

March 30, 2022

Tennessee Department of Environment and Conservation Division of Water Resources – Nashville Environmental Field Office 711 R.S. Gass Boulevard Nashville, Tennessee 37216

Subject: Hydrologic Determination Bellamy Property Clarksville, Montgomery County, Tennessee Latitude 36.609700° North and Longitude -87.242000° West Project No. 3619-001-30

To Whom it May Concern:

Spectrum Environmental, Inc. (Spectrum) was contracted by Provident Realty Advisors to perform a Hydrologic Determination of the potential watercourses at the proposed Bellamy Property project in Clarksville, Montgomery County, Tennessee.

This report is submitted with the knowledge of the property owner and the prospective developer. The purpose of this report is to obtain TDEC's concurrence with this hydrologic determination to inform site planning for a proposed development on the property. The following information details the completed efforts in evaluating the subject site for the presence and types of potentially jurisdictional waters present within the property boundary.

We attest that all information submitted herein and in the accompanying attachments is true, accurate, and complete. We appreciate your review of this information and request your concurrence of our jurisdictional determinations. Should your review necessitate a site visit or should you have any questions or need additional information, please feel free to contact Kari Kennel at (901) 831-3565 (kkennel@specenviro.com).

Sincerely, SPECTRUM ENVIRONMENTAL, INC.

Kari A. Kennel, OHP-IT

Staff Scientist

Enclosure - HD Evaluation Report

Manan R. Rubin, QHP

Nashville Division Manager Natural Resource Biologist

Corporate Office Alabaster, AL (205) 664-2000 www.specenviro.com

Mid-South Office Nashville, TN (615) 469-4941 Coastal Office Robertsdale, AL (205) 651-0886



Hydrologic Determination

Bellamy Property Clarksville, Montgomery County, Tennessee

Applicant:

Provident Realty Advisors 10210 N. Central Expressway, Suite 300 Dallas, TX 75231

Report Issuance Date: March 30, 2022

Spectrum Project Number: 3619-001-30

www.specenviro.com

Corporate Office Alabaster, AL (205) 664-2000 Mid-South Office Nashville, TN (615) 469-4941 Coastal Office Robertsdale, AL (205) 651-0886

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ACRONYMS

DWR	
	Division of Water Resources
EPA	
	Environmental Protection Agency
HD	
LF	Hydrologic Determination
Lr	Linear Feet
NEFO	
	Nashville Environmental Field Office
NWI	
	National Wetland Inventory
NRCS	
ouw	The National Resources Conservation Service
OHWM	Ordinary High Water Mark
Project	· ·
110jeer	±205-acre tract in Clarksville, Montgomery County, Tennessee
Spectru	
-	Spectrum Environmental, Inc.
TCA	
	Tennessee Code Annotated
TDEC	Tonnessee Department of Environment and Conservation
UDF	Tennessee Department of Environment and Conservation
UDI	Upland Drainage Feature
USDA	opiana Dramago i outuro
	United States Department of Agriculture
USFWS	
	United States Fish and Wildlife Service
USGS	
WSS	United States Geological Survey
W33	Web Soil Survey
WWC	
	Wet Weather Conveyance

1.0 EXECUTIVE SUMMARY

Spectrum Environmental, Inc. (Spectrum) was contracted by Provident Realty Group to perform a Hydrologic Determination (HD) within an area encompassing ± 205 -acres in Clarksville, Montgomery County, Tennessee (Project Area). The Project proponent's information is as follows:

Provident Realty Advisors Attn: Dorothy Parks 10210 N. Central Expressway, Suite 300 Dallas, Texas 75231 DParks@providentrealty.net

In compliance with the Tennessee Code Annotated (TCA), Section 69-3-105, this report contains a delineation of resources that, in Spectrum's opinion, potentially fall or do not fall under the jurisdiction of the Tennessee Department of Environment and Conservation (TDEC). The desktop review and field delineation were performed by Spectrum Biologists on September 14, November 8, and November 15, 2021, in which potentially jurisdictional hydrologic features within the Project Area were characterized.

