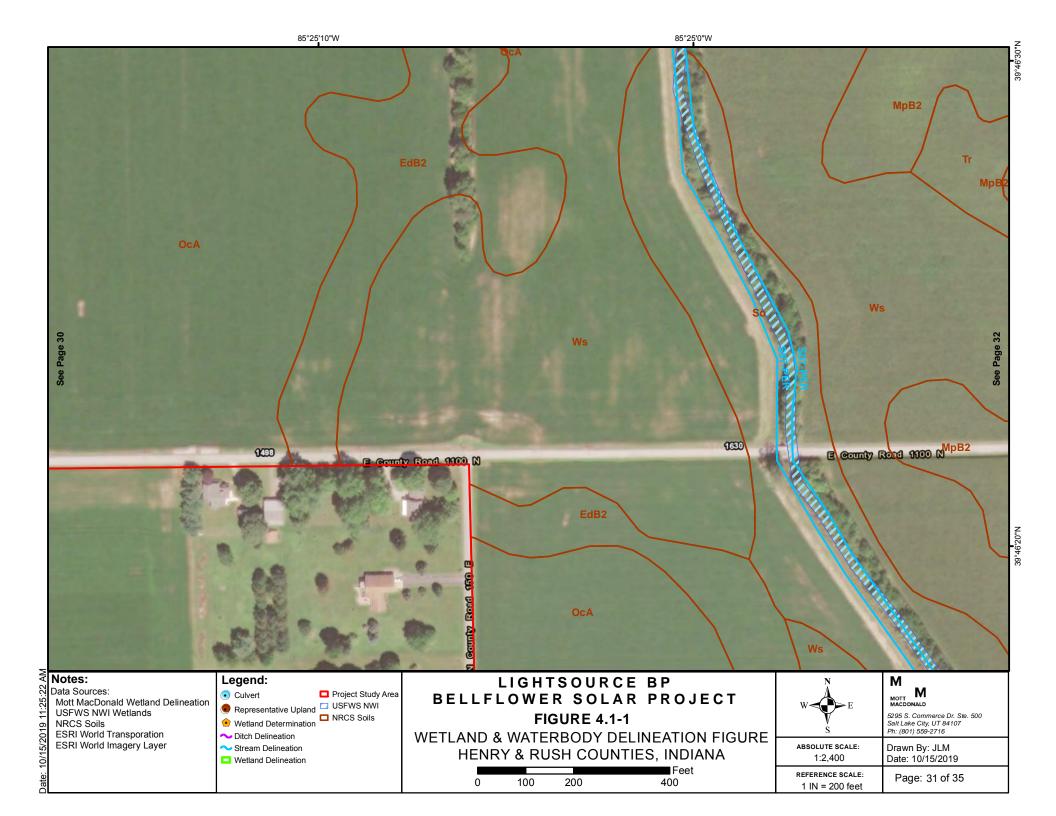




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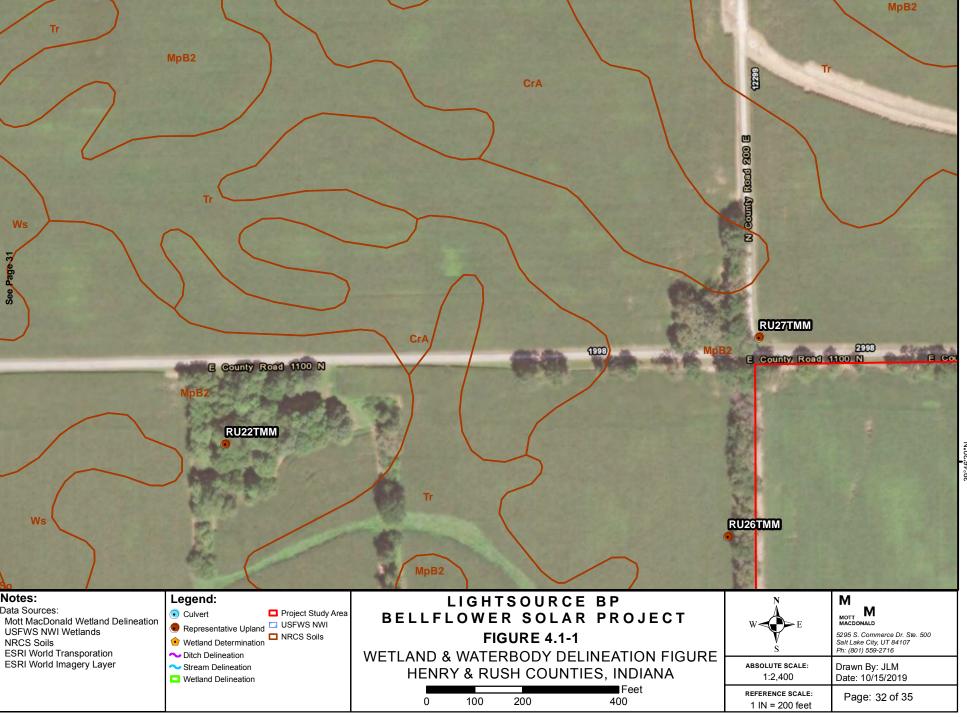
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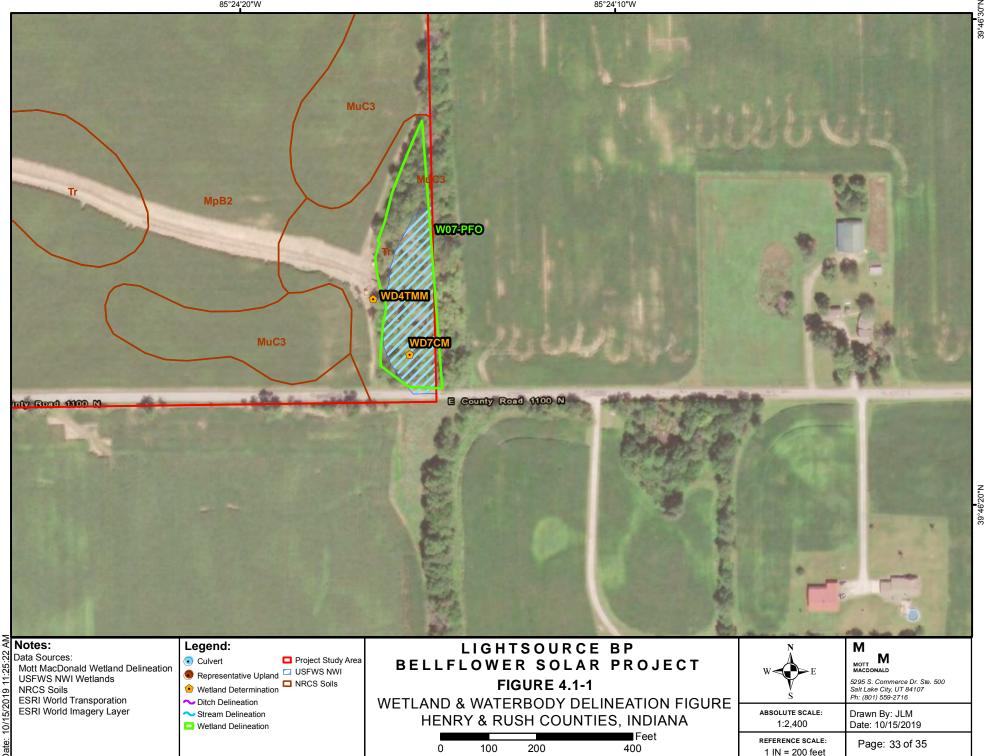
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MpB2

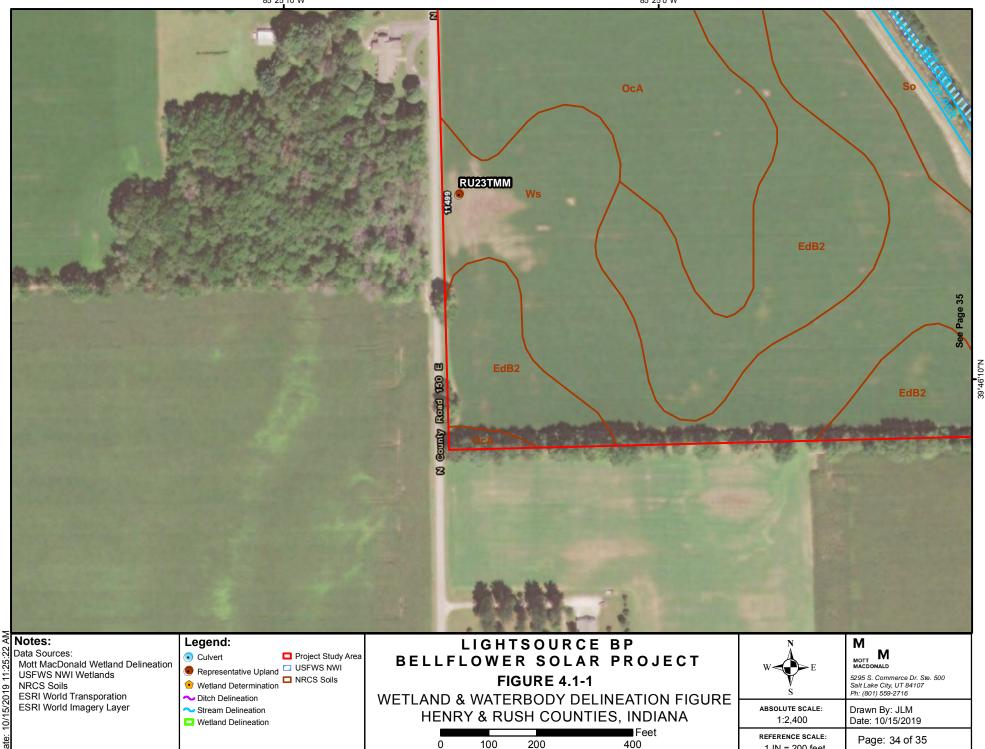


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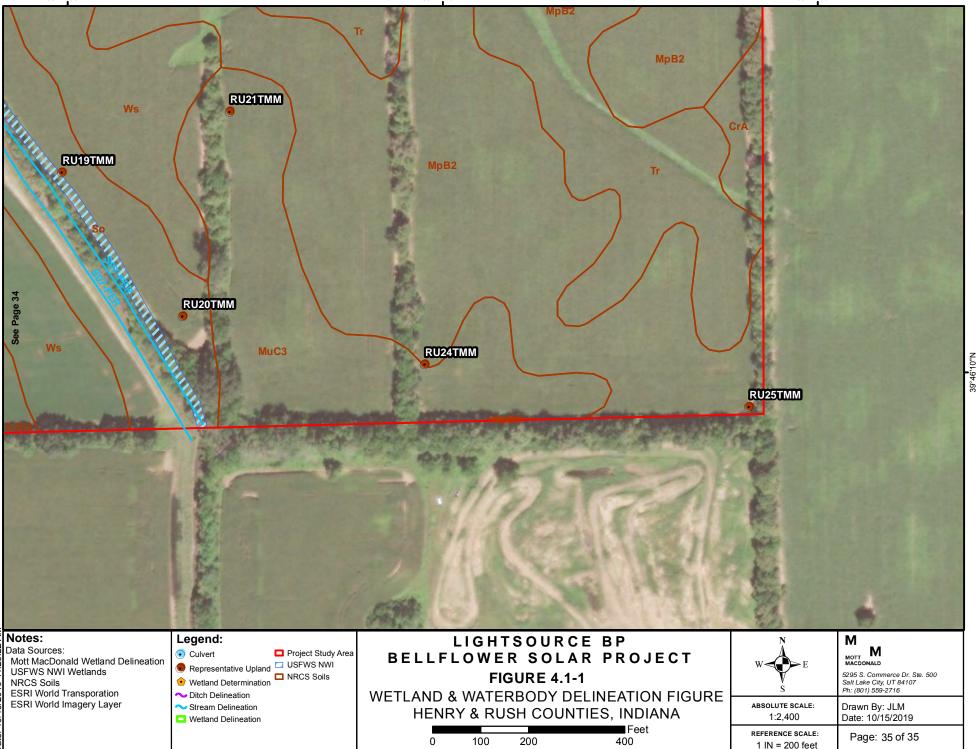




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85°24<u>'</u>40"W

85°24'30"W



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# B. USACE Wetland Determination Data Forms

# **Upland Forms**

Project/Site: Bellflower		City/Co	unty: Henry			Sampling Date:	9/10/2019
Applicant/Owner: Lig	ht Source BP			State:	IN	Sampling Point:	WD003CM
Investigator(s): Carrie Ma	aier, Sara Prizzi	Section,	Township, Range:	S33, T1	6N, R10E		
Landform (hillside, terrac	ce, etc.): <u>flat</u>		Local relief (conca	ve, conve	x, none):	convex	
Slope (%): <u>1</u> La	at: <u>39.794944</u>	Long:	-85.417121			Datum: NAD 83	
Soil Map Unit Name: Cr/	A, Crosby silt loam, 0 to 2 percent slopes			N	WI classi	fication: Not mappe	d by NWI
Are climatic / hydrologic	conditions on the site typical for this time of ye	ear?	Yes X No	)	(If no, exp	olain in Remarks.)	
Are Vegetation, Se	oil, or Hydrologysignificantly dist	urbed?	Are "Normal Circun	nstances"	present?	Yes <u>X</u> No	)
Are Vegetation, Se	oil, or Hydrologynaturally probler	natic?	(If needed, explain	any answ	ers in Re	marks.)	
SUMMARY OF FIN	DINGS – Attach site map showing	sampli	ng point locati	ons, tra	insects	, important fea	tures, etc.

Yes
-----

Remarks:

Sampled area in forested woodland adjacent to active agricultural fields.

				Absolute	Dominant	Indicator				
Tree Stratum	(Plot size:	30	)	% Cover	Species?	Status	Dominance Test wor	ksheet:		
1. Juglans nigra				60	Yes	FACU	Number of Dominant	Species That		
2.							Are OBL, FACW, or F	AC:	1	(A)
3							Total Number of Dom	inant Species		
4							Across All Strata:		4	(B)
5.							Percent of Dominant	Species That		
				60	=Total Cover		Are OBL, FACW, or F	AC:	25.0%	(A/B)
Sapling/Shrub Strat	<u>tum</u> (Plot	size:	15	)						
1.							Prevalence Index wo	orksheet:		
2.							Total % Cover of	: Mu	Iltiply by:	
2							OBL species 0	) x 1 =	0	-
Δ							FACW species 0	) x 2 =	0	-
5.							FAC species 3	2 x 3 =	96	-
					=Total Cover		FACU species 11	5 x 4 =	460	_
Herb Stratum	(Plot size:	5	)				UPL species 0		0	-
1. Solidago canad			_^	40	Yes	FACU	Column Totals: 14	7 (A)	556	(B)
2. Ambrosia trifida				30	Yes	FAC	Prevalence Index	= B/A =	3.78	_``
3.										-
4.							Hydrophytic Vegetat	ion Indicators	3:	
E							1 - Rapid Test for			
							2 - Dominance Te		ogotation	
7							3 - Prevalence Inc			
Q					·		4 - Morphological		Provide su	nnortina
0					·		data in Remark	•		••••••
10.							Problematic Hydr		,	
10				70	=Total Cover					
Woody Vine Stratur	m (Plot	size:	30	<u></u>			<sup>1</sup> Indicators of hydric s be present, unless dis			must
1. Rubus argutus		5120.		2	No	FAC	be present, unless dis		iemalic.	
	quinquafalia			15	Yes	FAC	Hydrophytic			
2. Parthenocissus	quinqueiolla					FACU	Vegetation	Na	V	
				17	=Total Cover		Present? Yes	No	X	
Remarks: (Include	photo numbers	here or or	n a sepai	rate sheet.)						

SOIL

		to the dep				ator or o	confirm the absence	of indicators.)	
Depth (inches)	Matrix			x Featur		Loc <sup>2</sup>	Touturo	Domorko	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	LUC	Texture	Remarks	
0-5	10YR 3/2	100					Loamy/Clayey	silty clay loam	
5-16	2.5Y 4/2	100					Loamy/Clayey	silty clay loam	
	oncentration, D=Dep	lotion PM-	Poducod Matrix	19-Mae	kod San	d Grains		n: PL=Pore Lining, M=Matrix.	
Hydric Soil			-Reduced Matrix, I	10-11185	Keu San	Giaina		rs for Problematic Hydric Soils	3.
Histosol			Sandy Gle	wed Mat	rix (S4)			st Prairie Redox (A16)	•
	oipedon (A2)		Sandy Red	-				Manganese Masses (F12)	
	istic (A3)		Stripped N	• •				Parent Material (F21)	
	en Sulfide (A4)		Dark Surfa	``				Shallow Dark Surface (F22)	
	d Layers (A5)		Loamy Mu		eral (F1)			er (Explain in Remarks)	
	uck (A10)		Loamy Gle	-				()	
	d Below Dark Surface	e (A11)	Depleted I	-					
	ark Surface (A12)	· · /	Redox Da				<sup>3</sup> Indicato	rs of hydrophytic vegetation and	
	lucky Mineral (S1)		Depleted [			)		and hydrology must be present,	
	ucky Peat or Peat (S	3)	Redox De	pression	s (F8)			ss disturbed or problematic.	
Restrictive	Layer (if observed):								
Type:	none								
Depth (i	nches):						Hydric Soil Presen	t? Yes No	<b>x</b>
Remarks:									
HYDROLO	DGY								
Wetland Hy	drology Indicators:								
-	cators (minimum of c	one is requi						ary Indicators (minimum of two rec	<u>quired)</u>
	Water (A1)		Water-Sta		• • •			ace Soil Cracks (B6)	
	ater Table (A2)		Aquatic Fa		,			nage Patterns (B10)	
Saturatio			True Aqua		• •			Season Water Table (C2)	
	larks (B1)		Hydrogen					fish Burrows (C8)	
	nt Deposits (B2)		Oxidized F			-	. ,	ration Visible on Aerial Imagery (	C9)
	posits (B3)		Presence			. ,		ted or Stressed Plants (D1)	
	at or Crust (B4) posits (B5)		Recent Iro			lied Sol	. ,	morphic Position (D2)	
	on Visible on Aerial I	magery (B7			• •			-Neutral Test (D5)	
	Vegetated Concave		· · · · · · · · · · · · · · · · · · ·						
					(emarks)				
Field Obser			No. Y	Donth /i	nahaa);				
Surface Wa		s			nches):				
Water Table Saturation F		s			nches):		Wotland Hydrolo	ay Prosont? Yos No	• •
	Present? Ye pillary fringe)			Depth (i	nches):		Wetland Hydrolo	gy Present? Yes <u>No</u>	• <u> </u>
	corded Data (stream		nitoring well aeria	l nhotos	nreviou	s insner	tions) if available.		
Describe Ne		gauge, m			, previou	o moper			
Remarks:									
No hydrolog	y present.								

Project/Site: Bellflower	City/Coun	y: Rush			Sampling Date:	9/11/2019
Applicant/Owner: Light Source BP			State:	IN	Sampling Point:	WD004CM
Investigator(s): Carrie Maier, Sara Prizzi	Section, To	wnship, Range:	S04, T1	5N, R10E	Ξ	
Landform (hillside, terrace, etc.): flat/agricultural field	L	ocal relief (conca	ve, conve	x, none):	concave	
Slope (%): <pre>&lt;1 Lat: <u>39.787231</u></pre>	Long: <u>-8</u>	5.415763			Datum: NAD 83	
Soil Map Unit Name: CrA, Crosby silt loam, 0 to 2 percent slop	bes		N	WI class	ification: Not mappe	d by NWI
Are climatic / hydrologic conditions on the site typical for this ti	me of year? Y	'es <u>X</u> No	)	(If no, ex	plain in Remarks.)	
Are Vegetation X , Soil , or Hydrology significa	ntly disturbed? Ar	e "Normal Circur	nstances"	present	? Yes <u>X</u> No	)
Are Vegetation, Soil, or Hydrologynaturally	/ problematic? (If	needed, explain	any answ	ers in Re	emarks.)	
SUMMARY OF FINDINGS – Attach site map sho	owing sampling	g point locati	ons, tra	insects	s, important fea	tures, etc.