Based on Spectrum's current desktop evaluation and subsequent field survey, it is our determination that the site contains four (4) wetlands and three (3) ponds which, in our opinion, would be considered jurisdictional under the authority of TDEC. The site also contains seven (7) wet weather conveyances, four (4) upland drainage features, and one (1) pond, which in Spectrum's opinion, would not be considered jurisdictional under the authority of TDEC.

Subsequent to the completion of the field evaluation, it was determined that Spectrum should request an HD from TDEC – Nashville Environmental Field Office (NEFO).

2.0 INTRODUCTION

Spectrum was contracted by Provident Realty Group to perform a delineation of HD features for a ± 205 -acre tract of land located in Clarksville, Montgomery County, Tennessee.

The property is currently owned by:

Owner 1: Janice Bellamy Owner 2: David Bellamy Address: 4051 Guthrie Highway Clarksville, TN 37040

Written permission from the current landowner granting TDEC's staff to access the property in order to perform site visits to verify the jurisdictional status of HD features is provided in Appendix A.

Spectrum personnel (Marian Rubin and Kari Kennel) conducted field investigations within the Project Area on September 13, November 8, and November 15, 2021, to determine:

- If potential jurisdictional HD features sites exist within the Project Area; and
- Approximate boundaries of potential jurisdictional and non-jurisdictional HD features within the project area, if present.

This report contains a delineation of HD resources that potentially fall under the jurisdiction of TDEC. The findings of the HD Evaluation are summarized in this report.

3.0 PROJECT LOCATION AND DESCRIPTION

Spectrum performed a jurisdictional determination of a ± 205 -acre site located at 4175 Guthrie Highway in Clarksville, Montgomery County, Tennessee. The Project Area is located south of Guthrie Highway and west of Hampton Station Road. The parcels assessed are identified as 016 00701 000, 016 00700 000, 015 04200 000, and 015 04201 000. The Project Area is centered at Latitude 36.609700° North and Longitude -87.242000° West (Figure 1). The Project Area is located in the Spring Creek watershed (HUC12-051302060603), which is part of the Red River (HUC8-05130206) watershed.

3.1 Land Use and Current/Adjacent Site Conditions

Currently, the Project Area is primarily agricultural farmland and partially forested. The site conditions of the Project Area include agricultural fields, wooded areas, and surface water features. The property was historically utilized as agricultural land. The adjacent site conditions include residential, commercial, and agricultural land uses.

According to the United States Department of Agriculture (USDA) Drought Monitor, the Project Area was experiencing normal conditions during the time of site reconnaissance. According to data obtained from Weather Underground, the closest weather station (KTNCLARK126) site received zero inches of precipitation within 48 hours prior to each day of site reconnaissance (September 13, November 8, and November 15, 2021) (Table 3.1-1).

Date	9/6	9/7	9/8	9/9	9/10	9/11	9/12	9/13
KTNCLARK126	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00

Table 3.1-1 – Rainfall Data

Date	11/1	11/2	11/3	11/4	11/5	11/6	11/7	11/8
KTNCLARK126	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Date	11/8	11/9	11/10	11/11	11/12	11/13	11/14	11/15
KTNCLARK126	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00

Based on the TDEC – Division of Water Resources (DWR) Hydrological Determination Guidance Document Version 1.5 April 2020, the Weather Conditions during the time of the site reconnaissance (September 13, November 8, and November 15, 2021) were determined to be wetter than normal (Table 3.1-2 and 3.1-3). Copies of the Normal Weather Condition calculations are included in Appendix B. This HD was conducted in accordance with the Rule that a one-inch precipitation event in 24 hours did not occur in the area of investigation within the previous 48 hours [0400-40-03-.05(9)].