Vegetation Present?     Yes     No     X       resent?     Yes     No     X       rology Present?     Yes     No     X
--

Remarks:

Area sampled in active, fenced-in pasture. Vegetation is brush hogged/maintained.

#### **VEGETATION** – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata: <u>3</u> (B)
5				Percent of Dominant Species That
		=Total Cover		Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15)				
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3				OBL species 0 x 1 = 0
4.				FACW species 41 x 2 = 82
5.				FAC species 0 x 3 = 0
		=Total Cover		FACU species 57 x 4 = 228
Herb Stratum (Plot size: 5)				UPL species 2 x 5 = 10
1. Datura stramonium	2	No	UPL	Column Totals: 100 (A) 320 (B)
2. Polygonum pensylvanicum	30	Yes	FACW	Prevalence Index = B/A = 3.20
3. Polygonum persicaria	5	No	FACW	
4. Ambrosia artemisiifolia	20	Yes	FACU	Hydrophytic Vegetation Indicators:
5. Echinochloa crus-galli	5	No	FACW	1 - Rapid Test for Hydrophytic Vegetation
6. Solanum carolinense	5	No	FACU	2 - Dominance Test is >50%
7. Cyperus esculentus	1	No	FACW	3 - Prevalence Index is ≤3.0 <sup>1</sup>
8. Digitaria sanguinalis	30	Yes	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	98	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
<u>Woody Vine Stratum</u> (Plot size: 30 )				be present, unless disturbed or problematic.
1. Ipomoea purpurea	2	No	FACU	Hydrophytic
2.				Vegetation
	2	=Total Cover		Present? Yes No X
Remarks: (Include photo numbers here or on a separa	te sheet.)			

Disturbed due to being in active pasture where vegetation is grazed and brush hogged.

SOIL

Depth	Matrix		Redo	ox Featur	65					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-18	10YR 3/2	100					Loamy/Claye	еу	silty clay loar	n
							1			
		·								
		·								
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix, I	√S=Mas	ked Sand	d Grains	. <sup>2</sup> Loo	cation: PL=Pore	Lining, M=Matr	ix.
Hydric Soil I	ndicators:						Indi	icators for Probl	lematic Hydric	Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gle	yed Mat	rix (S4)			Coast Prairie Re	dox (A16)	
Histic Ep	ipedon (A2)		Sandy Re	dox (S5)				Iron-Manganese	Masses (F12)	
Black His	stic (A3)		Stripped N	/latrix (Se	6)			Red Parent Mate	erial (F21)	
Hydroger	n Sulfide (A4)		Dark Surfa	ace (S7)				Very Shallow Da	rk Surface (F2	2)
	Layers (A5)		Loamy Mu	icky Min	eral (F1)			Other (Explain in	n Remarks)	
2 cm Mu	( )		Loamy Gle	-						
	Below Dark Surface	) (A11)	Depleted I				2			
	rk Surface (A12)		Redox Da		( )		°Ind	licators of hydrop	, ,	
	ucky Mineral (S1)		Depleted I					wetland hydrolog		
5 cm Mu	cky Peat or Peat (S3	5)	Redox De	pression	s (F8)	r		unless disturbed	or problematic	•
<b>Restrictive L</b>	.ayer (if observed):									
Type:	none									
							Hydric Soil Pr	esent?	Yes	<u>No</u> _>
Type: <u></u> Depth (in Remarks:	ches):						Hydric Soil Pr	esent?	Yes	<u>No X</u>
Type: _ Depth (in Remarks: <b>HYDROLO</b>	GY						Hydric Soil Pr	esent?	Yes	<u>No X</u>
Type: Depth (in Remarks: HYDROLO Wetland Hyd	ches): GY drology Indicators:									
Type: _ Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic	GY GY strology Indicators: stators (minimum of c	ne is requ						condary Indicators	s (minimum of t	
Type: _ Depth (in Remarks: HYDROLO Wetland Hyo Primary Indic Surface V	GY GY drology Indicators: sators (minimum of c Water (A1)	ne is requ	Water-Sta	ined Lea	· · ·		<u>Sec</u>	condary Indicators	<u>s (minimum of t</u> cks (B6)	
Type: Depth (in Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wat	GY GY drology Indicators: ators (minimum of c Water (A1) ter Table (A2)	ne is requ	Water-Sta	iined Lea auna (B1	3)		<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr	<u>s (minimum of f</u> cks (B6) ns (B10)	
Type: _ Depth (in Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wa Saturatio	GY GY drology Indicators: sators (minimum of c Water (A1) ter Table (A2) n (A3)	ne is requ	Water-Sta Aquatic Fa	auna (B1 auna (B1	3) ts (B14)		<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat	s (minimum of f cks (B6) ns (B10) ter Table (C2)	
Type: _ Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat Saturatio Water Ma	GY GY trology Indicators: sators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1)	ine is requ	Water-Sta Aquatic Fa True Aqua Hydrogen	iined Lea auna (B1 atic Plant Sulfide (	3) ts (B14) Odor (C1	)	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows	s (minimum of f cks (B6) ns (B10) ter Table (C2) s (C8)	wo require
Type: _ Depth (in Remarks: HYDROLO Wetland Hyc Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen	GY drology Indicators: eators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	<u>ine is requ</u>	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph	3) ts (B14) Odor (C1 teres on I	) ₋iving R	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima	wo require
Type: Depth (in Remarks: TYDROLO Wetland Hyo Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen Drift Dep	GY drology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) ts (B14) Odor (C1 teres on I ced Iron (	) ₋iving Ri (C4)	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1	wo require
Type: Depth (in Remarks: TYDROLO Wetland Hyo Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma	GY drology Indicators: sators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) ts (B14) Odor (C1 teres on I ced Iron ( ction in Ti	) ₋iving Ri (C4)	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Dep	GY drology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface	3) ts (B14) Odor (C1 heres on I ced Iron ( ction in Ti e (C7)	) ₋iving Ri (C4)	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: _ Depth (in Remarks: HYDROLO Wetland Hyo Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Inundatic	GY drology Indicators: eators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	magery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) dis (B14) Odor (C1 eres on l ced Iron ( ction in Ti e (C7) ta (D9)	) ₋iving R (C4) Iled Soil	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: Depth (in Remarks: TYDROLO Wetland Hyc Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Depu Inundatic Sparsely	GY drology Indicators: ators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave	magery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) dis (B14) Odor (C1 eres on l ced Iron ( ction in Ti e (C7) ta (D9)	) ₋iving R (C4) Iled Soil	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: Depth (in Remarks: TYDROLO Wetland Hyo Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Saturatio Unift Dep Algal Ma' Iron Depu Inundatic Sparsely Field Obser	GY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations:	magery (B surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (7) Gauge or (88) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F	3) Sts (B14) Odor (C1 neres on I ced Iron ( ction in Ti ce (C7) ta (D9) Remarks)	) Living R (C4) Iled Soil	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Dep Inundatic Sparsely Surface Water	GY drology Indicators: eators (minimum of c Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations: er Present? Ye	magery (B s Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (7) Gauge or (88) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc con Reduc	3) 3(B14) Odor (C1 heres on l ced Iron ( ction in Ti c(C7) ta (D9) Remarks) nches):	) _iving Ri (C4) Iled Soil	<u>Sec</u>	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of t cks (B6) ns (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2)	wo require
Type: Depth (in Remarks: TYDROLO Wetland Hyo Primary Indic Surface V High Wa' Saturatio Water Ma Saturatio Water Ma Saturatio Unift Dep Algal Ma' Iron Depu Inundatic Sparsely Field Obser	GY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial II Vegetated Concave vations: er Present? Ye Present? Ye	magery (B 9 Surface ( 9 s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or (B8) Other (Exp No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc con Reduc	3) 3) 3) 3) 3) 3) 3) 3) 3) 3)	) _iving Ri (C4) Iled Soil	Sec 	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos FAC-Neutral Tes	s (minimum of f cks (B6) hs (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2) st (D5)	wo require gery (C9)
Type: _ Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Depu Inundatic Sparsely Field Observ Surface Water	GY frology Indicators: ators (minimum of c Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations: er Present? Ye Present? Ye	magery (B 9 Surface ( 9 s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or (B8) Other (Exp No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc con Reduc	3) 3(B14) Odor (C1 heres on l ced Iron ( ction in Ti c(C7) ta (D9) Remarks) nches):	) _iving Ri (C4) Iled Soil	Sec 	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos	s (minimum of f cks (B6) hs (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2) st (D5)	wo require
Type: Depth (in Remarks: HYDROLO Wetland Hyc Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Dep Iron Dep Inundatic Sparsely Field Observ Surface Wate Water Table Saturation Pr (includes cap	GY frology Indicators: ators (minimum of c Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations: er Present? Ye Present? Ye	magery (B 9 Surface ( 98 98 98	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or (88) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) is (B14) Odor (C1 ieres on l ced Iron ( ction in Ti ction in Ti (C7) ia (D9) Remarks) nches): nches): nches):	) _iving R (C4) Iled Soil	Sec 	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos FAC-Neutral Tes	s (minimum of f cks (B6) hs (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2) st (D5)	wo require gery (C9)
Type: Depth (in Remarks: HYDROLO Wetland Hyc Primary Indic Surface V High Wa' Saturatio Water Ma Sedimen Drift Dep Algal Ma' Iron Dep Iron Dep Inundatic Sparsely Field Observ Surface Wate Water Table Saturation Pr (includes cap	GY drology Indicators: ators (minimum of c Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations: er Present? Ye Present? Ye ersent? Ye pillary fringe)	magery (B 9 Surface ( 98 98 98	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or (88) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) is (B14) Odor (C1 ieres on l ced Iron ( ction in Ti ction in Ti (C7) ia (D9) Remarks) nches): nches): nches):	) _iving R (C4) Iled Soil	Sec 	condary Indicators Surface Soil Cra Drainage Patterr Dry-Season Wat Crayfish Burrows Saturation Visibl Stunted or Stres Geomorphic Pos FAC-Neutral Tes	s (minimum of f cks (B6) hs (B10) ter Table (C2) s (C8) e on Aerial Ima sed Plants (D1 sition (D2) st (D5)	wo require gery (C9)

Project/Site: Bellflower		City/Co	ounty: Rush			Sampling Date:	9/11/2019
Applicant/Owner: Ligh	nt Source BP			State:	IN	Sampling Point:	WD004TMM
Investigator(s): T. Maleck	i	Section,	Township, Range:	S03, T1	5N, R10E	<u> </u>	
Landform (hillside, terrac	e, etc.): terrace		Local relief (conca	ve, conve	ex, none):	convex	
Slope (%): 3 Lat	t: <u>39.77341</u>	Long:	-85.404587			Datum: NAD 83	
Soil Map Unit Name: Tr,	Treaty silty clay loam, 0 to 1 percent slopes			N	WI class	ification: Not mappe	d by NWI
Are climatic / hydrologic	conditions on the site typical for this time of y	year?	Yes X No	)	(If no, ex	plain in Remarks.)	
Are Vegetation, So	oil, or Hydrologysignificantly dis	sturbed?	Are "Normal Circun	nstances'	' present'	? Yes <u>X</u> No	)
Are Vegetation, So	oil, or Hydrologynaturally proble	ematic?	(If needed, explain	any answ	ers in Re	emarks.)	
SUMMARY OF FIN	DINGS – Attach site map showing	<mark>, sampl</mark> i	ing point locati	ons, tra	ansects	s, important fea	tures, etc.

|--|

Remarks:

Site located between active soy field and wetland.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1. Gleditsia triacanthos	5	Yes	FACU	Number of Dominant Species That
2. Morus alba	10	Yes	FAC	Are OBL, FACW, or FAC: 2 (A)
3				Total Number of Dominant Species
4				Across All Strata: 4 (B)
5				Percent of Dominant Species That
	15	=Total Cover		Are OBL, FACW, or FAC:50.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15 )				
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species 0 x 1 = 0
4.				FACW species 0 x 2 = 0
5.				FAC species 50 x 3 = 150
		=Total Cover		FACU species 5 $x 4 = 20$
Herb Stratum (Plot size: 5 )		,		UPL species $60 \times 5 = 300$
1. Glycine max	60	Yes	UPL	Column Totals: 115 (A) 470 (B)
2. Ambrosia trifida	40	Yes	FAC	Prevalence Index = $B/A = 4.09$
2		100		
		· ·		Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
				2 - Dominance Test is > 50% 3 - Prevalence Index is $\leq 3.0^1$
7				<ul> <li>3 - Prevalence index is ≤3.0</li> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting</li> </ul>
8				data in Remarks or on a separate sheet)
9				
10				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	100	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)				be present, unless disturbed or problematic.
1				Hydrophytic
2		· ·		Vegetation
		=Total Cover		Present? Yes No X
Remarks: (Include photo numbers here or on a separ	ate sheet.)			

SOIL

	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-3	2.5Y 5/3	100					Loamy/Claye	y	silt loam	
3-14	2.5Y 3/3	100					Loamy/Claye	v	clay loam	
		'						<u> </u>	2	
		·								
		·								
	<u></u>									
<i>,</i> ,	Concentration, D=De	pletion, RM	I=Reduced Matrix, N	MS=Mas	ked Sand	I Grains		ation: PL=Pore L	-	
•	Indicators:							cators for Proble	-	Soils <sup>3</sup> :
Histoso			Sandy Gle	-				Coast Prairie Rec		
	pipedon (A2)		Sandy Red	• •				ron-Manganese		
	listic (A3)		Stripped N	•	5)			Red Parent Mater	• •	
Hydroge	en Sulfide (A4)		Dark Surfa	ace (S7)				Very Shallow Dar	k Surface (F22	2)
Stratifie	d Layers (A5)		Loamy Mu	icky Mine	eral (F1)			Other (Explain in	Remarks)	
2 cm M	uck (A10)		Loamy Gle	eyed Mat	trix (F2)					
Deplete	d Below Dark Surfac	e (A11)	Depleted N	Matrix (F	3)					
Thick D	ark Surface (A12)		Redox Da		• •		<sup>3</sup> Indi	cators of hydroph	ytic vegetation	and
Sandy I	Mucky Mineral (S1)		Depleted [	Dark Sur	face (F7)		N N	wetland hydrology	/ must be pres	ent,
5 cm M	ucky Peat or Peat (S	3)	Redox Dep	pression	s (F8)		l	unless disturbed	or problematic.	
Restrictive	Layer (if observed)	12								
Type:	hard pan	clay								
215 5										
Depth ( Remarks: tilled soils	inches):	14					Hydric Soil Pre	esent?	Yes	No <u>×</u>
Depth ( Remarks: tilled soils		14					Hydric Soil Pre	esent?	Yes	No <u>×</u>
Depth ( Remarks: tilled soils	DGY						Hydric Soil Pre	esent?	Yes	No <u>×</u>
Depth ( Remarks: tilled soils HYDROL( Wetland Hy	DGY ydrology Indicators	:								
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind	DGY vdrology Indicators	:					<u>Secc</u>	ondary Indicators	(minimum of tv	
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface	DGY ydrology Indicators icators (minimum of Water (A1)	:	Water-Sta	ined Lea	• • •			ondary Indicators Surface Soil Crac	(minimum of tv ks (B6)	
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2)	:	Water-Sta	ined Lea auna (B1	3)		<u>Secc</u>	ondary Indicators Surface Soil Crac Drainage Pattern:	<u>(minimum of t</u> ks (B6) s (B10)	
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W Saturati	DGY /drology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3)	:	Water-Sta Aquatic Fa	ined Lea auna (B1 atic Plant	3) s (B14)			ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate	( <u>minimum of t</u> ks (B6) s (B10) er Table (C2)	
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W Saturati Water N	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Jarks (B1)	:	Water-Sta Aquatic Fa True Aqua Hydrogen	ined Lea auna (B1 atic Plant Sulfide (	3) s (B14) Odor (C1)			ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows	(minimum of tv ks (B6) s (B10) er Table (C2) (C8)	wo require
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W Saturati Water N Sedime	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)	:	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph	3) s (B14) Ddor (C1) eres on l	iving R	<u>Secc</u> 	ondary Indicators Surface Soil Crac Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible	(minimum of to ks (B6) s (B10) er Table (C2) (C8) on Aerial Imag	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water M Sedime Drift De	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3)	:	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1) eres on l ced Iron (	₋iving R C4)	<u>Secc</u>       	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress	(minimum of to ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water M Sedime Drift De Algal M	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	:	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro	ined Lea auna (B1 attic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1) eres on I ced Iron ( ction in Ti	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W Saturati Water M Sedime Drift De Algal M Iron De	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	: one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface	3) s (B14) Odor (C1) eres on I ced Iron ( ction in Ti e (C7)	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROL( Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial	: one is requ Imagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 37) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on L ced Iron ( tion in Ti e (C7) a (D9)	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav	: one is requ Imagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 37) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on L ced Iron ( tion in Ti e (C7) a (D9)	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations:	: one is requ Imagery (B e Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp	ined Lea auna (B1 sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat blain in F	3) s (B14) Ddor (C1) eres on I ced Iron ( tion in Ti c(C7) a (D9) Remarks)	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa	DGY vdrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: tter Present? Y	: one is requ Imagery (B e Surface ( es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc surface Well Dat blain in F	3) s (B14) Odor (C1) eres on I ced Iron ( tition in Ti e (C7) a (D9) Remarks) nches):	₋iving R C4)	Seco    oots (C3)      	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of two ks (B6) s (B10) er Table (C2) (C8) o n Aerial Image ed Plants (D1) tion (D2)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa Water Table	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: ter Present? Y	: one is requ Imagery (B e Surface ( es es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc s Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti e (C7) a (D9) Remarks) nches): _ nches): _	₋iving R C4)	Secc   oots (C3) ls (C6)	ondary Indicators Surface Soil Crac Drainage Pattern Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi FAC-Neutral Test	(minimum of tw ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2) (D5)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa Water Table Saturation F	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: iter Present? Y Present? Y	: one is requ Imagery (B e Surface ( es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc surface Well Dat blain in F	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti e (C7) a (D9) Remarks) nches): _ nches): _	₋iving R C4)	Secc   oots (C3) ls (C6)	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi	(minimum of tw ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2) (D5)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa Water Table Saturation F (includes ca	DGY vdrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: tter Present? Y Present? Y apillary fringe)	: one is requ Imagery (B e Surface ( es es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X No X No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat Dlain in R Depth (i Depth (i	3) s (B14) Odor (C1) eres on I ced Iron ( tition in Ti (C7) a (D9) Remarks) nches): nches):	iving R C4) Iled Soil	Secc  oots (C3) Is (C6) Wetland Hyd	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi FAC-Neutral Test	(minimum of tw ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2) (D5)	wo require
Depth ( Remarks: tilled soils <b>HYDROLO</b> Wetland Hy Primary Ind Surface High W Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa Water Table Saturation F (includes ca	DGY ydrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: iter Present? Y Present? Y	: one is requ Imagery (B e Surface ( es es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X No X No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat Dlain in R Depth (i Depth (i	3) s (B14) Odor (C1) eres on I ced Iron ( tition in Ti (C7) a (D9) Remarks) nches): nches):	iving R C4) Iled Soil	Secc  oots (C3) Is (C6) Wetland Hyd	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi FAC-Neutral Test	(minimum of tw ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2) (D5)	wo require
Depth ( Remarks: tilled soils HYDROLO Wetland Hy Primary Ind Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Field Obse Surface Wa Water Table Saturation F (includes ca	DGY vdrology Indicators icators (minimum of Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: tter Present? Y Present? Y apillary fringe)	: one is requ Imagery (B e Surface ( es es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (B8) Other (Exp No X No X No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat Dlain in R Depth (i Depth (i	3) s (B14) Odor (C1) eres on I ced Iron ( tition in Ti (C7) a (D9) Remarks) nches): nches):	iving R C4) Iled Soil	Secc  oots (C3) Is (C6) Wetland Hyd	ondary Indicators Surface Soil Crac Drainage Patterns Dry-Season Wate Crayfish Burrows Saturation Visible Stunted or Stress Geomorphic Posi FAC-Neutral Test	(minimum of tw ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2) (D5)	wo require

Project/Site: Bellflowe	er			City/Co	ounty: <u>Ru</u>	ush			Sampling Date:	9/11/2019
Applicant/Owner:	Light Source	e BP					State:	IN	Sampling Point:	WD005TMM
Investigator(s): T. Mal	ecki			Section,	, Townshi	p, Range:	S03, T1	5N, R10E		
Landform (hillside, ter	race, etc.):	depression			Local re	elief (conca	ve, conve	ex, none):	concave	
Slope (%): 2	Lat: 39.77	7095		Long:	-85.4064	47			Datum: NAD 83	
Soil Map Unit Name:	Tr, Treaty si	Ity clay loam, 0 to 1	percent slopes				N	IWI classif	fication: Not mappe	d by NWI
Are climatic / hydrolog	gic condition	s on the site typical	for this time of ye	ear?	Yes	X No		(If no, exp	olain in Remarks.)	
Are Vegetation	, Soil	, or Hydrology	significantly dist	urbed?	Are "Nor	mal Circum	nstances	" present?	Yes <u>X</u> No	)
Are Vegetation	, Soil	, or Hydrology	naturally probler	natic?	(If neede	ed, explain	any ansv	vers in Re	marks.)	
SUMMARY OF F	INDINGS	<ul> <li>Attach site n</li> </ul>	nap showing	sampli	ing poi	nt locatio	ons, tra	ansects	, important fea	tures, etc.