	Month	Std. Dev.	Minus one Std. Dev (DRY)	Normal (Mean inches)	Plus One Std. Dev. (WET)	Actual Rainfall*	Condition	Condition Value	Month Weight Value	Product of previous two columns
1 st Month Prior	Aug-21	2.03	1.27	3.3	5.33	7.62	Wet	3	3	9
2nd Month Prior	Jul-21	1.82	2.03	3.85	5.67	6.25	Wet	3	2	6
3rd Month Prior	Jun-21	2.22	1.75	3.97	6.19	6.26	Wet	3	1	3
	•		-				•		Sum =	18

Table 3.1-2 – Calculation of Normal Weather Conditions for Months Prior to September

If sum is:		Condition Value:	
6-9	then prior period has been drier than normal	Dry =	1
10-14	then prior period has been normal	Normal =	2
15-18	then prior period has been wetter than normal	Wet =	3

Conclusions:
Actual rainfall obtained from weather underground station KTNCLARK126 (WU73)
Monthly precipitation standard deviation and mean sourced from NOAA PSL - Clarksville (1991-2020)
Weather conditions prior to this period have been wetter than normal.

 Table 3.1-3 – Calculation of Normal Weather Conditions for Months Prior to November

	Month	Std. Dev.	Minus one Std. Dev (DRY)	Normal (Mean inches)	Plus One Std. Dev. (WET)	Actual Rainfall*	Condition	Condition Value	Month Weight Value	Product of previous two columns
1 st Month Prior	Oct-21	1.56	1.27	2.83	4.39	5.43	Wet	3	3	9
2nd Month Prior	Sep-21	1.98	1.21	3.19	5.17	2.74	Normal	2	2	4
3rd Month Prior	Aug-21	2.03	1.27	3.3	5.33	7.62	Wet	3	1	3
									Sum =	16

If sum is:		Condition Value:	
6-9	then prior period has been drier than normal	Dry =	1
10-14	then prior period has been normal	Normal =	2
15-18	then prior period has been wetter than normal	Wet =	3

Conclusions:

Actual rainfall obtained from weather underground station KTNCLARK126 (WU73)

Monthly precipitation standard deviation and mean sourced from NOAA PSL - Clarksville (1991-2020)

Weather conditions prior to this period have been wetter than normal.

3.2 Site Topography, Ecoregion, Soils, and Geology

To help evaluate these physical features, Spectrum reviewed the National Wetland Inventory (NWI) Map for the site. The NWI map depicts one forested wetland on the southeastern portion of the property, one emergent wetland on the southwestern portion of the property, and two freshwater ponds within the survey area. The Survey Area is depicted on the USGS 7.5 Minute Hopkinsville Topographic Map. The site topography reflects a watershed trending toward the northeastern portion of the Project Area.

The Project Area is located in the Western Pennyroyal Karst region (71e) of the Level IV Ecoregion of the Level III Interior Plateau Ecoregion (71). Western Pennyroyal Karst region is described as being a flatter area of irregular plains, with fewer perennial streams, compared to the open hills of the Western Highland Rim (71f). Small sinkholes and depressions are common. The productive soils of this notable agricultural area are formed mostly from a thin loess mantle over residuum of Mississippian-age limestones. Most of the region is cultivated or in pasture; tobacco and livestock are the principal agricultural products, with some corn, soybeans, and small grains. The natural vegetation consisted of oak-hickory forest with mosaics of bluestem prairie. The barrens of Kentucky that extended south into Stewart, Montgomery, and Robertson counties, were once some of the largest natural grasslands in Tennessee (Griffith et al).

Spectrum utilized the NRCS web soil survey to identify the soils present within the Survey Area. Two hydric soils were identified within the Project Area, Guthrie silt loam and Lindell silt loam. In summary the soils present within the Project Area belong to the:

Montgomery County Soils

1. Arrington Silt loam, 0 to 2 percent slopes

Arrington Silt Loam is found on the base slope of floodplains. These soils are formed from silty alluvium derived from limestone and siltstone. A typical profile consists of silt loam. These soils are deep, well-drained, and have a moderately high permeability rate. Depth to restrictive feature is more than eighty inches and depth to the water table is more than 80 inches. This soil is classified as prime farmland. There is no hydric soil rating for this soil.