Hydrophytic Vegetation Present? Hydric Soil Present?	Yes X Yes X	No No	Is the Sampled Area within a Wetland?	Yes	No <u>X</u>
Wetland Hydrology Present?	Yes	No <u>X</u>			

Remarks:

Site is located in depression within an active soy field.

				Absolute	Dominant	Indicator			
Tree Stratum	(Plot size:	30	)	% Cover	Species?	Status	Dominance Test worksheet:		
1							Number of Dominant Species That		
0							Are OBL, FACW, or FAC:	1	(A)
3.							Total Number of Dominant Species		
4							Across All Strata:	1	(B)
~							Percent of Dominant Species That		
					=Total Cover		Are OBL, FACW, or FAC:	100.0%	(A/B)
Sapling/Shrub Strat	tum (Plot	size:	15	)			-		-
1							Prevalence Index worksheet:		
2							Total % Cover of: Mu	Iltiply by:	
3							OBL species 0 x 1 =		-
4							FACW species 90 x 2 =	180	-
5.							FAC species 5 x 3 =	15	-
					=Total Cover		FACU species 0 x 4 =	0	-
Herb Stratum	(Plot size:	5	)				UPL species 5 x 5 =	25	-
1. Echinochloa cru				90	Yes	FACW	Column Totals 100 (A)	220	(B)
2. Glycine max	0			5	No	UPL	Prevalence Index = B/A =	2.20	-`´
3. Cyperus rotundi	us			5	No	FAC			-
4.				-			Hydrophytic Vegetation Indicators		
-							1 - Rapid Test for Hydrophytic V		
6							X 2 - Dominance Test is >50%	ogotation	
7							$3 - Prevalence Index is \leq 3.0^{1}$		
0							4 - Morphological Adaptations <sup>1</sup>	Provide sur	oporting
0							data in Remarks or on a sepa	· ·	
10							Problematic Hydrophytic Vegeta		
				100	=Total Cover				
Woody Vine Stratur	m (Plot	size:	30	)			<sup>1</sup> Indicators of hydric soil and wetland be present, unless disturbed or prob		must
1.	_ 、			,			· · ·		
2							Hydrophytic Vegetation		
					=Total Cover		Present? Yes X No		
Remarks: (Include	photo numbers	here or	on a sepa	rate sheet )			<b>_</b>		
10% unvegetated la									

Depth	Matrix		Redo	ox Featur	es			
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	5Y 3/2	97	7.5YR 5/6	3	С	М	Loamy/Clayey	clay loam
6-12	2.5Y 3/2	98	5Y 5/6	2	С	М	Loamy/Clayey	clay loam
12-20	5Y 3/1	95	10Y 4/4	5	С	М	Loamy/Clayey	clay loam
				·				· · · · · · · · · · · · · · · · · · ·
-	oncentration, D=Dep	letion, RM	=Reduced Matrix, I	MS=Mas	ked Sand	d Grains		PL=Pore Lining, M=Matrix.
-	Indicators:							for Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy Gle	-				Prairie Redox (A16)
	bipedon (A2)		Sandy Re					anganese Masses (F12)
Black His	( )		Stripped N		0)			arent Material (F21)
	n Sulfide (A4) I Layers (A5)		Dark Surfa	• •	oral (E1)			hallow Dark Surface (F22) (Explain in Remarks)
2 cm Mu	• • •		Loamy Mit	-				(LAPIAILI III INCILIAI (15)
	Below Dark Surface	(A11) م	X Depleted	-				
	ark Surface (A12)	~ (~ 1 1 )	Redox Da				<sup>3</sup> Indicatore	of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted					d hydrology must be present,
	icky Peat or Peat (S3	3)	Redox De			,		disturbed or problematic.
Type: Depth (ir emarks:	Layer (if observed): none nches):		<u> </u>				Hydric Soil Present?	Yes <u>X</u> No_
Type: Depth (ir Remarks: Iled soils	none						Hydric Soil Present?	Yes <u>X</u> No_
Type: Depth (ir Remarks: illed soils	none nches):						Hydric Soil Present?	Yes <u>X</u> No_
Type: Depth (ir Remarks: illed soils	none nches): OGY drology Indicators:		ired: check all that	apply)				
Type: Depth (ir Remarks: illed soils YDROLO Vetland Hyd Primary Indic	none nches): DGY drology Indicators: cators (minimum of c				aves (B9)		Secondary	Indicators (minimum of two requi
Type: Depth (ir Remarks: Iled soils YDROLO Yetland Hyu Primary India Surface V	none nches): DGY drology Indicators: cators (minimum of c Water (A1)		ired; check all that Water-Sta Aquatic Fa	ained Lea			Secondary	Indicators (minimum of two require e Soil Cracks (B6)
Type:	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2)		Water-Sta	ained Lea auna (B1	3)		Secondary Surfac Draina	Indicators (minimum of two requi
Type: Depth (ir Remarks: illed soils YDROLO Vetland Hyd Primary Indic Surface High Wa Saturatic	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2)		Water-Sta	ained Lea auna (B1 atic Plant	3) ts (B14)		Secondary Surfac Draina Dry-Se	Indicators (minimum of two requine e Soil Cracks (B6) ge Patterns (B10)
Type: Depth (ir Remarks: illed soils YDROLO Yetland Hyd Primary Indio Surface V High Wa Saturatic Water M	none nches): OGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3)		Water-Sta Aquatic Fa True Aqua	ained Lea auna (B1 atic Plant Sulfide (	3) ts (B14) Odor (C1	)	Secondary Surfac Draina Dry-Se Crayfis	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2)
Type: Depth (ir Remarks: illed soils YDROLO Yetland Hyt Primary India Surface Y High Wa Saturatic Water M Sedimen	none hches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1)		Water-Sta Aquatic Fa True Aqua Hydrogen	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph	3) ts (B14) Odor (C1 teres on l	) ₋iving Re	<u>Secondary</u> Surfac Draina Dry-Se Crayfis pots (C3) Satura	Indicators (minimum of two requine e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8)
Type: Depth (ir Remarks: illed soils YDROLO Yetland Hyu Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) nosits (B3) tt or Crust (B4)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti	) ₋iving R( (C4)	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (ir Remarks: lled soils YDROLO Yetland Hyd Primary India Surface Y High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5)	one is requi	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc < Surface	3) ts (B14) Odor (C1 neres on l ced Iron ( ction in Ti e (C7)	) ₋iving R( (C4)	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1)
Type: Depth (ir Remarks: lled soils YDROLO Yetland Hyd Yrimary Indid Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In	one is requi	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 7) Gauge or	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) ds (B14) Odor (C1 deres on l ced Iron $(C1)$ tion in Ti e (C7) ta (D9)	) ₋iving R( (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (ir Remarks: lled soils YDROLO Yetland Hyu Primary India Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) to Crusts (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In v Vegetated Concave	one is requi	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 7) Gauge or	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) ds (B14) Odor (C1 deres on l ced Iron $(C1)$ tion in Ti e (C7) ta (D9)	) ₋iving R( (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (ir Remarks: illed soils YDROLO Yetland Hyp Primary India Saturatic Water M Saturatic Water M Saturatic Urift Dep Algal Ma Iron Dep Inundatic Sparsely	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In v Vegetated Concave vations:	one is requi magery (B <sup>-</sup> Surface (I	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 7) Gauge or 38) Other (Exp	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F	3) is (B14) Odor (C1 heres on l ced Iron ( tition in Ti e (C7) ta (D9) Remarks)	) ₋iving R( (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (ir Remarks: illed soils YDROLO Vetland Hyd Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Surface Wat	none nches): DGY drology Indicators: cators (minimum of c 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 v Vegetated Concave vations: er Present? Ye	magery (B Surface (I	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F	3) is (B14) Odor (C1 ieres on l ced Iron ( tion in Ti e (C7) ta (D9) Remarks) nches): _	) Living Rı (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two require e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2)
Type: Depth (in Remarks: illed soils YDROLO Vetland Hyd Primary Indio Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Field Obser Surface Wat	none nches): PGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) posits (B3) tt or Crust (B4) osits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye Present? Ye	magery (B Surface (I S	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) ts (B14) Odor (C1 teres on l ced Iron ( ction in Ti e (C7) ta (D9) Remarks) nches): nches):	) _iving R( (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Sots (C3) Satura Stunte s (C6) FAC-N	Indicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (in Remarks: iiled soils YDROLO Vetland Hyd Primary Indio Surface V High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat	none nches): PGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) nosits (B3) tt or Crust (B4) osits (B5) on Visible on Aerial In vegetated Concave vations: er Present? Ye resent? Ye	magery (B Surface (I S	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) is (B14) Odor (C1 ieres on l ced Iron ( tion in Ti e (C7) ta (D9) Remarks) nches): _	) _iving R( (C4) Iled Soil	Secondary Surfac Draina Dry-Se Crayfis Dots (C3) Satura Stunte s (C6) Geomo	Indicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (ir Remarks: illed soils <b>YDROLO</b> Vetland Hyp Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Field Obser Surface Wat Vater Table Saturation P includes cap	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) to Crust (B2) posits (B3) to Crust (B4) osits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye Present? Ye present? Ye poillary fringe)	magery (B <sup>1</sup> Surface (I S	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) is (B14) Odor (C1 ieres on l ced Iron (c tion in Ti e (C7) ia (D9) Remarks) nches): nches): nches):	) _iving Rr (C4) Iled Soil	Secondary         Surfac         Draina         Dry-Se         Crayfis         Soots (C3)         Satura         Stunte         s (C6)         FAC-N	Indicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)
Type: Depth (ir Remarks: illed soils <b>YDROLO</b> Vetland Hyp Primary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely Field Obser Surface Wat Vater Table Saturation P includes cap	none nches): PGY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) on (A3) arks (B1) tt Deposits (B2) nosits (B3) tt or Crust (B4) osits (B5) on Visible on Aerial In vegetated Concave vations: er Present? Ye resent? Ye	magery (B <sup>1</sup> Surface (I S	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ained Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) is (B14) Odor (C1 ieres on l ced Iron (c tion in Ti e (C7) ia (D9) Remarks) nches): nches): nches):	) _iving Rr (C4) Iled Soil	Secondary         Surfac         Draina         Dry-Se         Crayfis         Soots (C3)         Satura         Stunte         s (C6)         FAC-N	Indicators (minimum of two requir e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)

Project/Site: Bellflower	City/Cou	inty: Rush	Sampling Date:	9/11/2019			
Applicant/Owner: Carrie Maier, S	Sara Prizzi	State:			IN Sampling Point:		WD006CM
Investigator(s): Carrie Maier, Sara P	Section, -	Township, Range:	S04, T15	5N, R10E			
Landform (hillside, terrace, etc.): Fla	at		Local relief (concav	ve, conve	x, none): <u>c</u>	concave	
Slope (%): 1 Lat: 39.77974	48	Long: -	85.426289		[	Datum: NAD 83	
Soil Map Unit Name: OcA, Ockley s	ilt loam, 0 to 2 percent slopes			N	NI classifi	cation: Not mappe	d by NWI
Are climatic / hydrologic conditions of	on the site typical for this time of ye	ear?	Yes X No	(	(If no, exp	ain in Remarks.)	
Are Vegetation, Soil, o	or Hydrology significantly dist	urbed?	Are "Normal Circum	nstances"	present?	Yes X No	)
Are Vegetation, Soil, o	or Hydrologynaturally probler	natic? (	(If needed, explain a	any answ	ers in Ren	narks.)	
SUMMARY OF FINDINGS -	Attach site map showing	samplir	ng point location	ons, tra	nsects,	important fea	tures, etc.

NoX	Is the Sampled Area within a Wetland? Yes	No No _X No _X	Yes X Yes Yes	Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?
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Remarks:

Sampled area in forested woodland adjacent to active agricultural field.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 3 (A)
3				Total Number of Dominant Species
4				Across All Strata: <u>3</u> (B)
5				Percent of Dominant Species That
		=Total Cover		Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15	)			
1. Acer rubrum	2	No	FAC	Prevalence Index worksheet:
2. Prunus serotina	5	No	FACU	Total % Cover of: Multiply by:
3. Morus alba	30	Yes	FAC	OBL species 0 x 1 = 0
4.				FACW species 30 x 2 = 60
5.				FAC species 42 x 3 = 126
	37	=Total Cover		FACU species 15 x 4 = 60
Herb Stratum (Plot size: 5)				UPL species 0 x 5 = 0
1. Phytolacca americana	5	No	FACU	Column Totals 87 (A) 246 (B)
2. Ageratina altissima	5	No	FACU	Prevalence Index = $B/A$ = 2.83
3. Pilea pumila	30	Yes	FACW	
4. Ambrosia trifida	10	Yes	FAC	Hydrophytic Vegetation Indicators:
5.				1 - Rapid Test for Hydrophytic Vegetation
5 6.				X 2 - Dominance Test is >50%
7				$3 - Prevalence Index is \leq 3.0^{1}$
0				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
0		·		data in Remarks or on a separate sheet)
9 10				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	50	=Total Cover		
Woody Vine Stratum (Plot size: 30	) <u> </u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
· · · · · · · · · · · · · · · · · · ·	/			· · ·
2				Hydrophytic
2		=Total Cover		Vegetation Present? Yes X No
Remarks: (Include photo numbers here or on a sepa	rate sheet.)			

SOIL

Depth       Matrix       Redox Features         (inches)       Color (moist)       %       Type1       Loc2       Texture       Remarks         0-2       10YR 3/3       100	
0-2 10YR 3/3 100 Loamy/Clayey silt loam	
2-16         10YR 4/4         100         Loamy/Clayey         silt loam	
I	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: Indicators for Problematic Hydric So	ils <sup>3</sup> :
Histosol (A1) Sandy Gleyed Matrix (S4) Coast Prairie Redox (A16)	
Histic Epipedon (A2) Sandy Redox (S5) Iron-Manganese Masses (F12)	
Black Histic (A3) Stripped Matrix (S6) Red Parent Material (F21)	
Hydrogen Sulfide (A4)     Dark Surface (S7)     Very Shallow Dark Surface (F22)	
Stratified Layers (A5)Loamy Mucky Mineral (F1)Other (Explain in Remarks)	
2 cm Muck (A10) Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	
Thick Dark Surface (A12) Redox Dark Surface (F6) Redox Dark Surface (F6) Redox Dark Surface (F6)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present	ί,
5 cm Mucky Peat or Peat (S3) Redox Depressions (F8) unless disturbed or problematic.	
Restrictive Layer (if observed):	
Type:	
	No <u>X</u>
Depth (inches):     Hydric Soil Present?     Yes       Remarks:	No <u>X</u>
	No <u>X</u>
Remarks:	No <u>X</u>
Remarks: HYDROLOGY	
Remarks: HYDROLOGY Wetland Hydrology Indicators:	
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Secondary Indicators (minimum of two	
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)         Water-Stained Leaves (B9)	
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)	
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X       FAC-Neutral Test (D5)	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X       FAC-Neutral Test (D5)	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Field Observations:	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crafish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Stunted or Stressed Plants (D1)         Iron Deposits (B5)       Thin Muck Surface (C7)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)         Surface Water Present?       Yes       No       X       Depth (inches):	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imager         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Thin Muck Surface (C7)       X         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:       No       X       Depth (inches):       Water Table Present?         Water Table Present?       Yes       No       X       Depth (inches):       Water Table Present?	required) ry (C9)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two.         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)         Surface Water Present?       Yes       No       X Depth (inches):       Wetland Hydrology Present? Yes	required)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B3)       Presence of Reduced Iron (C4)       Sturtation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron Reduction in Tilled Soils (C6)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes       No         Saturation Present?       Yes       No       X         No       X       Depth (inches):       Wetland Hydrology Present? Yes	required) ry (C9)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two.         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)         Surface Water Present?       Yes       No       X Depth (inches):       Wetland Hydrology Present? Yes	required) ry (C9)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two.         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       X       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes       No       X       Depth (inches):       Wetland Hydrology Present? Yes	required) ry (C9)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B3)       Presence of Reduced Iron (C4)       Sturtation Visible on Aerial Imager         Drift Deposits (B3)       Presence of Reduced Iron Reduction in Tilled Soils (C6)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       X FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:         Surface Water Present?       Yes       No         Saturation Present?       Yes       No       X         No       X       Depth (inches):       Wetland Hydrology Present? Yes	required) ry (C9)

### **Wetland Forms**

Project/Site: Bellflower	City/County: Henry			Sampling Date:	9/10/2019
Applicant/Owner: Light Source BP		State:	IN	Sampling Point:	WD001CM
Investigator(s): Carrie Maier, Sara Prizzi	Section, Township, Range:	S34, T1	6N, R10E	<u>:</u>	
Landform (hillside, terrace, etc.): flat/agricultural field	Local relief (conca	ive, conve	x, none):	concave	
Slope (%): <a>&lt;1%</a> Lat: <a>39.794635</a>	Long: -85.40245			Datum: NAD 83	
Soil Map Unit Name: Cy, Cyclone silty clay loam, 0 to 2 percent slopes	;	N	WI classif	fication: Not mappe	ed by NWI
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes <u>X</u> No	<u> </u>	(If no, exp	plain in Remarks.)	
Are Vegetation X , Soil , or Hydrology significantly distu	urbed? Are "Normal Circun	nstances"	present?	Yes <u>X</u> No	٥
Are Vegetation X , Soil , or Hydrology naturally problem	natic? (If needed, explain	any answ	ers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ons, tra	insects	, important fea	itures, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area				

Hydric Soil Present?     Yes     X     No       Wetland Hydrology Present?     Yes     X     No	Hydrophytic Vegetation Present?	Yes )	<u>X</u>	No	Is the Sampled Area			
Wetland Hydrology Present? Yes X No	Hydric Soil Present?	Yes >	X	No	within a Wetland?	Yes	Х	No
	Wetland Hydrology Present?	Yes	X	No				

Remarks:

Sampled area in active agricultural field adjacent to NWI mapped wetland. Vegetation significantly disturbed due to being in active cropland (corn).