2. Cumberland silty clay loam, 5 to 12 percent slopes

Cumberland silty clay loam is found on the side slope of hillslopes. These soils are formed from clayey alluvium derived from limestone. A typical profile consists of silty clay loam and clay. These soils are deep, well-drained, and have a moderately high permeability rate. The depth to the water table is more than eighty inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

3. Cumberland soils, cherty variant, 10 to 25 percent slopes

Cumberland soils are found on the side slopes. A typical profile consists of gravelly silty clay loam and gravelly clay. These soils are deep, well-drained, and have a moderately high permeability rate. Depth to restrictive feature and water table is more than eighty inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

4. Dickson silt loam, 2 to 5 percent slopes

Dickson silt loam is found on the crest of flats. These soils are formed from silty loess over clayey residuum weathered from cherty limestone over clayey residuum weathered from limestone or clayey residuum weathered from siltstone. A typical profile consists of silt loam, clay, and bedrock. These soils are 20 to 26 inches to fragipan and 69 to 79 inches to bedrock. These soils are moderately well-drained and have a very low to moderately high permeability rate. The depth to the water table is more than 12 to 26 inches. This soil is classified as prime farmland. There is no hydric soil rating for this soil.

5. Guthrie silt loam, 0 to 2 percent slopes

Guthrie silt loam is found on the base slope of depressions. These soils are formed from noncalcareous loess or silty alluvium. A typical profile consists of silt loam. These soils are 24 to 35 inches to fragipan. These soils are shallow, poorly drained, and have a very low to moderately high permeability rate. The depth of the water table is about zero inches. This soil is not classified as prime farmland. This soil is rated as hydric.

6. Lindell silt loam, 0 to 2 percent slopes

Lindell silt loam is found on the base slope of flood plains. These soils are formed from fine-loamy alluvium derived from limestone and siltstone. A typical profile consists of silt loam and silty clay loam. These soils are more than eighty inches to lithic bedrock. These soils are deep, moderately well-drained, and have a moderately high permeability rate. The depth to the water table is about 12 to 16 inches. This soil is classified as prime farmland. There is no hydric soil rating for this soil.

7. Pembroke silt loam, 2 to 6 percent slopes

Pembroke silt loam is found on the summit of ridges. These soils are formed from thin finesilty noncalcareous loess over clayey residuum weathered from limestone. A typical profile consists of silt loam, silty clay loam, and silty clay. These soils are deep, well-drained, and have a moderately high permeability rate. The depth to the water table is more than eighty inches. This soil is classified as prime farmland. There is no hydric soil rating for this soil.

8. Pembroke silt loam, 6 to 12 percent slopes

Pembroke silt loam is found on the summit of ridges. These soils are formed from thin finesilty noncalcareous loess over clayey residuum weathered from limestone. A typical profile consists of silt loam, silty clay loam, and silty clay. These soils are deep, well-drained, and have a moderately high permeability rate. The depth to the water table is more than eighty inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

The surface geology of the majority of the Survey Area is underlain by St. Genevieve Limestone. St. Genevieve Limestone contains gray limestone, which is slightly oolitic and cherty, and contains some green shale and fine-grained sandstone. The maximum preserved thickness of this formation is 70 feet (Greene et al. 2000).