#### **VEGETATION** – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata: 1 (B)
5				Percent of Dominant Species That
		=Total Cover		Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15 )				
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by:
3.				OBL species 0 x 1 = 0
4.				FACW species 42 x 2 = 84
5.				FAC species 12 x 3 = 36
		=Total Cover		FACU species 7 x 4 = 28
Herb Stratum (Plot size: 5 )				UPL species 0 x 5 = 0
1. Echinochloa crus-galli	5	No	FACW	Column Totals: 61 (A) 148 (B)
2. Ambrosia trifida	10	No	FAC	Prevalence Index = B/A = 2.43
3. Cyperus esculentus	7	No	FACW	
4. Ageratina altissima	2	No	FACU	Hydrophytic Vegetation Indicators:
5. Pilea pumila	30	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
6. Setaria faberi	5	No	FACU	X 2 - Dominance Test is >50%
7.				X 3 - Prevalence Index is $\leq 3.0^{1}$
8.				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	59	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30 )				be present, unless disturbed or problematic.
1. Toxicodendron radicans	2	No	FAC	Hydrophytic
2.				Vegetation
	2	=Total Cover		Present? Yes X No
Remarks: (Include photo numbers here or on a separa	te sheet.)			

In active agricultural field.

SOIL	
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Depth	Matrix		Redo	x Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-7	2.5Y 3/2	100	<i>, , , , , , , , , , , , , , , , ,</i>				Loamy/Clayey	silt loam
7-15	2.5Y 4/2	88	7.5YR 4/6	2	С	PL	Loamy/Clayey	Prominent redox concentrations
7-10	2.01 4/2						Loamy/olaycy	
		• •	10YR 6/2	10	D	M		sandy clay loam
<sup>1</sup> Type: C=Co	ncentration, D=Dep	letion, RM	I=Reduced Matrix, I	MS=Masl	ked Sand	Grains	<sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil I								ors for Problematic Hydric Soils <sup>3</sup> :
Histosol (	(A1)		Sandy Gle	eyed Mat	rix (S4)		Coa	st Prairie Redox (A16)
Histic Epi	ipedon (A2)		Sandy Re	dox (S5)			Iron	-Manganese Masses (F12)
Black His	tic (A3)		Stripped N	/latrix (Se	6)		Rec	Parent Material (F21)
Hydroger	n Sulfide (A4)		Dark Surfa	ace (S7)			Ver	y Shallow Dark Surface (F22)
Stratified	Layers (A5)		Loamy Mu	ucky Mine	eral (F1)		Oth	er (Explain in Remarks)
2 cm Muc	ck (A10)		Loamy Gle	eyed Mat	rix (F2)			
X Depleted	Below Dark Surfac	e (A11)	X Depleted I	Matrix (F	3)			
Thick Dar	rk Surface (A12)		Redox Da		. ,		<sup>3</sup> Indicate	ors of hydrophytic vegetation and
Sandy Mi	ucky Mineral (S1)		Depleted I	Dark Sur	face (F7)		wet	and hydrology must be present,
5 cm Muc	cky Peat or Peat (S	3)	Redox De	pression	s (F8)		unle	ess disturbed or problematic.
Restrictive L	ayer (if observed).	:						
Туре:	none							
Type: Depth (in Remarks:							Hydric Soil Prese	nt? Yes <u>X</u> No
Depth (in Remarks:	ches):						Hydric Soil Prese	nt? Yes <u>X</u> No
Depth (in Remarks:	ches):						Hydric Soil Prese	nt? Yes <u>X</u> No
Depth (in Remarks:	ches):						Hydric Soil Preser	nt? Yes <u>X</u> No
Depth (independent of the second seco	ches): GY Irology Indicators: ators (minimum of e		uired; check all that					ary Indicators (minimum of two require
Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V	GY GY Irology Indicators: ators (minimum of o Vater (A1)		Water-Sta	ined Lea	• • •		<u>Seconda</u>	ary Indicators (minimum of two require face Soil Cracks (B6)
Depth (in Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat	ches): GY Irology Indicators: ators (minimum of of Vater (A1) rer Table (A2)		Water-Sta	iined Lea auna (B1	3)		<u>Seconda</u> X_Sur Dra	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation	Ches): GY Irology Indicators: ators (minimum of of Vater (A1) rer Table (A2) n (A3)		Water-Sta Aquatic Fa	iined Lea auna (B1 atic Plant	3) s (B14)		<u>Seconda</u> X_Suri Dra Dry.	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma	ches): GY Irology Indicators: ators (minimum of of Vater (A1) ier Table (A2) n (A3) arks (B1)		Water-Sta Aquatic Fa True Aqua Hydrogen	iined Lea auna (B1 atic Plant Sulfide (	3) s (B14) Ddor (C1)		<u>Seconda</u> X Sur Dra Dry Cra	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment	GY Irology Indicators: ators (minimum of a Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	iined Lea auna (B1 atic Plant Sulfide ( Rhizosph	3) s (B14) Ddor (C1) eres on l	iving R	<u>Seconda</u> X_Sur Dra Dry Cra oots (C3)Sat	ary Indicators (minimum of two require ace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo	GY Irology Indicators: ators (minimum of of Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Ddor (C1) eres on l ced Iron (	₋iving R C4)	<u>Seconda</u> <u>X</u> Sur Dra Dry Cra oots (C3) <u>Satu</u> X Stur	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat	GY Irology Indicators: ators (minimum of e Vater (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) : or Crust (B4)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti	₋iving R C4)	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	GY Irology Indicators: ators (minimum of e Vater (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5)	one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface	3) s (B14) Ddor (C1) eres on I ced Iron ( tion in Ti (C7)	₋iving R C4)	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	GY Irology Indicators: ators (minimum of of Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial	one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 atic Plant Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9)	₋iving R C4)	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio X Sparsely	GY Irology Indicators: ators (minimum of e Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial I Vegetated Concave	one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 atic Plant Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9)	₋iving R C4)	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Dept Algal Mat Iron Dept Inundatio X Sparsely Field Observ	GY Irology Indicators: ators (minimum of e Vater (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial I Vegetated Concave vations:	one is requ magery (B e Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 37) Gauge or (B8) Other (Exp	ined Lea auna (B1 atic Plant Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat plain in R	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) Remarks)	₋iving R C4) Iled Soil	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio X Sparsely Field Observ Surface Wate	GY Irology Indicators: ators (minimum of of Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t Deposits (B2) osits (B3) t Orcust (B4) osits (B5) n Visible on Aerial I Vegetated Concave vations: er Present? Ye	magery (B Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (B8) Other (Exp No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in R	3) s (B14) Ddor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) temarks) nches): _	₋iving R C4) lled Soil	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio X Sparsely Field Observ Surface Water	GY Irology Indicators: ators (minimum of of Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial I Vegetated Concave Vations: er Present? Ye	imagery (B e Surface ( es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (B8) Other (Exp No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc con Reduc	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) temarks) nches):	₋iving R C4) lled Soil	oots (C3) Saturna Standard Sta	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio X Sparsely Field Observ Surface Wate	GY rology Indicators: ators (minimum of e Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial I Vegetated Concave vations: er Present? Ye esent? Ye	magery (B Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (B8) Other (Exp No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in R	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) temarks) nches):	₋iving R C4) lled Soil	Seconds           X         Surial	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) morphic Position (D2) S-Neutral Test (D5)
Depth (ind Remarks: HYDROLO Wetland Hyd Primary Indic Surface V High Wat X Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio X Sparsely Field Observ Surface Wate Water Table I Saturation Prr (includes cap	GY Irology Indicators: ators (minimum of a Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial I Vegetated Concave vations: er Present? Ye esent? Ye esent? Ye illary fringe)	Imagery (B e Surface ( es es	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck (B8) Other (Exp No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in R Depth (ii Depth (ii	3) s (B14) Ddor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) Remarks) nches): nches):	Living R C4) Iled Soil	oots (C3) Stur X Stur Cra Oots (C3) Satu X Stur X Stur X Stur X FAC	ary Indicators (minimum of two require face Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)

Project/Site: Bellflower		City/Cou	unty: <u>Henry</u>		Sampling Date:	9/10/2019
Applicant/Owner: Light Source BP				State: IN	Sampling Point:	WD001TMM
Investigator(s): T. Malecki		Section,	Township, Ra	nge: S33, T16N, R10E		
Landform (hillside, terrace, etc.): depression				concave, convex, none):		
Slope (%): 1 Lat: 39.79604			-85.417349	-	Datum: NAD83	
Soil Map Unit Name: Cy, Cyclone silty clay loam, 0 to 2	2 percent slc				ication: Not mapped	d by NWI
Are climatic / hydrologic conditions on the site typical for			Yes X			,
Are Vegetation , Soil , or Hydrology s		-				
Are Vegetation , Soil , or Hydrology n				plain any answers in Rer		
SUMMARY OF FINDINGS – Attach site ma					,	tures, etc.
Hydrophytic Vegetation Present?       Yes       X       No         Hydric Soil Present?       Yes       X       No         Wetland Hydrology Present?       Yes       X       No         Remarks:       K       K       K       K	- )	Is the	e Sampled Ar in a Wetland?	'ea	-	
Wetland is forested and located in depression adjacer	it to agriculti	ural fields.				
VEGETATION – Use scientific names of plan	nts.					
	Absolute	Dominant	Indicator	Deminonee Test wor	! b4.	
<u>Tree Stratum</u> (Plot size: <u>30</u> ) 1. Populus deltoides	<u>% Cover</u> 30	Species? Yes	Status FAC	Dominance Test wor		
2. Juglans nigra	10	Yes	FACU	Number of Dominant Are OBL, FACW, or F	•	6 (A)
3. Fraxinus pennsylvanica	10	Yes	FACW	Total Number of Domi		<u> </u>
4.				Across All Strata:	•	7 (B)
5.				Percent of Dominant S	Species That	``
	50	=Total Cover		Are OBL, FACW, or F	•	.7% (A/B)
Sapling/Shrub Stratum (Plot size: 15 )						
1. Cephalanthus occidentalis	40	Yes	OBL	Prevalence Index wo		
2				Total % Cover of		
3				OBL species 75		75
4.				FACW species 20		40 20
5	40	-Tatal Covor		FAC species 30		90
Herb Stratum (Plot size: 5)	40	=Total Cover		FACU species 10 UPL species 0		40 0
Herb Stratum (Plot size: 5) 1. Carex hystericina	10	Yes	OBL	Column Totals: 13		45 (B)
2. Persicaria hydropiperoides	25	Yes	OBL	Prevalence Index =	( )	. ,
3. Carex vulpinoidea	10	Yes	FACW			
4.				Hydrophytic Vegetat	ion Indicators:	
5.					Hydrophytic Vegeta	ation
6.				X 2 - Dominance Te		
7.				X 3 - Prevalence Inc		
8.					Adaptations <sup>1</sup> (Provid	
9				data in Remark	s or on a separate s	sheet)
10				Problematic Hydro	ophytic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 30 )	45	=Total Cover		<sup>1</sup> Indicators of hydric so be present, unless dis		
1 2		=Total Cover		Hydrophytic Vegetation Present? Yes	<u>X</u> No	

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

	Matrix		Redo	x Featur	es			
Depth (inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	2.5Y 3/2	100					Loamy/Clayey	silt loam
3-6	5Y 3/1	93	7.5YR 4/3	7	С	PL	Loamy/Clayey	clay loam
6-12	5Y 3/1	90	5Y 4/3	10	С	PL	Loamy/Clayey	clay loam
12-17	2.5Y 3/1	95	2.5Y 4/3	5	С	М	Loamy/Clayey	clay loam
17-20	5Y 3/1	95	2.5Y 4/3	5	С	М	Loamy/Clayey	clay
					_			
Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, N	//S=Mas	ked San	d Grains	<sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
lydric Soil	Indicators:						Indicato	ors for Problematic Hydric Soils <sup>3</sup> :
Histosol	( )		Sandy Gle	-				st Prairie Redox (A16)
	pipedon (A2)		Sandy Rec					-Manganese Masses (F12)
	istic (A3)		Stripped M		,			Parent Material (F21)
	en Sulfide (A4) d Layers (A5)		Dark Surfa	• •				y Shallow Dark Surface (F22) er (Explain in Remarks)
	uck (A10)		Loamy Mu Loamy Gle	-			Oth	er (Explain in Remarks)
	d Below Dark Surface	(A11)	X Depleted M					
	ark Surface (A12)	~ (* * * * )	X Redox Da				<sup>3</sup> Indicate	ors of hydrophytic vegetation and
	lucky Mineral (S1)		Depleted [			)		and hydrology must be present,
	ucky Peat or Peat (S3	Redox Dep			,		ess disturbed or problematic.	
Configure	Layer (if observed):							
Type:	none							
Depth (i	none						Hydric Soil Preser	nt? Yes <u>X</u> No
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatio X Water M Sedimen Drift Dep Algal Ma	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)	one is requi	red; check all that X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 tic Plant Sulfide ( Rhizosph of Reduc	3) ts (B14) Odor (C1 neres on l ced Iron ( ction in Ti	) Living Ro (C4)	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	Ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2) C-Neutral Test (D5)
Depth (i Remarks: YDROLC Vetland Hy Primary Indi Surface High Wa X Saturation X Saturation X Saturation Algal Ma Iron Dep Inundati	none nches): OGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In	magery (B7	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat	3) ts (B14) Odor (C1 neres on l ced Iron ( ction in Ti e (C7) ta (D9)	) Living Ro (C4) Illed Soil	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatio X Saturatio X Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati X Sparsely	none nches): DGY drology Indicators: cators (minimum of co Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave	magery (B7	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat	3) ts (B14) Odor (C1 neres on l ced Iron ( ction in Ti e (C7) ta (D9)	) Living Ro (C4) Illed Soil	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatii X Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati X Sparsely	none nches): OGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave rvations:	magery (B7	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 7) Gauge or V 38) Other (Exp	ined Lea auna (B1 sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat plain in F	3) ts (B14) Odor (C1 neres on l ced Iron ( ction in Ti e (C7) ta (D9)	) Living Ro (C4) Illed Soil	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatio X Saturatio X Saturatio X Saturatio X Saturatio X Iron Dep Inundati X Sparsely Surface Wa	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave vations: ter Present? Ye	magery (B7 Surface (E s	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 7) Gauge or 1 38) Other (Exp	ined Lea auna (B1 sulfide ( Rhizosph of Reduc Surface Well Date blain in F	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti c (C7) ta (D9) Remarks)	) Living Rd (C4) Iled Soil	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatii X Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati X Sparsely	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In y Vegetated Concave vations: ter Present? Ye	magery (B7 Surface (E	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck 38) Other (Exp No X No X	ined Lea auna (B1 sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat blain in F Depth (i Depth (i	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti ce (C7) ta (D9) Remarks) inches):	) Living Rd (C4) Iled Soil	Seconda           X         Suri            Drai            Dry            Crai            Satu            X            Satu	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatio X Saturatio X Saturatio Drift Dep Algal Ma Iron Dep Inundati X Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	none nches): OGY drology Indicators: cators (minimum of co Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) boosits (B3) at or Crust (B4) boosits (B5) on Visible on Aerial In y Vegetated Concave vations: ter Present? Ye present? Ye pillary fringe)	magery (B7 s Surface (E s s s	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X No X No X	ined Lea auna (B1 tic Plant Sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat blain in F Depth (i Depth (i	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti e (C7) ta (D9) Remarks) inches): inches):	) Living Ro (C4) Illed Soil	Seconda         X       Surf         Drai       Dry         Cray       Cray         sots (C3)       Satu         X       Stur         s (C6)       Geo         FAC	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)
Depth (i Remarks: IYDROLC Netland Hy Primary Indi Surface High Wa X Saturatio X Saturatio X Saturatio Drift Dep Algal Ma Iron Dep Inundati X Sparsely Field Obser Surface Wa Nater Table Saturation F includes ca	none nches): DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) boosits (B3) at or Crust (B4) boosits (B5) on Visible on Aerial In y Vegetated Concave vations: ter Present? Ye Present? Ye	magery (B7 s Surface (E s s s	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X No X No X	ined Lea auna (B1 tic Plant Sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat blain in F Depth (i Depth (i	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti e (C7) ta (D9) Remarks) inches): inches):	) Living Ro (C4) Illed Soil	Seconda         X       Surf         Drai       Dry         Cray       Cray         sots (C3)       Satu         X       Stur         s (C6)       Geo         FAC	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)
Depth (i Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa X Saturatio X Saturatio X Saturatio Drift Dep Algal Ma Iron Dep Inundati X Sparsely Field Obser Surface Wa Water Table Saturation F includes ca	none nches): OGY drology Indicators: cators (minimum of co Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) boosits (B3) at or Crust (B4) boosits (B5) on Visible on Aerial In y Vegetated Concave vations: ter Present? Ye present? Ye pillary fringe)	magery (B7 s Surface (E s s s	X Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X No X No X	ined Lea auna (B1 tic Plant Sulfide ( Rhizosph of Reduc n Reduc Surface Well Dat blain in F Depth (i Depth (i	3) ts (B14) Odor (C1 heres on l ced Iron ( ction in Ti e (C7) ta (D9) Remarks) inches): inches):	) Living Ro (C4) Illed Soil	Seconda         X       Surf         Drai       Dry         Cray       Cray         sots (C3)       Satu         X       Stur         s (C6)       Geo         FAC	ary Indicators (minimum of two requir face Soil Cracks (B6) inage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) S-Neutral Test (D5)

Project/Site: Bellflower	City/County: Henry			Sampling Date:	9/10/2019
Applicant/Owner: Light Source BP		State:	IN	Sampling Point:	WD002CM
Investigator(s): Carrie Maier, Sara Prizzi	Section, Township, Range:	S34, T16	ôN, R10E	<u>=</u>	
Landform (hillside, terrace, etc.): flat/agricultural field	Local relief (conca	ave, conve	x, none):	concave	
Slope (%): <1% Lat: 39.794614	Long: <u>-85.403994</u>			Datum: NAD 83	
Soil Map Unit Name: Cy, Cyclone sility clay loam, 0 to 2 percent slope	es	N\	WI classi	ification: Not mappe	d by NWI
Are climatic / hydrologic conditions on the site typical for this time of y	/ear? Yes <u>X</u> No	o (	(If no, ex	plain in Remarks.)	
Are Vegetation X , Soil , or Hydrology significantly dist	turbed? Are "Normal Circur	mstances"	present	? Yes <u>X</u> No	<u></u> د
Are Vegetation X , Soil , or Hydrology naturally problem	ematic? (If needed, explain	any answ	ers in Re	marks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ons, tra	nsects	, important fea	tures, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area				

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area			
Hydric Soil Present?	Yes	Х	No	within a Wetland?	Yes	Х	No
Wetland Hydrology Present?	Yes	Х	No				

Remarks:

Sampled area in active agricultural field adjacent to NWI mapped wetland. Vegetation significantly disturbed due to being in active cropland (corn).