4.0 ASSESSMENT METHODOLOGY

Spectrum personnel (Marian Rubin, QHP-IT, and Kari Kennel, QHP-IT) performed an HD Evaluation on September 13, November 8, and November 15, 2021, within the Project Area. During the site evaluations, Spectrum personnel observed landforms and characteristics within the Project Area boundary, as well as on adjacent properties to assist in describing representative vegetation and hydrology. The field delineation was performed in accordance with the guidelines established in the <u>Field Guide for Wetland Delineation, 1987 Corps of Engineers Manual (Manual)</u> as well as the <u>Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region</u>: (Version 2.0) – November 2010 (USACE 2010). Under the delineation procedures in this manual, an area must exhibit characteristic wetland hydrology, hydric soils, and hydrophytic vegetation to be considered wetland vegetation was assigned an indicator status and was determined by using the National List of Plant Species That Occur in Wetlands: Eastern Mountains and Piedmont Region (Lichvar et al, 2014). Stream identification was performed using the <u>TDEC Division of Water Pollution Controls' Guidance for Making Hydrologic Determinations</u>, Version 1.5, April 2020.

4.1 Preliminary Desktop Evaluation

Spectrum personnel conducted a desktop review of the proposed Project Area and surrounding habitats to aid in determining impacts to HD features. Sources used to complete the review included:

- United States Geological Survey (USGS) Topo: Hopkinsville TN 7.5-minute topographic quadrangle (Figure 2);
- United States Geological Survey (USGS): LiDAR (Figure 3);
- Aerial Imagery and Infrared Imagery: World Imagery ArcGIS Online (Figure 4);
- United States Fish and Wildlife Service (USFWS): National Wetland Inventory (NWI) Maps (Figure 5);
- The National Resources Conservation Service (NRCS) Web Soil Project (WSS) (Figure 6); and
- USGS Geological Map (Figure 7).

This review allowed for preliminary identification of potential HD features and provided an understanding of the ecology, land use, and general physiography of the site.

4.2 Mapping

The locations of areas which, in the opinion of Spectrum, represent HD features were mapped in the field using a handheld Garmin GPS unit. The accuracy of the handheld unit is dependent on atmospheric conditions, canopy conditions, and satellite feeds. Wetland areas were flagged using pink flagging only while steam segments were flagged with a combination of blue flagging and pink "Wetland Delineation" flagging.

4.3 Feature Naming

Delineated and geographically referenced data points were recorded as well as a number that corresponds with the feature type within the Project Area. For example, the first point record within the Project Area is labeled "WWC1" on data sheets and Figure 8a – 8d.

4.4 Photographs

Photographs are the visual documentation of site conditions as they existed during the field survey. The site reconnaissance photographs are provided in Appendix C. Additionally, a photo index map can be provided upon request in the form of a KML file.

5.0 **RESULTS OF FINDINGS**

5.1 Potentially Jurisdictional Waterbodies

Spectrum's Biologist identified four (4) wetlands and three (3) ponds within the Project Area (Figures 8a - 8d). It is Spectrum's opinion that these features meet the jurisdictional requirements under the authority of the TDEC, Tennessee Code Annotated (TCA), Section 69-3-105. The required HD Field Data Sheets are provided in Appendix D. Wetland Data Forms are provided in Appendix E. The features are identified in Table 5.1-1 below:

	Start Latitude/	End Latitude/	Total M	apped	Average Width at	Tune of equation	
Site ID	Longitude	Longitude	Linear Feet	Acres	OHWM (ft)	Type of aquatic resource	
Wet A	36.608319,	-	-	0.003	-	Linear Wetland	
	-87.244493						
Wet B	36.605068,	_	_	1.1	_	Fringe Wetland	
werb	-87.24301			1.1			
Wet C	36.610939,		-	0.17		Forested Wetland	
werc	-87.238732	-		0.17	-		
WL D	36.608188,			6.84	-	Emergent/Forested	
Wet D	-87.236491	-	-			Wetland	
D 1 1	36.608184,			0.10		One Weter Day 1	
Pond 1	-87.244351	-	-	0.18	-	Open Water Pond	
-	36.605454,						
Pond 3*	-87.24337	-	-	0.70	-	Open Water Pond	
Den 14	36.607893,			0.12		Onen Water Den d	
Pond 4	-87.237689	-	-	0.13	-	Open Water Pond	

 Table 5.1-1 – Potentially Jurisdictional Waterbodies

* Though we believe Pond 3 may be considered jurisdictional, we also believe this feature represents a problematic aspect of our delineation and may be found to be non-jurisdictional.