#### **VEGETATION** – Use scientific names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 2 (A)
3		. <u></u> _		Total Number of Dominant Species
4				Across All Strata: 2 (B)
5				Percent of Dominant Species That
		=Total Cover		Are OBL, FACW, or FAC: 100.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15 )				
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species 0 x 1 = 0
4.				FACW species 52 x 2 = 104
5.				FAC species 22 x 3 = 66
		=Total Cover		FACU species 12 x 4 = 48
Herb Stratum (Plot size: 5)				UPL species 0 x 5 = 0
1. Echinochloa crus-galli	15	Yes	FACW	Column Totals 86 (A) 218 (B)
2. Ambrosia trifida	10	No	FAC	Prevalence Index = $B/A = 2.53$
3. Cyperus esculentus	7	No	FACW	
4. Ageratina altissima	2	No	FACU	Hydrophytic Vegetation Indicators:
5. Pilea pumila	30	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
6. Setaria faberi	10	No	FACU	X 2 - Dominance Test is >50%
7. Panicum capillare	10	No	FAC	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Q				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	84	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)	-			be present, unless disturbed or problematic.
1. Toxicodendron radicans	2	No	FAC	
2.				Hydrophytic Vegetation
	2	=Total Cover		Present? Yes X No
Remarks: (Include photo numbers here or on a separa	ate sheet )			

In active agricultural field.

Profile Deso Depth	cription: (Describ Matrix	e to the dep		ument t x Featur		ator or o	confirm the absence	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	% N T Calu	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remark	(P
<u>(incries)</u> 0-5	2.5Y 3/2	100		/0	Турс	200	Loamy/Clayey	silt loar	
		·	7 5VD 4/6	2					
5-15	2.5Y 4/2	88	7.5YR 4/6	2	<u> </u>	PL	Loamy/Clayey	Prominent redox co	
			10YR 6/2	10	D	M		sandy clay	loam
<sup>1</sup> Type: C=C	oncentration, D=De	epletion, RM	=Reduced Matrix, N	MS=Mas	ked Sand	Grains	s. <sup>2</sup> Location	: PL=Pore Lining, M=N	latrix.
Hydric Soil	Indicators:						Indicato	rs for Problematic Hyd	lric Soils <sup>3</sup> :
Histosol			Sandy Gle	-				t Prairie Redox (A16)	
	pipedon (A2)		Sandy Ree	. ,				Manganese Masses (F1	2)
	stic (A3)		Stripped N	•	6)			Parent Material (F21)	
	n Sulfide (A4)		Dark Surfa					Shallow Dark Surface (	F22)
	d Layers (A5)		Loamy Mu	-			Othe	r (Explain in Remarks)	
	ıck (A10)		Loamy Gle	-					
	d Below Dark Surfa	ce (A11)	X Depleted				3		
	ark Surface (A12)		Redox Da		```			s of hydrophytic vegeta	
	lucky Mineral (S1)		Depleted [					Ind hydrology must be p	
	icky Peat or Peat (S	,	Redox De	pression	s (F8)		unles	ss disturbed or problema	atic.
	Layer (if observed								
Type:	none	e						· · · · ·	
Depth (ir	nches):						Hydric Soil Presen	t? Yes	No
HYDROLC									
-	drology Indicators						O		- <b>f</b> to a second second
	cators (minimum of	r one is requ						ry Indicators (minimum	of two required)
	Water (A1) ater Table (A2)		Water-Sta Aquatic Fa		` '			ace Soil Cracks (B6) nage Patterns (B10)	
X Saturatio			True Aqua					Season Water Table (C2	2)
	larks (B1)		Hydrogen		. ,	)		fish Burrows (C8)	_)
	nt Deposits (B2)		Oxidized F		•			ration Visible on Aerial I	magery (C9)
	posits (B3)		Presence			-		ted or Stressed Plants (	
	at or Crust (B4)		Recent Iro			,		morphic Position (D2)	,
	oosits (B5)		Thin Muck	Surface	e (C7)		· · ·	Neutral Test (D5)	
Inundatio	on Visible on Aerial	Imagery (B	7) Gauge or	Well Dat	a (D9)				
X Sparsely	Vegetated Concav	ve Surface (	B8) Other (Exp	olain in F	Remarks)				
Field Obser	vations:								
Surface Wat	ter Present? Y	/es	No X	Depth (i	nches):				
Water Table	Present? Y	/es	No X	Depth (i	nches):				
Saturation P	resent? Y	res X	No	Depth (i	nches):	0	Wetland Hydrolog	gy Present? Yes 🔿	<u> No</u>
(includes ca	pillary fringe)								
Describe Re	corded Data (stream	m gauge, m	onitoring well, aeria	al photos	, previou	s inspec	ctions), if available:		
Remarks:									
	ea in agricultural fiel	ld where cro	p (corn) failed to or	row <sup>.</sup> nort	hern exte	ent of N	WI mapped wetland.		
sampled die			- (sec.) ianoa to gi	,					

Project/Site: Bellflow	C	ity/Co	unty: Rush				Sampling Date:	9/11/2019		
Applicant/Owner:	Light	Source BP					State:	IN	Sampling Point:	WD002TMM
Investigator(s): T. Ma	nvestigator(s): T. Malecki					nge: <u>s</u>	S04, T1	5N, R10E		
Landform (hillside, te			Local relief (c	oncave	ve, convex, none): concave					
Slope (%): 3	Lat:	39.787103		Long:	-85.416322				Datum: NAD 83	
Soil Map Unit Name:	CrA, C	Crosby silt loam, 0 to 2 p	ercent slopes				N	WI classit	fication: Not mappe	d by NWI
Are climatic / hydrolo	ogic co	nditions on the site typica	al for this time of year	?	Yes X	No		(If no, exp	olain in Remarks.)	
Are Vegetation	, Soil	, or Hydrology	significantly disturb	ed?	Are "Normal C	Circums	tances"	present?	Yes X No	> <u> </u>
Are Vegetation	, Soil	, or Hydrology	naturally problema	tic?	(If needed, ex	plain ar	ny answ	ers in Re	marks.)	
SUMMARY OF	FINDI	NGS – Attach site	map showing sa	mpli	ing point lo	catio	ns, tra	insects	, important fea	tures, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area			
Hydric Soil Present?	Yes	Х	No	within a Wetland?	Yes	Х	No
Wetland Hydrology Present?	Yes	Х	No				

Remarks:

Wetland located in active pasture in depression.

				Absolute	Dominant	Indicator			
	ot size:	30	)	% Cover	Species?	Status	Dominance Test worksheet:		
1							Number of Dominant Species That		
2.							Are OBL, FACW, or FAC:	2	(A)
3.							Total Number of Dominant Species		
4.							Across All Strata:	2	(B)
5.							Percent of Dominant Species That		
					=Total Cover		Are OBL, FACW, or FAC:	100.0%	(A/B)
Sapling/Shrub Stratum	(Plot s	ize:	15	)			_		
1							Prevalence Index worksheet:		
2.							Total % Cover of: Mult	iply by:	
3.							OBL species 40 x 1 =		-
4.							FACW species 60 x 2 =	120	-
5.							FAC species 0 x 3 =	0	-
					=Total Cover		FACU species 0 x 4 =	0	-
Herb Stratum (P	ot size:	5	)				UPL species 0 x 5 =	0	-
1. Echinochloa crus-ga		-	/	60	Yes	FACW	Column Totals: 100 (A)	160	(B)
2. Persicaria hydropipe				30	Yes	OBL		1.60	_(=)
3. Carex Iurida	101000			10	No	OBL		.00	-
1							Hydrophytic Vegetation Indicators:		
							1 - Rapid Test for Hydrophytic Ve		
							X 2 - Dominance Test is >50%	getation	
					·		$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$		
7					·		$\frac{X}{4}$ - Morphological Adaptations <sup>1</sup> (P	) rouido our	norting
8							data in Remarks or on a separa		
9									
10							Problematic Hydrophytic Vegetati		
				100	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland l		must
Woody Vine Stratum	(Plot s	ize:	30	)			be present, unless disturbed or proble	matic.	
1					·		Hydrophytic		
2.							Vegetation		
					=Total Cover		Present? Yes X No		
Remarks: (Include phot	o numbers h	nere or o	n a sepa	rate sheet.)					

Depth	Matrix		Redo	x Feature	es					
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-6	2.5Y 3/2	90	5Y 3/1	10	D	М	Loamy/Clayey	clay loam		
6-15	5Y 3/1	90	5YR 3/4	10	С	PL	Loamy/Clayey	clay loam		
15-20	5Y 3/1	97	2.5Y 4/3	3	С	М	Loamy/Clayey	clay		
								· · · · · · · · · · · · · · · · · · ·		
Type: C=Cor	ncentration, D=Depl	etion, RM=	Reduced Matrix, N	//S=Masł	ked Sand	Grains		PL=Pore Lining, M=Matrix.		
Histosol (A	A1)		Sandy Gle	yed Mati	rix (S4)		Coast	Prairie Redox (A16)		
Histic Epip	pedon (A2)		Sandy Red	dox (S5)			Iron-M	anganese Masses (F12)		
Black Hist	tic (A3)		Stripped N	latrix (S6	5)		Red P	arent Material (F21)		
_ · ·	Sulfide (A4)		Dark Surfa	• •				Shallow Dark Surface (F22)		
_	Layers (A5)		Loamy Mu	•	. ,		Other	(Explain in Remarks)		
2 cm Muc	( )		Loamy Gle	-						
	Below Dark Surface	e (A11)	X Depleted M				۹.	•• • • • •		
	k Surface (A12)		X Redox Dar					of hydrophytic vegetation and		
	icky Mineral (S1)		Depleted [		• •		wetland hydrology must be present,			
	ky Peat or Peat (S3 ayer (if observed):	5)	Redox Dep	pressions	s (⊦8)		unless	disturbed or problematic.		
Type: Depth (inc Remarks:	none ches):						Hydric Soil Present?	Yes <u>X</u> No_		
Depth (inc Remarks:	ches):						Hydric Soil Present?	Yes <u>X</u> No_		
Depth (inc Remarks: YDROLOC	Shes):						Hydric Soil Present?	Yes <u>X</u> No_		
Depth (inc Remarks: YDROLOC Wetland Hydr	Shes): GY rology Indicators:		rod: chock all that							
Depth (inc Remarks: YDROLOC Netland Hydr Primary Indica	SY rology Indicators: ators (minimum of o	ne is requi			ves (B9)		<u>Secondary</u>	r Indicators (minimum of two requir		
Depth (inc Remarks: YDROLOC Vetland Hydr Primary Indica Surface W	GY GY rology Indicators: ators (minimum of o Vater (A1)	ne is requi	Water-Sta	ined Lea			<u>Secondary</u> X_Surfac	<u>r Indicators (minimum of two requin</u> ee Soil Cracks (B6)		
Depth (inc Remarks: YDROLOC Vetland Hydi Primary Indica Surface W	GY GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2)	ne is requi	Water-Sta Aquatic Fa	ined Lea iuna (B1	3)		<u>Secondary</u> X_Surfac	<u>r Indicators (minimum of two requin</u> re Soil Cracks (B6) ige Patterns (B10)		
Depth (inc Remarks: YDROLOC Vetland Hydr Primary Indica Surface W High Wate	GY rology Indicators: ators (minimum of o /ater (A1) er Table (A2) n (A3)	ne is requi	Water-Sta	ined Lea iuna (B1 tic Plants	3) s (B14)	)	<u>Secondary</u> X Surfac Draina Dry-Se	<u>r Indicators (minimum of two requin</u> ee Soil Cracks (B6)		
Depth (inc Remarks: YDROLOC Vetland Hydr Primary Indica Surface W High Wate X Saturation Water Ma	GY rology Indicators: ators (minimum of o /ater (A1) er Table (A2) n (A3)	ne is requi	Water-Sta Aquatic Fa True Aqua	ined Lea iuna (B1 tic Plants Sulfide C	3) s (B14) Ddor (C1)		<u>Secondary</u> X Surfac Draina Dry-Se Crayfis	r Indicators (minimum of two requin re Soil Cracks (B6) nge Patterns (B10) eason Water Table (C2)		
Depth (inc Remarks: YDROLOC Vetland Hydr Primary Indica Surface W High Wate X Saturation Water Ma	GY rology Indicators: ators (minimum of o vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	ne is requi	Water-Sta Aquatic Fa True Aqua Hydrogen	ined Lea auna (B1 tic Plants Sulfide C Rhizosph	3) s (B14) Odor (C1) eres on l	iving R	<u>Secondary</u> <u>X</u> Surfac Draina Dry-Se Crayfis pots (C3)Satura	r Indicators (minimum of two requir te Soil Cracks (B6) ige Patterns (B10) eason Water Table (C2) sh Burrows (C8)		
Depth (inc emarks: YDROLOC Vetland Hydr Primary Indica Surface W High Water X Saturation Water Mar Sediment Drift Depo Algal Mat	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	ne is requi	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Iro	ined Lea auna (B1 tic Plants Sulfide C Rhizospho of Reduc n Reduc	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) ttion Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) orphic Position (D2)		
Pepth (inc temarks: <b>YDROLOC</b> <b>Vetland Hydr</b> <b>Vetland Hydr</b> Variace W High Wate X Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) psits (B3) or Crust (B4) sits (B5)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence of Recent Iro Thin Muck	ined Lea auna (B1 tic Plants Sulfide C Rhizospho of Reduc n Reduc Surface	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7)	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir ee Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ttion Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)		
Pepth (inc emarks: PDROLOC /etland Hydr rimary Indica Surface W High Wate X Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir	nagery (B7	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence 6 Recent Iro Thin Muck	ined Lea auna (B1 tic Plants Sulfide C Rhizospho of Reduc n Reduc Surface Well Data	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9)	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) ttion Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) orphic Position (D2)		
Depth (inc emarks: YDROLOC /etland Hydr rimary Indica Surface W High Wate X Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior X Sparsely V	GY rology Indicators: ators (minimum of o vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir vegetated Concave	nagery (B7	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence 6 Recent Iro Thin Muck	ined Lea auna (B1 tic Plants Sulfide C Rhizospho of Reduc n Reduc Surface Well Data	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9)	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) ttion Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) orphic Position (D2)		
Depth (inc temarks: YDROLOC Vetland Hydr rimary Indica Surface W High Water X Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depos Inundatior X Sparsely V ield Observa	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) h Visible on Aerial Ir Vegetated Concave ations:	nagery (B7 Surface (E	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence of Recent Iro Thin Muck 38) Other (Exp	ined Lea tic Plants Sulfide C Rhizospho of Reduc n Reduc Surface Well Data olain in R	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) emarks)	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) ttion Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) orphic Position (D2)		
Pepth (inc Pepth (inc Permarks: Primary Indica Surface W High Wate X Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundation X Sparsely V ield Observa	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir Vegetated Concave ations: r Present? Ye	nagery (B7 Surface (E s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence of Recent Iro Thin Muck 38) Other (Exp No X	ined Lea auna (B1: Sulfide C Rhizospho of Reduc n Reduc Surface Well Data blain in R	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches):	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) Ige Patterns (B10) eason Water Table (C2) sh Burrows (C8) Ition Visible on Aerial Imagery (C9 rd or Stressed Plants (D1) orphic Position (D2)		
Depth (inc Depth (inc Remarks: Primary Indica Surface W High Wate X Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundatior X Sparsely V Surface Water Vater Table F	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir Vegetated Concave ations: r Present? Ye Present? Ye	nagery (B7 Surface (E s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence o Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X	ined Lea auna (B1 tic Plants Sulfide C Rhizospho of Reduc n Reduc Surface Well Data Jain in R Depth (ir Depth (ir	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches):	Living R C4) Iled Soil	Secondary X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) FAC-N	r Indicators (minimum of two requir re Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)		
Depth (inc Depth (inc Remarks: Primary Indica Surface W High Wate X Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundation X Sparsely V Field Observa Surface Water Vater Table F Saturation Pre	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir Vegetated Concave ations: r Present? Ye esent? Ye	nagery (B7 Surface (E s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence o Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X	ined Lea auna (B1: Sulfide C Rhizospho of Reduc n Reduc Surface Well Data blain in R	3) s (B14) Odor (C1) eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches):	₋iving R C4)	<u>Secondary</u> X Surfac Draina Dry-Se Crayfis oots (C3) Satura Stunte s (C6) Geom	r Indicators (minimum of two requir re Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)		
Depth (inc Depth (inc Remarks: Primary Indica Surface W High Wate X Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior X Sparsely V Field Observa Surface Water Vater Table F Saturation Pre includes capil	GY rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir Vegetated Concave ations: r Present? Ye esent? Ye	nagery (B7 Surface (E s s s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence o Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X No X No X	ined Lea auna (B1: Sulfide C Rhizospho of Reduc n Reduc Surface Well Data blain in R Depth (ir Depth (ir Depth (ir	3) s (B14) Odor (C1) eres on I eed Iron ( tion in Ti (C7) a (D9) emarks) nches): nches):	Living R C4) Iled Soil	Secondary         X       Surface         Draina       Dry-Se         Orayfis       Crayfis         soots (C3)       Satura         Stunte       Stunte         s (C6)       Geome         FAC-N       Wetland Hydrology	r Indicators (minimum of two requir re Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)		
Depth (inc Depth (inc temarks: YDROLOC Vetland Hydr rimary Indica Surface W High Wate X Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo: Inundatior X Sparsely V ield Observa Surface Water Vater Table F saturation Pre ncludes capil	Ches): Constant of the second state of the se	nagery (B7 Surface (E s s s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence o Recent Iro Thin Muck (7) Gauge or V 38) Other (Exp No X No X No X No X	ined Lea auna (B1: Sulfide C Rhizospho of Reduc n Reduc Surface Well Data blain in R Depth (ir Depth (ir Depth (ir	3) s (B14) Odor (C1) eres on I eed Iron ( tion in Ti (C7) a (D9) emarks) nches): nches):	Living R C4) Iled Soil	Secondary         X       Surface         Draina       Dry-Se         Orayfis       Crayfis         soots (C3)       Satura         Stunte       Stunte         s (C6)       Geome         FAC-N       Wetland Hydrology	r Indicators (minimum of two requir re Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) sh Burrows (C8) ation Visible on Aerial Imagery (C9 d or Stressed Plants (D1) orphic Position (D2) leutral Test (D5)		

Project/Site: Bellflow	er		City/C	County: Rush			Sampling Date:	9/11/2019	
Applicant/Owner:	Light	Source BP			IN	Sampling Point:	WD003TMM		
Investigator(s): T. Ma	lecki		Sectio	n, Township, Range:	S04, T1	5N, R10E			
Landform (hillside, te	rrace,	etc.): depression		Local relief (conca	ve, conve	ex, none):	concave		
Slope (%): 1	Lat:	39.786811	Long	g: <u>-85.414256</u>			Datum: NAD 83		
Soil Map Unit Name:	CrA,	Crosby silt loam, 0 to 2 pe	ercent slopes		N	WI classi	fication: Not mappe	d by NWI	
Are climatic / hydrolo	gic co	nditions on the site typica	I for this time of year?	Yes X No		(If no, ex	plain in Remarks.)		
Are Vegetation	, Soil	, or Hydrology	significantly disturbed?	Are "Normal Circur	nstances'	present?	Yes <u>X</u> No	<u></u> د	
Are Vegetation	, Soil	, or Hydrology	naturally problematic?	(If needed, explain	any answ	ers in Re	marks.)		
SUMMARY OF F	FIND	INGS – Attach site r	nap showing samp	ling point locati	ons, tra	ansects	, important fea	tures, etc.	

Hydrophytic Vegetation Present?	Yes	х	No	Is the Sampled Area			
Hydric Soil Present?	Yes	Х	No	within a Wetland?	Yes	Х	No
Wetland Hydrology Present?	Yes	Х	No		-		
Remarks:							

Depression within a pasture.

				Absolute	Dominant	Indicator			
Tree Stratum	(Plot size:	30	)	% Cover	Species?	Status	Dominance Test worksheet:		
1							Number of Dominant Species That		
-							Are OBL, FACW, or FAC:	1	(A)
•							Total Number of Dominant Species		
4							Across All Strata:	1	(B)
-							Percent of Dominant Species That		
					=Total Cover		Are OBL, FACW, or FAC:	100.0%	(A/B)
Sapling/Shrub Stra	<u>tum</u> (Plot	size:	15						
1							Prevalence Index worksheet:		
0							Total % Cover of: Mu	Iltiply by:	_
2							OBL species 15 x 1 =	15	_
4							FACW species 75 x 2 =	150	
5.							FAC species 0 x 3 =	0	_
					=Total Cover		FACU species 0 x 4 =	0	_
Herb Stratum	(Plot size:	5	)				UPL species 0 x 5 =	0	-
1. Echinochloa cru	us-galli			70	Yes	FACW	Column Totals: 90 (A)	165	(B)
2. Persicaria hydro	opiperoides			15	No	OBL	Prevalence Index = B/A =	1.83	-
3. Persicaria maci	ulosa			5	No	FACW			-
4.							Hydrophytic Vegetation Indicators	5:	
5.							1 - Rapid Test for Hydrophytic V	egetation	
0							X 2 - Dominance Test is >50%		
7							X 3 - Prevalence Index is $\leq 3.0^{1}$		
8.							4 - Morphological Adaptations <sup>1</sup> (	Provide sup	oporting
0							data in Remarks or on a sepa	rate sheet)	
10							Problematic Hydrophytic Vegeta	ation <sup>1</sup> (Expla	ain)
				90	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland		
Woody Vine Stratu	m (Plot	size:	30				be present, unless disturbed or prob		muot
1.							Hydrophytic		
2							Vegetation		
					=Total Cover		Present? Yes X No		
Remarks: (Include	photo numbers	here or	on a sepai	ate sheet.)					
10% unvegetated la									

Depth	Matrix		Redo	x Featur	es					
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-7	5Y 3/2	93	5YR 6/8	7	С	PL	Loamy/Clayey	clay loam		
7-11	5Y 2.5/2	95	2.5YR 5/8	5	С	PL	Loamy/Clayey	clay loam		
11-16	2.5Y 5/1	100					Loamy/Clayey	clay		
16-22	5Y 3/2	98	5YR 5/6	2	С	PL	Loamy/Clayey	clay		
10-22	51 5/2		311(3)0			<u> </u>	Loamy/Clayey	Clay		
ype: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, I	MS=Mas	ked Sand	d Grains	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.		
ydric Soil	Indicators:						Indicators	s for Problematic Hydric Soils <sup>3</sup> :		
Histosol	(A1)		Sandy Gle	eyed Mat	rix (S4)		Coast	t Prairie Redox (A16)		
-	oipedon (A2)		Sandy Re	. ,				/langanese Masses (F12)		
Black His			Stripped N					Parent Material (F21)		
_ · ·	n Sulfide (A4)		Dark Surfa					Shallow Dark Surface (F22)		
	l Layers (A5)		Loamy Mu	-			Other	(Explain in Remarks)		
2 cm Mu	· · · ·		Loamy Gle	-						
	Below Dark Surface	e (A11)	X Depleted I	•	,		2			
	ark Surface (A12)		X Redox Da		• •			s of hydrophytic vegetation and		
-	lucky Mineral (S1)		Depleted I				wetland hydrology must be present,			
	icky Peat or Peat (S3 Layer (if observed):		Redox De	pression	s (⊦8)	,	unles	s disturbed or problematic.		
Type: Depth (ir Remarks:	none nches):						Hydric Soil Present	? Yes <u>X</u> No_		
Depth (ir Remarks:	nches):						Hydric Soil Present	? Yes <u>X</u> No_		
Depth (ir Remarks: YDROLO	nches):						Hydric Soil Present	? Yes <u>X</u> No_		
Depth (ir Remarks: YDROLO Vetland Hyd	OGY drology Indicators:									
Depth (ir Remarks: YDROLO Vetland Hyd Primary Indic	DGY drology Indicators: cators (minimum of o	ne is requ					Secondar	y Indicators (minimum of two requi		
Depth (ir Remarks: YDROLO Vetland Hyd Primary Indic Surface	DGY drology Indicators: cators (minimum of o Water (A1)	ne is requ	Water-Sta	ined Lea			<u>Secondar</u> X_Surfac	y Indicators (minimum of two requi ce Soil Cracks (B6)		
Depth (ir Remarks: YDROLO Vetland Hyd Primary India Surface V High Wa	DGY drology Indicators: cators (minimum of o Water (A1) iter Table (A2)	ne is requ	Water-Sta	iined Lea auna (B1	3)		<u>Secondar</u> X Surfa Drain:	<u>y Indicators (minimum of two requi</u> ce Soil Cracks (B6) age Patterns (B10)		
Depth (ir Remarks: YDROLO Vetland Hyd Primary Indic Surface V High Wa X Saturatic	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3)	ne is requ	Water-Sta Aquatic Fa True Aqua	iined Lea auna (B1 atic Plant	3) ts (B14)		<u>Secondar</u> X Surfa Draina Dry-S	<u>y Indicators (minimum of two requi</u> ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary Indic Surface V High Wa X Saturatic Water M	DGY drology Indicators: cators (minimum of o Water (A1) iter Table (A2) on (A3) larks (B1)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen	iined Lea auna (B1 atic Plant Sulfide (	3) is (B14) Odor (C1)		<u>Secondar</u> X Surfa Draina Crayfi	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8)		
Depth (ir Remarks: YDROLO Ydrand Hyd Primary India Surface Y High Wa X Saturatic Water M Sedimen	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	auna (B1 atic Plant Sulfide ( Rhizosph	3) ts (B14) Odor (C1) teres on I	_iving Ro	<u>Secondar</u> <u>X</u> Surfar Draina Dry-S Crayfi pots (C3)Satur	<u>y Indicators (minimum of two requi</u> ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9		
Depth (ir Remarks: YDROLO Yetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep	DGY drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Redu	3) s (B14) Odor (C1) eres on I ced Iron (	_iving Ro C4)	<u>Secondar</u> <u>X</u> Surfac Draina Dry-S <u>Crayfi</u> Sots (C3) <u>Satur</u> X Sturta	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) ts (B14) Odor (C1) neres on I ced Iron ( ction in Ti	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	<u>y Indicators (minimum of two requi</u> ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9		
Pepth (ir temarks: YDROLO Yetland Hyd Yrimary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) tt or Crust (B4)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck	auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface	3) dis (B14) Odor (C1) neres on I ced Iron ( ction in Ti e (C7)	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)		
Pepth (ir Pemarks: YDROLO Yetland Hyd Yrimary Indic Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) tt or Crust (B4) losits (B5)	magery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) dis (B14) Odor (C1) neres on l ced Iron ( ction in Ti e (C7) ta (D9)	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely	DGY drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) th or Crust (B4) posits (B5) on Visible on Aerial In o Vegetated Concave	magery (B	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) dis (B14) Odor (C1) neres on l ced Iron ( ction in Ti e (C7) ta (D9)	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely ield Obser	DGY drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) th or Crust (B4) posits (B5) on Visible on Aerial In o Vegetated Concave	magery (B Surface (I	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) Ddor (C1) heres on I ced Iron ( ction in Ti e (C7) ta (D9) Remarks)	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely Surface Wat	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) tt or Crust (B4) loosits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye	magery (B Surface (I s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F	3) as (B14) Odor (C1) heres on I ced Iron ( ction in Ti c (C7) ta (D9) Remarks) nches):	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) norphic Position (D2)		
Depth (ir Remarks: YDROLO Yetland Hyd Primary Indic Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely Surface Wat Vater Table	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) tt or Crust (B4) posits (B5) on Visible on Aerial In v Vegetated Concave vations: eer Present? Ye Present? Ye	magery (B Surface (I s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) as (B14) Odor (C1) heres on I ced Iron ( ction in Ti c (C7) ta (D9) Remarks) nches):	_iving Ro C4)	<u>Secondar</u> X Surfa Draina Dry-S Crayfi Dots (C3) <u>Satura</u> X Stunta s (C6) <u>Geor</u>	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5)		
Depth (ir Remarks: <b>YDROLO</b> <b>Vetland Hyd</b> Primary India Surface V High Wa X Saturation Water M Sedimen Drift Dep Algal Ma Iron Dep Inundation X Sparsely Field Obser Surface Water Vater Table Saturation Pl includes cap	DGY drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye Present? Ye pillary fringe)	magery (B Surface (I s s s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) ts (B14) Odor (C1) teres on L ced Iron ( ction in Ti e (C7) ta (D9) Remarks) nches): _ nches): _	Living Ro C4) Iled Soil:	Secondar X Surfa Draina Dry-S Crayfi Sots (C3) Satur X Sturta s (C6) FAC-1 Wetland Hydrolog	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5)		
Depth (ir Remarks: YDROLO Vetland Hyd Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely Surface Wat Vater Table Saturation Pl includes cap	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) tt Deposits (B2) posits (B3) at or Crust (B4) losits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye Present? Ye	magery (B Surface (I s s s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) ts (B14) Odor (C1) teres on L ced Iron ( ction in Ti e (C7) ta (D9) Remarks) nches): _ nches): _	Living Ro C4) Iled Soil:	Secondar X Surfa Draina Dry-S Crayfi Sots (C3) Satur X Sturta s (C6) FAC-1 Wetland Hydrolog	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5)		
Depth (ir Remarks: YDROLO Yetland Hyu Primary India Surface V High Wa X Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatic X Sparsely Surface Wat Vater Table Saturation P includes cap	DGY drology Indicators: cators (minimum of o Water (A1) ther Table (A2) on (A3) larks (B1) at Deposits (B2) bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aerial In v Vegetated Concave vations: er Present? Ye Present? Ye pillary fringe)	magery (B Surface (I s s s	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat plain in F Depth (i Depth (i	3) ts (B14) Odor (C1) teres on L ced Iron ( ction in Ti e (C7) ta (D9) Remarks) nches): _ nches): _	Living Ro C4) Iled Soil:	Secondar X Surfa Draina Dry-S Crayfi Sots (C3) Satur X Sturta s (C6) FAC-1 Wetland Hydrolog	y Indicators (minimum of two requi ce Soil Cracks (B6) age Patterns (B10) eason Water Table (C2) ish Burrows (C8) ation Visible on Aerial Imagery (C9 ed or Stressed Plants (D1) horphic Position (D2) Neutral Test (D5)		

Project/Site: Bellflowe	er	City/Co	unty: Rush			Sampling Date:	9/11/2019
Applicant/Owner:	Light Source BP			IN	Sampling Point:	WD005CM	
Investigator(s): Carrie	Maier, Sara Prizzi	Section,	Township, Range:	S04, T	15N, R10E		
Landform (hillside, te	rrace, etc.): agricultural field/hillslope		Local relief (concav	/e, conv	ex, none):	concave	
Slope (%): 2	Lat: <u>39.785377</u>	Long:	-85.415428			Datum: NAD 83	
Soil Map Unit Name:	Tr, Treaty silty clay loam, 0 to 1 percent slopes			I	WI classi	fication: Not mappe	d by NWI
Are climatic / hydrolog	gic conditions on the site typical for this time of ye	ear?	Yes X No		(If no, exp	olain in Remarks.)	
Are Vegetation X	, Soil, or Hydrologysignificantly dist	urbed?	Are "Normal Circum	stance	s" present?	Yes <u>X</u> No	)
Are Vegetation	, Soil, or Hydrologynaturally problem	natic?	(If needed, explain a	any ans	wers in Re	marks.)	
SUMMARY OF F	INDINGS – Attach site map showing	sampli	ng point locatio	ons, tr	ansects	, important fea	tures, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area			
Hydric Soil Present?	Yes	Х	No	within a Wetland?	Yes	Х	No
Wetland Hydrology Present?	Yes	Х	No				

Remarks:

Area sampled in active, fenced-in pasture. Vegetation is brush hogged/maintained.

	bsolute	Dominant	Indicator	
	6 Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species That
2				Are OBL, FACW, or FAC: 1 (A)
3				Total Number of Dominant Species
4				Across All Strata: 2 (B)
5				Percent of Dominant Species That
		=Total Cover		Are OBL, FACW, or FAC:50.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15 )				
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3.				OBL species 0 x 1 = 0
4.				FACW species 35 x 2 = 70
5.				FAC species $0 \times 3 = 0$
		=Total Cover		FACU species 25 x 4 = 100
Herb Stratum (Plot size: 5 )				UPL species $0 \times 5 = 0$
1. Ambrosia artemisiifolia	15	No	FACU	Column Totals: 60 (A) 170 (B)
2. Polygonum hydropiper	40	Yes	OBL	Prevalence Index = $B/A = 2.83$
3. Polygonum persicaria	5	No	FACW	
4. Trifolium repens	10	No	FACU	Hydrophytic Vegetation Indicators:
5. Echinochloa crus-galli	30	Yes	FACW	1 - Rapid Test for Hydrophytic Vegetation
^	30	165	TACW	2 - Dominance Test is >50%
				X 3 - Prevalence Index is $\leq 3.0^{1}$
···				4 - Morphological Adaptations <sup>1</sup> (Provide supportin
8				data in Remarks or on a separate sheet)
9				. , ,
10	100			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
······································	100	=Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 30)			-	be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation
		=Total Cover		Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.)			

Depth	Matrix		Redo	x Featur						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-8	2.5Y 3/1	80	5YR 4/6	20	С	PL	Loamy/Claye	ey Pro	ominent redox cor	centrations
									silty clay loa	am
8-18	10YR 4/1	85	7.5YR 4/6	15	С	PL	Loamy/Claye	ey Pro	ominent redox cor	centrations
								<u> </u>	silty clay loa	am
		· ·								
		·······								
	oncentration, D=Depl	otion PM	-Roducod Matrix	-Maa	kod San		<sup>2</sup> l oc	ation: DI =D	Pore Lining, M=Ma	trix
Hydric Soil	<i>i i</i>		=Reduced Matrix, r	vio=ivias	keu Sano	Grains			Problematic Hydri	_
Histosol			Sandy Gle	wed Mat	rix (S4)				e Redox (A16)	00113 .
	bipedon (A2)		Sandy Re	-					nese Masses (F12	')
	stic (A3)		Stripped N					-	Material (F21)	•)
	n Sulfide (A4)		Dark Surfa	•	)				w Dark Surface (F	22)
	d Layers (A5)		Loamy Mu	• • •	aral (E1)			-	ain in Remarks)	
	ick (A10)		Loamy Gle	-					ant in remarks)	
	d Below Dark Surface	(Δ11)	X Depleted I							
	ark Surface (A12)	(ATT)	X Redox Da		,		<sup>3</sup> Ind	icators of by	drophytic vegetation	on and
	( )		Depleted I		. ,	<b>`</b>		•		
	lucky Mineral (S1)	`			• •	)		-	rology must be pre rbed or problemat	
	icky Peat or Peat (S3	)	Redox De	pression	5(10)					IC.
	Layer (if observed):									
Type:	none									
	none						Hydric Soil Pr	esent?	Yes	No
Type: Depth (ir Remarks:	none						Hydric Soil Pro	esent?	Yes	No
Type: Depth (ir Remarks:	none nches):						Hydric Soil Pr	esent?	Yes	No
Type: Depth (ir Remarks: HYDROLC Wetland Hy	none hches): OGY drology Indicators:									
Type: Depth (ir Remarks: IYDROLC Wetland Hy Primary India	none nches): OGY drology Indicators: cators (minimum of o	ne is requ					<u>Sec</u>	ondary Indic	ators (minimum of	
Type: Depth (ir Remarks: HYDROLC Wetland Hy Primary India Surface	none hches): DGY drology Indicators: cators (minimum of o Water (A1)	ne is requ	Water-Sta	ined Lea	• • •		<u>Sec</u>	ondary Indic Surface Soil	ators (minimum of	
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne is requ	Water-Sta Aquatic Fa	ined Lea auna (B1	3)		<u>Sec</u>	ondary Indic Surface Soil Drainage Pa	<u>ators (minimum of</u> I Cracks (B6) atterns (B10)	f two require
Type: Depth (ir Remarks: HYDROLC Wetland Hy Primary India Surface High Wa Saturatio	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)	ne is requ	Water-Sta Aquatic Fa	ined Lea auna (B1 atic Plant	3) s (B14)		<u>Sec</u>	ondary Indic Surface Soil Drainage Pa Dry-Season	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2)	f two require
Type: Depth (ir Remarks: HYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M	none hches): DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen	ined Lea auna (B1 atic Plant Sulfide (	3) s (B14) Odor (C1	)	<u>Sec</u>	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bui	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8)	f two require
Type: Depth (ir Remarks: HYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph	3) s (B14) Ddor (C1 eres on l	) Living R	<u>Sec</u>	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im	f two require
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1 eres on l ced Iron (	) Living R (C4)	<u>Sec</u>   	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D	f two require
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1 eres on l ced Iron ( ction in Ti	) Living R (C4)	Sec  	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V Stunted or S Geomorphic	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2)	f two require
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Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	none nches): DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir	nagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on l ced Iron ( ction in Ti e (C7) a (D9)	) Living R (C4) Illed Soil	Sec  	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V Stunted or S Geomorphic	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2)	f two require
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir v Vegetated Concave	nagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1 eres on l ced Iron ( ction in Ti e (C7) a (D9)	) Living R (C4) Illed Soil	Sec  	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V Stunted or S Geomorphic	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2)	f two require
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatic Water M Saturatic Unift Dep Algal Ma Iron Dep Inundatic Sparsely	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial In / Vegetated Concave vations:	nagery (B Surface (	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat blain in F	3) s (B14) Ddor (C1 eres on l ced Iron ( tition in Ti c(C7) a (D9) Remarks)	) Living R (C4) Illed Soil	Sec  	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V Stunted or S Geomorphic	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2)	f two require
Type: Depth (in Remarks: HYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir v Vegetated Concave vations: ter Present? Ye	nagery (B Surface ( s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc con Reduc	3) s (B14) Odor (C1 eres on l ced Iron ( tition in Ti e (C7) a (D9) Remarks) nches):	) Living R (C4) Illed Soil	Sec  	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bu Saturation V Stunted or S Geomorphic	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2)	f two require
Type: Depth (in Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye	nagery (B Surface ( s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc c Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Odor (C1 eres on l ced Iron ( tion in Ti e (C7) a (D9) Remarks) nches): _ nches): _	) Living R (C4) Illed Soil	<u>Sec</u> 	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutra	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2) I Test (D5)	f two require
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Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	DGY drology Indicators: cators (minimum of o Water (A1) tter Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye resent? Ye	nagery (B Surface ( s s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat Dlain in F Depth (i Depth (i	3) s (B14) Ddor (C1 eres on l ced Iron o ttion in Ti (C7) a (D9) Remarks) nches): nches):	) Living R (C4) Illed Soil	<u>Sec</u> 	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutra	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2) I Test (D5)	f two require
Type: Depth (ir Remarks: TYDROLC Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aerial Ir v Vegetated Concave vations: ter Present? Ye Present? Ye pillary fringe)	nagery (B Surface ( s s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No X No X	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc Surface Well Dat Dlain in F Depth (i Depth (i	3) s (B14) Ddor (C1 eres on l ced Iron o ttion in Ti (C7) a (D9) Remarks) nches): nches):	) Living R (C4) Illed Soil	<u>Sec</u> 	ondary Indic Surface Soil Drainage Pa Dry-Season Crayfish Bur Saturation V Stunted or S Geomorphic FAC-Neutra	ators (minimum of I Cracks (B6) atterns (B10) Water Table (C2) rrows (C8) /isible on Aerial Im Stressed Plants (D c Position (D2) I Test (D5)	f two require

Project/Site: Bellflow	ver			City/Co	ounty: Rush			Sampling Date:	9/11/2019
Applicant/Owner:	Light Sou	Irce BP				State:	IN	Sampling Point:	WD007CM
Investigator(s): Carrie	e Maier, S	ara Prizzi		Section,	Township, Range:	S03, T <sup>.</sup>	15N, R10	E	
Landform (hillside, te	errace, etc	.): valley			Local relief (conca	ave, conv	ex, none)	concave	
Slope (%): 2	Lat: 39.	773093		Long:	-85.404318			Datum: NAD 83	
Soil Map Unit Name:	Tr, Treaty	y silty clay loam, 0 to	1 percent slopes			<u> </u>	WI class	ification: PSS1F	
Are climatic / hydrolo	ogic condit	ions on the site typic	al for this time of ye	ear?	Yes X No	00	(If no, ex	plain in Remarks.)	
Are Vegetation	, Soil	, or Hydrology	significantly dist	urbed?	Are "Normal Circu	mstances	" present	? Yes <u>X</u> No	<u></u>
Are Vegetation	, Soil	, or Hydrology	naturally probler	natic?	(If needed, explain	any ans	wers in R	emarks.)	
SUMMARY OF	FINDING	S – Attach site	map showing	sampli	ing point locati	ions, tr	ansect	s, important fea	tures, etc.