Wetland A (Wet A) is a linear wetland that extends 0.003 acres from the northern edge of Pond 1, acting as a pond outfall. The primary vegetation of Wet A includes Swamp smartweed (*Polygonum hydropiperoides*), Long spike trident (*Tridens strictus*), and Sawtooth blackberry (*Rubus argutus*). Hydrology indicators include saturation, surface water, high water table, and true aquatic plants. Wetland A soils were hydric having a matrix color of 10YR 6/1 with 15% redox concentrations of 7.5YR 5/6 and a hydric soil indicator of loamy a depleted matrix.

Wetland B (Wet B) is a fringe wetland of Pond 3 encompassing 1.1 acres of the southern and eastern edges of Pond 3. The primary vegetation of Wet B includes Jump seed (*Persicaria virginiana*) and slough sedge (*Carex obnupta*). Hydrology indicators include four inches of surface

water, saturation to pit depth, high water table, inundation visible on aerial imagery, true aquatic plants, hydrogen sulfide odor, and presence of reduced iron. Wetland B soils were hydric having a matrix color of 10YR 5/1 with 15% redox concentrations of 7.5YR 4/6 and a hydric soil indicator of loamy a depleted matrix.

Wetland C (Wet C) is a forested wetland encompassing 0.17 acres on the eastern portion of the Survey Area. Wet C receives runoff from WWC6 and WWC7. The primary vegetation of Wet C includes Oriental Lady's Thumb (*Polygonum cespitosum*), Marsh seed box (*Ludwigia palustris*), Pin Oak (*Quercus palustris*), Red Maple (*Acer rubrum*), Winged Elm (*Ulmus alata*), and Black Willow (*Salix nigra*). Hydrology indicators include drift deposits, inundation/saturation visible on aerial imagery, sparsely vegetated concave surface, and geomorphic position. Wetland C soils were hydric having a matrix color of 10YR 4/2 with 5-25% redox concentrations of 7.5YR 4/6 and a hydric soil indicator of loamy a depleted matrix.

Wetland D (Wet D) is an emergent/forested wetland located on the southeastern portion of the Survey Area and is approximately 6.84 acres. The primary vegetation of Wet D includes Japanese stilt grass (*Microstegium vimineum*), common rush (*Juncus*), Pawpaw (*Asimina triloba*), Red Maple (*Acer rubrum*), Sugar Berry (*Celtis laevigata*), and Pin Oak (*Quercus palustris*). Hydrology indicators saturation, standing water, inundation visible on aerial imagery, sparsely vegetated concave surface, moss trim lines, water-stained leaves, and crayfish burrows. Wetland C soils were hydric at:

- Data point Wet D1 having a matrix color of 10YR 5/2 with 10-15% redox concentrations of 7.5YR 4/6 and a hydric soil indicator of loamy a depleted matrix;
- Data point Wet D2 having a matrix color of 10YR 3/2 and 5/1 with 5-10% redox concentrations of 7.5YR 4/6 and a hydric soil indicator of loamy a depleted matrix; and
- Data point Wet D3 having a matrix color of 10YR 4/1 and 5/1 with 5-10% redox concentrations of 7.5YR 4/6 and a hydric soil indicator of loamy a depleted matrix;

Pond 1 is a man-made open water pond located on the western portion of the Survey Area. This pond is approximately 0.18 acres and receives runoff from WWC1 and Upland Drainage Feature 1 (UDF1). During heavy rain events, Pond 1 drains into Wet A. Historical aerials from 1954 show the earliest development of Pond 1. During the period around 1954, it is apparent two separate areas were excavated adjacent to each other. Between 1955 and 1981, the eastern excavation area was filled. By 1998, the area which had been filled had been restored and was now connected to the western excavated area to form one pond, Pond 1. This singular feature, similar to that depicted on the 1998 aerial, is what was observed during Spectrum's site visits.