Hydrophytic Vegetation Present?	Yes	Х	No	Is the Sampled Area			
Hydric Soil Present?	Yes	Х	No	within a Wetland?	Yes	Х	No
Wetland Hydrology Present?	Yes	Х	No				

Remarks:

Sampled area in forested valley between two active agricultural fields (soybean).

				Absolute	Dominant	Indicator			
Tree Stratum	(Plot size:	30	)	% Cover	Species?	Status	Dominance Test worksheet:		
1. <u>Salix nigra</u>				25	Yes	OBL	Number of Dominant Species Tha	ıt	
2.							Are OBL, FACW, or FAC:	2	(A)
3							Total Number of Dominant Specie	S	
4.							Across All Strata:	3	(B)
5.							Percent of Dominant Species Tha	t	
				25	=Total Cover		Are OBL, FACW, or FAC:	66.7%	(A/B)
Sapling/Shrub Stra	tum (Plot	size:	15	)					
1. Salix nigra				20	Yes	OBL	Prevalence Index worksheet:		
2.							Total % Cover of:	Multiply by:	
2							OBL species 51 x 1	= 51	_
4							FACW species 43 x 2	= 86	-
5.							FAC species 10 x 3	= 30	_
				20	=Total Cover		FACU species 0 x 4	= 0	-
Herb Stratum	(Plot size:	5	)				UPL species 0 x 5	= 0	-
1. Polygonum hyd			/	60	Yes	OBL	Column Totals 104 (A)	167	(B)
2. Typha latifolia				6	No	OBL	Prevalence Index = $B/A$ =		_(=)
3. Bidens frondos	а			20	No	FACW			-
4. Xanthium strum	arium			10	No	FAC	Hydrophytic Vegetation Indicate	ors:	
5. Phalaris arundi				10	No	FACW	1 - Rapid Test for Hydrophytic		
6. Pilea pumila				10	No	FACW	X 2 - Dominance Test is >50%	rogetation	
7. Cyperus escule	ntus			3	No	FACW	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>		
^					110	TAON	4 - Morphological Adaptations	<sup>1</sup> (Provide su	nnorting
0							data in Remarks or on a se		
9 10							Problematic Hydrophytic Vege	• •	, ,
10				119	=Total Cover				,
Woody Vine Stratu	m (Plot	sizo:	30				<sup>1</sup> Indicators of hydric soil and wetla be present, unless disturbed or pr		must
-		size.	30	)				Julematic.	
							Hydrophytic		
2				·	Tatal Oa		Vegetation	_	
					=Total Cover		Present? Yes X N	°	
Remarks: (Include	photo numbers	here or	on a sepa	arate sheet.)					

Depth	Matrix		Redo	x Feature	es					
inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remarks	
0-8	10YR 3/2	93	7.5YR 4/6	7	С	PL	Loamy/Clay	ey	Prominent redox con	centrations
									silty clay loa	m
8-16	10YR 2/2	60	2.5YR 4/6	40	С	PL	Loamy/Clay	ev	Prominent redox con	
0 10	1011(2)2		2.0117 #0				ealing/ elay	<u>.</u>		
								·	silty clay loa	[[]
Гуре: С=С	oncentration, D=Depl	etion, RM	=Reduced Matrix, I	MS=Masl	ked Sand	d Grains.	²Lo	cation:	PL=Pore Lining, M=Mat	rix.
•	Indicators:								for Problematic Hydri	c Soils <sup>3</sup> :
Histosol	( )		Sandy Gle	•	rix (S4)		?	-	Prairie Redox (A16)	
	pipedon (A2)		Sandy Re					-	anganese Masses (F12)	)
Black Hi	( )		Stripped N		6)				arent Material (F21)	
	n Sulfide (A4)		Dark Surfa					-	hallow Dark Surface (F2	22)
	d Layers (A5)		Loamy Mu	-				Other	(Explain in Remarks)	
	ıck (A10)		Loamy Gle	•	• •					
	d Below Dark Surface	(A11)	Depleted I				0			
	ark Surface (A12)		X Redox Da		• •		°Inc		of hydrophytic vegetatic	
	lucky Mineral (S1)		Depleted I		• • •				d hydrology must be pre	
5 cm Mu	icky Peat or Peat (S3	)	Redox De	pression	s (F8)			unless	disturbed or problemati	С.
Type: Depth (ir	Layer (if observed): none nches):						Hydric Soil Pr	resent?	Yes <u>X</u>	No
Type: Depth (ir Remarks:	none						Hydric Soil Pr	resent?	Yes <u>X</u>	No
Type: Depth (ir Remarks:	none nches):						Hydric Soil Pr	resent?	Yes <u>X</u>	_ No
Type: Depth (ir Remarks: IYDROLO Wetland Hy	none hches): OGY drology Indicators:	ne is requi	ired: check all that	200100						
Type: Depth (ir Remarks: IYDROLC Wetland Hy Primary India	none nches): DGY drology Indicators: cators (minimum of o	ne is requ						condary	Indicators (minimum of	
Type: Depth (ir Remarks: YDROLC Yetland Hy Primary India Surface	none nches): DGY drology Indicators: cators (minimum of o Water (A1)	ne is requ	Water-Sta	ined Lea				condary Surfac	Indicators (minimum of e Soil Cracks (B6)	
Type: Depth (ir Remarks: YDROLC Yetland Hy Primary India Surface High Wa	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne is requ	Water-Sta	ined Lea auna (B1	3)			condary Surfac Draina	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10)	
Type: Depth (ir Remarks: YDROLO Vetland Hy Primary India Surface High Wa Saturatio	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)	ne is requ	Water-Sta	ined Lea auna (B1 atic Plant	3) s (B14)		<u>Sec</u>	condary Surfac Draina Dry-Se	Indicators (minimum of e Soil Cracks (B6)	
Type: Depth (ir Remarks: YDROLC Vetland Hyp Primary India Surface High Wa Saturatic Water M	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	ne is requ	Water-Sta Aquatic Fa True Aqua	ined Lea auna (B1 atic Plants Sulfide C	3) s (B14) Ddor (C1	)	<u>Sec</u>	condary Surfac Draina Dry-Se Crayfis	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2)	two requir
Type: Depth (ir Remarks: YDROLO Yetland Hyr Primary India Surface High Wa Saturatio Water M Sedimer	none hches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen	ined Lea auna (B1 atic Plant Sulfide C Rhizosph	3) s (B14) Odor (C1 eres on I	) ₋iving Ro	<u>Sec</u>	condary Surfac Draina Dry-Se Crayfis Satura	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8)	two requir
Type: Depth (ir Remarks: YDROLC Yetland Hy Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F	ined Lea auna (B1 atic Plants Sulfide C Rhizosph of Reduc	3) s (B14) Ddor (C1 eres on I ced Iron (	) ₋iving Ro (C4)	<u>Sec</u>	condary Surfac Draina Dry-Se Crayfis Satura Sturte	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im	two requir
Type: Depth (ir Remarks: YDROLC Yetland Hyr Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F	ined Lea auna (B1 atic Plants Sulfide ( Rhizospho of Reduc	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti	) ₋iving Ro (C4)	<u>Sec</u> 	condary Surfac Draina Dry-Se Crayfis Satura Sturte Geom	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D	two requir
Type: Depth (ir Remarks: YDROLC Yetland Hyp Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	nagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Odor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9)	) ₋iving Rc (C4) Iled Soils	<u>Sec</u> 	condary Surfac Draina Dry-Se Crayfis Satura Sturte Geom	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2)	two requir
Type: Depth (ir Remarks: YDROLC YUROLC Vetland Hy Primary India Saturatic Water M Saturatic Water M Saturatic Unift Dep Algal Ma Iron Dep Inundatic Sparsely	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations:	nagery (B	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or	ined Lea auna (B1 Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Odor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9)	) ₋iving Rc (C4) Iled Soils	<u>Sec</u> 	condary Surfac Draina Dry-Se Crayfis Satura Sturte Geom	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2)	two requir
Type: Depth (ir Remarks: YDROLO Yetland Hyp Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatid Sparsely Field Obser Surface Wat	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye	nagery (B Surface (I s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 sulfide C Rhizosph of Reduc on Reduc Surface Well Data blain in R	3) s (B14) Odor (C1 eres on l ced Iron ( tion in Ti (C7) a (D9) remarks) nches):	) _iving Rc (C4) Iled Soils	<u>Sec</u> 	condary Surfac Draina Dry-Se Crayfis Satura Sturte Geom	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2)	two requir
Type: Depth (ir Remarks: Primary India Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Sparsely Field Obser Surface Wat	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye	nagery (B Surface (I s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp No X No X	ined Lea auna (B1 sulfide C Rhizosph of Reduc s Surface Well Dat blain in R Depth (ii Depth (ii	3) s (B14) Odor (C1 eres on l ced Iron ( tion in Ti (C7) a (D9) lemarks) nches):	) Living Rc C4) Iled Soils	<u>Sec</u> pots (C3) s (C6)	Condary Surfac Draina Dry-Se Crayfis Satura Stunte Geom FAC-N	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2) leutral Test (D5)	two requir agery (C9)
Type: Depth (ir Remarks: Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Vater Table Saturation P	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye Present? Ye	nagery (B Surface (I s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 sulfide C Rhizosph of Reduc on Reduc Surface Well Data blain in R	3) s (B14) Odor (C1 eres on l ced Iron ( tion in Ti (C7) a (D9) lemarks) nches):	) Living Rc C4) Iled Soils	<u>Sec</u> 	Condary Surfac Draina Dry-Se Crayfis Satura Stunte Geom FAC-N	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2) leutral Test (D5)	two requir
Type: Depth (ir Remarks: Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Vater Table Saturation P includes ca	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye pillary fringe)	nagery (B Surface (I s s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 ttic Plant: Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat Dlain in R Depth (in Depth (in	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches): nches):	) Living Rc C4) Iled Soils	oots (C3) x wetland Hy	Condary Surfac Draina Dry-Se Crayfis Satura Stunte Geom FAC-N	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2) leutral Test (D5)	two requir agery (C9)
Type: Depth (ir Remarks: Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Vater Table Saturation P includes ca	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye Present? Ye	nagery (B Surface (I s s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 ttic Plant: Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat Dlain in R Depth (in Depth (in	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches): nches):	) Living Rc C4) Iled Soils	oots (C3) x wetland Hy	Condary Surfac Draina Dry-Se Crayfis Satura Stunte Geom FAC-N	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2) leutral Test (D5)	two requir agery (C9)
Type: Depth (ir Remarks: Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Obser Surface Wat Vater Table Saturation P includes ca	none nches): DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) bosits (B3) at or Crust (B4) bosits (B5) on Visible on Aerial Ir / Vegetated Concave vations: ter Present? Ye Present? Ye pillary fringe)	nagery (B Surface (I s s	Water-Sta Aquatic Fa True Aqua Hydrogen X Oxidized F Presence Recent Irc Thin Muck 7) Gauge or 38) Other (Exp No X No X No X	ined Lea auna (B1 ttic Plant: Sulfide C Rhizosph of Reduc on Reduc Surface Well Dat Dlain in R Depth (in Depth (in	3) s (B14) Ddor (C1 eres on I ced Iron ( tion in Ti (C7) a (D9) emarks) nches): nches):	) Living Rc C4) Iled Soils	oots (C3) x wetland Hy	Condary Surfac Draina Dry-Se Crayfis Satura Stunte Geom FAC-N	Indicators (minimum of e Soil Cracks (B6) ge Patterns (B10) eason Water Table (C2) sh Burrows (C8) tion Visible on Aerial Im d or Stressed Plants (D orphic Position (D2) leutral Test (D5)	two requir agery (C9)

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# C. Field Survey Site Photographs



### Light Source BP – Bellflower Solar Project Culvert Plot Photographs September 10–11, 2019



CV001CM Bearing: WEST Date: 09/11/2019



CV002TMM Bearing INLET Date: 09/11/2019



CV004TMM Bearing: OUTLET Date: 09/11/2019



CV001TMM Bearing: OUTLET Date: 09/11/2019



CV003TMM Bearing: OUTLET Date: 09/11/2019



CV005TMM Bearing: OUTLET Date: 09/11/2019



Light Source BP – Bellflower Solar Project Culvert Plot Photographs September 10–11, 2019



CV006TMM Bearing: OUTLET Date: 09/11/2019



CV007TMM Bearing: OUTLET Date: 09/11/2019



CV008TMM Bearing: OUTLET Date: 09/11/2019



Light Source BP – Bellflower Solar Project Habitat Observation Plot Photographs September 10–11, 2019



HO001CM Bearing: SOUTHWEST Date: 09/10/2019



HO001TMM Bearing: NO BEARING Date: 09/10/2019



HO001TMM Bearing: NO BEARING Date: 09/10/2019



HO002TMM Bearing: NO BEARING Date: 09/11/2019



HO003TMM Bearing: NO BEARING Date: 09/11/2019



Light Source BP – Bellflower Solar Project Stream Crossing Plot Photographs September 10–11, 2019





S01-EPH; SC001TMM Bearing: ACROSS Date: 09/10/2019



S01-EPH; SC001TMM Bearing: UPSTREAM Date: 09/10/2019



S02-EPH; SC002TMM Bearing: ACROSS Date: 09/10/2019



S02-EPH; SC002TMM Bearing: DOWNSTREAM Date: 09/10/2019



S02-EPH; SC002TMM Bearing: UPSTREAM Date: 09/10/2019



Light Source BP – Bellflower Solar Project Stream Crossing Plot Photographs September 10–11, 2019



S03-EPH; SC003TMM Bearing: ACROSS Date: 09/10/2019



S03-EPH; SC003TMM Bearing: UPSTREAM Date: 09/10/2019



S03-EPH; SC003TMM Bearing: DOWNSTREAM Date: 09/10/2019



S04-PER; SC004TMM Bearing: ACROSS Date: 09/11/2019



S04-PER; SC004TMM Bearing: UPSTREAM Date: 09/11/2019



S04-PER; SC004TMM Bearing: NO BEARING Date: 09/11/2019







S04-PER; SC004TMM Bearing: DOWNSTREAM Date: 09/11/2019



S05-INT; SC005TMM Bearing: DOWNSTREAM Date: 09/11/2019



S06-EPH; SC006TMM Bearing: ACROSS Date: 09/11/2019



S06-EPH; SC006TMM Bearing: DOWNSTREAM Date: 09/11/2019

S05-INT; SC005TMM Bearing: ACROSS Date: 09/11/2019





S06-EPH; SC006TMM Bearing: UPSTREAM Date: 09/11/2019



S07-PER; SC007TMM Bearing: UPSTREAM Date: 09/11/2019



S07-PER; SC007TMM Bearing: ACROSS Date: 09/11/2019



S07-PER; SC007TMM Bearing: DOWNSTREAM Date: 09/11/2019





ST001CM Bearing: SOUTHWEST Date: 09/10/2019



ST002TMM Bearing: NORTH Date: 09/11/2019



ST003TMM Bearing: NORTH Date: 09/11/2019



ST001TMM Bearing: NORTH Date: 09/10/2019



ST002TMM Bearing: SOUTH Date: 09/11/2019



ST003TMM Bearing: WEST Date: 09/11/2019





RU001CM Bearing: NORTH Date: 09/10/2019



RU001CM Bearing: SOUTH Date: 09/10/2019



RU001TMM Bearing: EAST Date: 09/10/2019



RU001TMM Bearing: SOIL Date: 09/10/2019



RU001TMM Bearing: WEST Date: 09/10/2019



RU002CM Bearing: EAST Date: 09/10/2019





RU002CM Bearing: WEST Date: 09/10/2019



RU002TMM Bearing: EAST Date: 09/10/2019



RU002TMM Bearing: SOIL Date: 09/10/2019



RU003CM Bearing: EAST Date: 09/10/2019



RU002TMM Bearing: WEST Date: 09/10/2019



RU003CM Bearing: SOIL Date: 09/10/2019





RU003CM Bearing: WEST Date: 09/10/2019



RU003TMM Bearing: EAST Date: 09/10/2019



RU003TMM Bearing: SOIL Date: 09/10/2019



RU004CM Bearing: EAST Date: 09/10/2019



RU003TMM Bearing: WEST Date: 09/10/2019



RU004CM Bearing: WEST Date: 09/10/2019





RU004TMM Bearing: EAST Date: 09/10/2019



RU004TMM Bearing: SOIL Date: 09/10/2019



RU004TMM Bearing: WEST Date: 09/10/2019



RU005CM Bearing: SOUTH Date: 09/10/2019



RU005CM Bearing: EAST Date: 09/10/2019



RU005TMM Bearing: EAST Date: 09/10/2019





RU005TMM Bearing: SOIL Date: 09/10/2019



RU006CM Bearing: EAST Date: 09/10/2019



RU006CM Bearing: WEST Date: 09/10/2019



RU005TMM Bearing: WEST Date: 09/10/2019



RU006CM Bearing: SOIL Date: 09/10/2019



RU006TMM Bearing: SOIL Date: 09/10/2019





RU006TMM Bearing: NORTHWEST Date: 09/10/2019



RU006TMM Bearing: WEST Date: 09/10/2019



RU007CM Bearing: EAST Date: 09/10/2019



RU007CM Bearing: WEST Date: 09/10/2019



RU007CM Bearing: SOIL Date: 09/10/2019



RU007TMM Bearing: EAST Date: 09/10/2019





RU007TMM Bearing: SOIL Date: 09/10/2019





RU008TMM Bearing: SOUTH Date: 09/10/2019



RU007TMM Bearing: WEST Date: 09/10/2019



RU008TMM Bearing: SOIL Date: 09/10/2019



RU009TMM Bearing: EAST Date: 09/10/2019





RU009TMM Bearing: SOIL Date: 09/10/2019



RU009TMM Bearing: NORTHWEST Date: 09/10/2019



RU010CM Bearing: NORTH Date: 09/11/2019



RU010CM Bearing: SOUTH Date: 09/11/2019

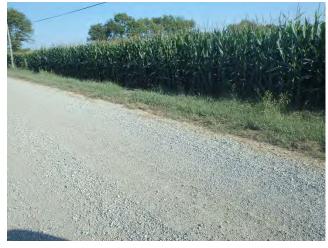


RU010CM Bearing: SOIL Date: 09/11/2019



RU010TMM Bearing: EAST Date: 09/10/2019





RU010TMM Bearing: WEST Date: 09/10/2019



RU011CM Bearing: SOUTH Date: 09/11/2019



RU011TMM Bearing: WEST Date: 09/10/2019



RU011CM Bearing: NORTH Date: 09/11/2019



RU011TMM Bearing: SOUTHEAST Date: 09/10/2019



RU012CM Bearing: SOIL Date: 09/11/2019





RU012CM Bearing: SOUTH Date: 09/11/2019



RU012CM Bearing: WEST Date: 09/11/2019



RU012TMM Bearing: EAST Date: 09/10/2019



RU013CM Bearing: EAST Date: 09/11/2019



RU012TMM Bearing: WEST Date: 09/10/2019



RU013CM Bearing: SOIL Date: 09/11/2019





RU013CM Bearing: WEST Date: 09/11/2019



RU013TMM Bearing: NORTH Date: 09/10/2019



RU013TMM Bearing: SOUTHEAST Date: 09/10/2019



RU014CM Bearing: SOIL Date: 09/11/2019



RU014CM Bearing: EAST Date: 09/11/2019



RU014CM Bearing: WEST Date: 09/11/2019





RU014TMM Bearing: NORTH Date: 09/11/2019



RU014TMM Bearing: SOIL Date: 09/11/2019



RU014TMM Bearing: SOUTH Date: 09/11/2019



RU015CM Bearing: SOIL Date: 09/11/2019



RU015CM Bearing: EAST Date: 09/11/2019



RU015CM Bearing: WEST Date: 09/11/2019





RU015TMM Bearing: NORTH Date: 09/11/2019



RU015TMM Bearing: SOIL Date: 09/11/2019



RU015TMM Bearing: SOUTH Date: 09/11/2019



RU016TMM Bearing: WEST Date: 09/11/2019



RU016TMM Bearing: EAST Date: 09/11/2019



RU017CM Bearing: EAST Date: 09/11/2019





RU017CM Bearing: SOIL Date: 09/11/2019



RU017TMM Bearing: NORTH Date: 09/11/2019



RU018CM Bearing: EAST Date: 09/11/2019



RU017CM Bearing: WEST Date: 09/11/2019



RU017TMM Bearing: SOUTH Date: 09/11/2019



RU018CM Bearing: SOIL Date: 09/11/2019





RU018CM Bearing: WEST Date: 09/11/2019



RU018TMM Bearing: WEST Date: 09/11/2019



RU019CM Bearing: SOIL Date: 09/11/2019



RU018TMM Bearing: EAST Date: 09/11/2019



RU019CM Bearing: EAST Date: 09/11/2019



RU019CM Bearing: WEST Date: 09/11/2019





RU019TMM Bearing: EAST Date: 09/11/2019





RU020CM Bearing: EAST Date: 09/11/2019



RU020CM Bearing: WEST Date: 09/11/2019



RU020CM Bearing: SOIL Date: 09/11/2019



RU020TMM Bearing: NORTH Date: 09/11/2019





RU020TMM Bearing: SOUTH Date: 09/11/2019



RU021TMM Bearing: WEST Date: 09/11/2019



RU022TMM Bearing: WEST Date: 09/11/2019



RU021TMM Bearing: EAST Date: 09/11/2019



RU022TMM Bearing: EAST Date: 09/11/2019



RU023TMM Bearing: EAST Date: 09/11/2019





RU023TMM Bearing: SOIL Date: 09/11/2019



RU023TMM Bearing: WEST Date: 09/11/2019



RU024TMM Bearing: EAST Date: 09/11/2019



RU025TMM Bearing: NORTH Date: 09/11/2019



RU024TMM Bearing: WEST Date: 09/11/2019



RU025TMM Bearing: WEST Date: 09/11/2019





RU026TMM Bearing: NORTH Date: 09/11/2019



RU026TMM Bearing: SOUTHWEST Date: 09/11/2019



RU027TMM Bearing: EAST Date: 09/11/2019



RU027TMM Bearing: WEST Date: 09/11/2019



RU028TMM Bearing: NORTHEAST Date: 09/11/2019



RU028TMM Bearing: NORTHWEST Date: 09/11/2019





RU029TMM Bearing: NORTHWEST Date: 09/11/2019



RU029TMM Bearing: SOUTH Date: 09/11/2019



RU031TMM Bearing: NORTH Date: 09/11/2019



RU031TMM Bearing: SOUTH Date: 09/11/2019



RU032TMM Bearing: EAST Date: 09/11/2019



RU032TMM Bearing: NORTH Date: 09/11/2019





RU032TMM Bearing: NORTHEAST Date: 09/11/2019



WD003CM Bearing: SOIL Date: 09/10/2019



WD004CM Bearing: SOIL Date: 09/11/2019



WD003CM Bearing: NORTH Date: 09/10/2019



WD003CM Bearing: SOUTH Date: 09/10/2019



WD004CM Bearing: NORTHWEST Date: 09/11/2019





WD004CM Bearing: SOUTHEAST Date: 09/11/2019



WD004TMM Bearing: EAST Date: 09/11/2019



WD004TMM Bearing: SOIL Date: 09/11/2019



WD005TMM Bearing: EAST Date: 09/11/2019



WD004TMM Bearing: WEST Date: 09/11/2019



WD005TMM Bearing: SOIL Date: 09/11/2019





WD005TMM Bearing: WEST Date: 09/11/2019



WD006CM Bearing: SOIL Date: 09/11/2019



WD006CM Bearing: EAST Date: 09/11/2019



WD006CM Bearing: WEST Date: 09/11/2019





W01-PFO; WD001TMM Bearing: NORTH Date: 09/10/2019



W01-PFO; WD001TMM Bearing: SOUTH Date: 09/10/2019



W01-PFO; WD001TMM Bearing: SOIL Date: 09/10/2019



W02-PEM; WD002CM Bearing: EAST Date: 09/10/2019



W02-PEM; WD002CM Bearing: SOIL Date: 09/10/2019



W02-PEM; WD002CM Bearing: WEST Date: 09/10/2019





W03-PEM; WD001CM Bearing: EAST Date: 09/10/2019



W03-PEM; WD001CM Bearing: SOIL Date: 09/10/2019



W03-PEM; WD001CM Bearing: WEST Date: 09/10/2019



W04-PEM; WD002TMM Bearing: NORTH Date: 09/11/2019



W04-PEM; WD002TMM Bearing: SOIL Date: 09/11/2019



W04-PEM; WD002TMM Bearing: SOUTH Date: 09/11/2019





W05-PEM; WD003TMM Bearing: NORTH Date: 09/11/2019



W05-PEM; WD003TMM Bearing: SOIL Date: 09/11/2019



W05-PEM; WD003TMM Bearing: NORTHWEST Date: 09/11/2019



W06-PEM; WD005CM Bearing: NORTH Date: 09/11/2019



W06-PEM; WD005CM Bearing: SOIL Date: 09/11/2019



W06-PEM; WD005CM Bearing: SOUTH Date: 09/11/2019





W07-PFO; WD007CM Bearing: NORTH Date: 09/11/2019



W07-PFO; WD007CM Bearing: SOIL Date: 09/11/2019



W07-PFO; WD007CM Bearing: SOUTH Date: 09/11/2019

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# D. NRCS Soil Map Unit Descriptions

# Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

# Report—Map Unit Description (Brief, Generated)

### Henry County, Indiana

Map Unit: CeB2—Celina silt loam, 2 to 6 percent slopes, eroded

### Component: Celina, eroded (90%)

The Celina, eroded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on Wisconsin ground moraines, Wisconsin till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March, April, May, June, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 33 percent.

### **Component:** Crosby (4%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

### **Component:** Kokomo (4%)

Generated brief soil descriptions are created for major soil components. The Kokomo soil is a minor component.

### **Component:** Miamian (2%)

Generated brief soil descriptions are created for major soil components. The Miamian soil is a minor component.

### Map Unit: CrA—Crosby silt loam, 0 to 2 percent slopes

### Component: Crosby (85%)

The Crosby component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

### Component: Williamstown, eroded (8%)

Generated brief soil descriptions are created for major soil components. The Williamstown soil is a minor component.

### **Component:** Treaty, drained (7%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

Map Unit: Cy—Cyclone silty clay loam, 0 to 2 percent slopes

Component: Cyclone (83%)



The Cyclone component makes up 83 percent of the map unit. Slopes are 0 to 2 percent. This component is on till plains on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

### Component: Xenia (5%)

Generated brief soil descriptions are created for major soil components. The Xenia soil is a minor component.

### **Component:** Fincastle (5%)

Generated brief soil descriptions are created for major soil components. The Fincastle soil is a minor component.

### **Component:** Sugarvalley (3%)

Generated brief soil descriptions are created for major soil components. The Sugarvalley soil is a minor component.

### **Component:** Starks (2%)

Generated brief soil descriptions are created for major soil components. The Starks soil is a minor component.

### **Component:** Morningsun (2%)

Generated brief soil descriptions are created for major soil components. The Morningsun soil is a minor component.

Map Unit: EdA—Eldean silt loam, 0 to 2 percent slopes

### Component: Eldean (85%)

The Eldean component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash terraces on outwash plains. The parent material consists of loamy outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 52 percent.

### **Component:** Westland (5%)

Generated brief soil descriptions are created for major soil components. The Westland soil is a minor component.

### **Component:** Ockley (5%)

Generated brief soil descriptions are created for major soil components. The Ockley soil is a minor component.

### **Component:** Sleeth (3%)

Generated brief soil descriptions are created for major soil components. The Sleeth soil is a minor component.

### **Component:** Thackery (2%)

Generated brief soil descriptions are created for major soil components. The Thackery soil is a minor component.

Map Unit: LeB2—Losantville silt loam, 2 to 6 percent slopes, eroded

### **Component:** Losantville (97%)

The Losantville component makes up 97 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer, densic material, is 12 to 20 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 38 percent.

### **Component:** Treaty (3%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

Map Unit: MIA—Miami silt loam, gravelly substratum, 0 to 2 percent slopes

Component: Miami, gravelly substratum (97%)



The Miami, gravelly substratum component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of loess over loamy till over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 60 to 80 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

#### **Component:** Treaty (3%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

**Map Unit:** MmB2—Miamian silt loam, New Castle Till Plain, 2 to 6 percent slopes, eroded

#### Component: Miamian, eroded (90%)

The Miamian, eroded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 30 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

#### **Component:** Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

#### Component: Treaty (5%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

Map Unit: Mx—Millgrove loam

Component: Millgrove (100%)

The Millgrove component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on stream terraces. The parent material consists of loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map Unit: Sk-Sleeth silt loam, 0 to 2 percent slopes

#### Component: Sleeth (80%)

The Sleeth component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash terraces on till plains. The parent material consists of loess over loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 38 to 50 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 9 inches during January, February, March, April, May, June, October, November, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

#### Component: Sleeth, till substratum (15%)

Generated brief soil descriptions are created for major soil components. The Sleeth, till substratum soil is a minor component.

#### Component: Westland, drained (3%)

Generated brief soil descriptions are created for major soil components. The Westland, drained soil is a minor component.

#### **Component:** Eldean (1%)

Generated brief soil descriptions are created for major soil components. The Eldean soil is a minor component.

#### Component: Ockley (1%)

Generated brief soil descriptions are created for major soil components. The Ockley soil is a minor component.

Map Unit: We—Westland silt loam

#### Component: Westland (100%)

The Westland component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on stream terraces. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 30 to 55 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

### Rush County, Indiana

Map Unit: CrA—Crosby silt loam, 0 to 2 percent slopes

#### **Component:** Crosby (85%)

The Crosby component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on Wisconsin ground moraines, till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

#### Component: Williamstown, eroded (8%)

Generated brief soil descriptions are created for major soil components. The Williamstown soil is a minor component.

#### Component: Treaty, drained (7%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

Map Unit: Cy—Cyclone silty clay loam, 0 to 2 percent slopes

**Component:** Cyclone (83%)

The Cyclone component makes up 83 percent of the map unit. Slopes are 0 to 2 percent. This component is on till plains on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, December. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

#### **Component:** Fincastle (5%)

Generated brief soil descriptions are created for major soil components. The Fincastle soil is a minor component.

#### Component: Xenia (5%)

Generated brief soil descriptions are created for major soil components. The Xenia soil is a minor component.

#### **Component:** Sugarvalley (3%)

Generated brief soil descriptions are created for major soil components. The Sugarvalley soil is a minor component.

#### **Component:** Starks (2%)

Generated brief soil descriptions are created for major soil components. The Starks soil is a minor component.

#### **Component:** Morningsun (2%)

Generated brief soil descriptions are created for major soil components. The Morningsun soil is a minor component.

Map Unit: EdB2—Eldean loam, 2 to 6 percent slopes, eroded

Component: Eldean, eroded (90%)



The Eldean, eroded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash terraces on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 53 percent.

#### **Component:** Ockley (7%)

Generated brief soil descriptions are created for major soil components. The Ockley soil is a minor component.

#### **Component:** Westland, drained (3%)

Generated brief soil descriptions are created for major soil components. The Westland soil is a minor component.

**Map Unit:** MpB2—Miamian silt loam, New Castle Till Plain, 2 to 6 percent slopes, eroded

#### Component: Miamian, eroded (90%)

The Miamian, eroded component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 30 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 35 percent.

#### Component: Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

#### Component: Treaty (5%)

Generated brief soil descriptions are created for major soil components. The Treaty soil is a minor component.

Map Unit: MrA—Miami silt loam, gravelly substratum, 0 to 2 percent slopes

Component: Miami, gravelly substratum (100%)

The Miami, gravelly substratum component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of loess over loamy till over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 30 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria.

Map Unit: MuC3—Miamian clay loam, 6 to 12 percent slopes, severely eroded

#### Component: Miamian, severely eroded (90%)

The Miamian, severely eroded component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains on till plains. The parent material consists of loamy till. Depth to a root restrictive layer, densic material, is 21 to 38 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April, May. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

#### **Component:** Brookston (5%)

Generated brief soil descriptions are created for major soil components. The Brookston soil is a minor component.

#### **Component:** Hennepin (5%)

Generated brief soil descriptions are created for major soil components. The Hennepin soil is a minor component.

Map Unit: OcA—Ockley silt loam, 0 to 2 percent slopes

**Component:** Ockley (85%)



The Ockley component makes up 85 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces, outwash plains. The parent material consists of loess over loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

#### Component: Wawaka (5%)

Generated brief soil descriptions are created for major soil components. The Wawaka soil is a minor component.

#### **Component:** Fox (5%)

Generated brief soil descriptions are created for major soil components. The Fox soil is a minor component.

#### **Component:** Digby (3%)

Generated brief soil descriptions are created for major soil components. The Digby soil is a minor component.

#### **Component:** Haney (2%)

Generated brief soil descriptions are created for major soil components. The Haney soil is a minor component.

Map Unit: OcB2—Ockley silt loam, 2 to 6 percent slopes, eroded

#### Component: Ockley, eroded (85%)

The Ockley, eroded component makes up 85 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains, stream terraces. The parent material consists of loess over loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent.

**Component:** Ockley, eroded, till substratum (5%)

Generated brief soil descriptions are created for major soil components. The Ockley soil is a minor component.

#### **Component:** Sleeth (5%)

Generated brief soil descriptions are created for major soil components. The Sleeth soil is a minor component.

#### **Component:** Westland (5%)

Generated brief soil descriptions are created for major soil components. The Westland soil is a minor component.

Map Unit: So—Sloan silt loam, 0 to 2 percent slopes, frequently flooded

#### **Component:** Sloan (80%)

The Sloan component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains on outwash plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent.

#### **Component:** Southwest, drained (5%)

Generated brief soil descriptions are created for major soil components. The Southwest, drained soil is a minor component.

#### Component: Shoals (5%)

Generated brief soil descriptions are created for major soil components. The Shoals soil is a minor component.

#### **Component:** Lash (5%)

Generated brief soil descriptions are created for major soil components. The Lash soil is a minor component.

#### **Component:** Bellcreek (5%)

Generated brief soil descriptions are created for major soil components. The Bellcreek soil is a minor component.

Map Unit: Tr—Treaty silty clay loam, 0 to 1 percent slopes

#### **Component:** Treaty, frequently ponded, drained (80%)

The Treaty, frequently ponded, drained component makes up 80 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on till plains. The parent material consists of silty material or loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 13 percent.

#### **Component:** Crosby (5%)

Generated brief soil descriptions are created for major soil components. The Crosby soil is a minor component.

#### **Component:** Pella, frequently ponded, drained (5%)

Generated brief soil descriptions are created for major soil components. The Pella, frequently ponded, drained soil is a minor component.

#### **Component:** Rensselaer, frequently ponded, drained (5%)

Generated brief soil descriptions are created for major soil components. The Rensselaer, frequently ponded, drained soil is a minor component.

#### **Component:** Southwest, frequently ponded, drained (5%)

Generated brief soil descriptions are created for major soil components. The Southwest, frequently ponded, drained soil is a minor component.

Map Unit: Ws-Westland clay loam, 0 to 1 percent slopes

#### **Component:** Westland, drained (95%)

The Westland, drained component makes up 95 percent of the map unit. Slopes are 0 to 1 percent. This component is on depressions on wide stream terraces on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria.

#### **Component:** Sleeth (4%)

Generated brief soil descriptions are created for major soil components. The Sleeth soil is a minor component.

#### Component: Ockley (1%)

Generated brief soil descriptions are created for major soil components. The Ockley soil is a minor component.

### **Data Source Information**

Soil Survey Area: Henry County, Indiana Survey Area Data: Version 21, Sep 16, 2019 Soil Survey Area: Rush County, Indiana Survey Area Data: Version 23, Sep 16, 2019



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# E. USFWS IPaC Report

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE Indiana Ecological Services Field Office 620 South Walker Street Bloomington, IN 47403-2121 Phone: (812) 334-4261 Fax: (812) 334-4273 http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html



In Reply Refer To: Consultation Code: 03E12000-2019-SLI-1640 Event Code: 03E12000-2019-E-07209 Project Name: Bellflower Solar Site August 29, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project "may affect" listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <u>http://ecos.fws.gov/ipac/</u> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <u>http://www.fws.gov/midwest/endangered/section7/</u> <u>s7process/index.html</u>. This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <u>http://www.fws.gov/midwest/</u><u>midwestbird/EaglePermits/index.html</u> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

Official Species List

# **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Indiana Ecological Services Field Office** 620 South Walker Street Bloomington, IN 47403-2121 (812) 334-4261

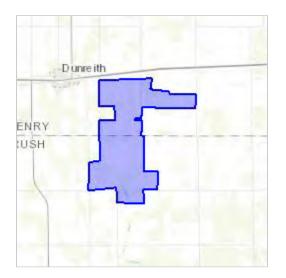
## **Project Summary**

Consultation Code:	03E12000-2019-SLI-1640
Event Code:	03E12000-2019-E-07209
Project Name:	Bellflower Solar Site
Project Type:	POWER GENERATION

Project Description: Proposed Solar Facility Location

### Project Location:

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/39.78571702817483N85.41660075909297W</u>



Counties: Henry, IN | Rush, IN

## **Endangered Species Act Species**

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Indiana Bat Myotis sodalis	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat.	
Species profile: https://ecos.fws.gov/ecp/species/5949	
Species survey guidelines:	
https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf	
Northern Long-eared Bat Myotis septentrionalis	Threatened
No critical habitat has been designated for this species.	
This species only needs to be considered under the following conditions:	
• Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the	
4(d) rule streamlined process. Transportation projects may consult using the programmatic	
process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html	
Species profile: https://ecos.fws.gov/ecp/species/9045	

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.