Pond 3 is a man-made open water pond on the southwestern portion of the target property and is approximately 0.70 acres and is located near the northern edge of Wet B. This pond captures sheet flow from the surrounding agricultural fields during rain events and is influenced by the water level within Wet B. Additionally, Pond 3 drains into UDF2. Based on a review of historical aerials, Pond 3 was constructed by at least 1949. By 1955, the pond appears to have dried out, concentrating collected waters in a relatively small, central portion of the pond's footprint. Between 1955 and 1981, apparent site activities attempt to restore this pond. By 2006, the pond is extended south and appears to be similar to what was observed during our site evaluation. Though we believe Pond 3 may be considered jurisdictional, we also believe this feature represents a problematic aspect of our delineation and may be found to be non-jurisdictional.

Pond 4 is a man-made open water pond located within the westernmost bounds of Wet D. This pond is approximately 0.13 acres. Based on a review of historical aerials, the earliest presence of Pond 4 appears in 1981. During this time, the surrounding forested area was clear cut. By 1998, Pond 4 had been extended to a configuration and size similar to that observed during Spectrum's site visits.

5.2 *Potentially Non-Jurisdictional Waterbodies*

Spectrum's Biologist identified seven (7) wet weather conveyances, four (4) upland drainage features, and one (1) pond within the Project Area (Figures 8a - 8d). It is Spectrum's opinion that these features do not meet the jurisdictional requirements established by TDEC, TCA, Section 69-3-105. The features are identified in Table 5.2-1 below:

	Start Latitude/	End Latitude/	Total N	lapped	Average Width at	Type of aquatic	
Site ID	Longitude	Longitude	Linear Feet	Acres	OHWM (ft)	resource	
WWC1	36.608101,	36.608157,	64	0.003	2	Wet Weather	
	-87.243955	-87.244138	04	0.005	-	Conveyance	
WWC2	36.608291,	36.608213,	42	0.002	2	Wet Weather	
W W C2	-87.244641	-87.244746	42	0.002	2	Conveyance	
WWC3	36.607174,	36.615177,	4.302	4 202	0.37	3.75	Wet Weather
W WC3	-87.239405	-87.240736	4,502	0.57	5.75	Conveyance	
WWC4	36.615342,	36.615269,	105	0.01	3	Wet Weather	
wwC4	-87.241027	-87.24133	105	0.01	3	Conveyance	

 Table 5.2-1 – Potentially Non-Jurisdictional Waterbodies

	Start	End Latitude/	Total N	lapped	Average	Transformetic	
Site ID	Latitude/ Longitude	Longitude	Linear Feet	Acres	Width at OHWM (ft)	Type of aquatic resource	
WWC5	36.614951,	36.61527,	285*	0.01	2	Wet Weather	
	-87.24202	-87.241329	205	0.01		Conveyance	
WWC6	36.610847,	36.61527,	104	0.005	2	Wet Weather	
w wCo	-87.23905	-87.241329	104	0.005	2	Conveyance	
WWC7	36.611000,	36.611055,	217	0.01	2.5	Wet Weather	
wwc/	-87.238549	-87.237833	217	0.01		Conveyance	
	36.608062,	36.608084,		-	-	Upland	
UDF1	-87.243809	-87.243887	45**			Drainage	
						Feature	
	36.605841,	36.607436,		-	-	Upland	
UDF2	-87.243684	-87.243994	617			Drainage	
						Feature	
	36.610898,	36.611002,			-	Upland	
UDF3	-87.239213	-87.23942	72	-		Drainage	
						Feature	
	36.611189,	36.611548,			-	Upland	
UDF4	-87.239922	-87.240527	247	-		Drainage	
						Feature	
Pond 2	36.607258,			0.18		Open Water	
Polia Z	-87.242035	-	-	0.18	-	Pond	

*This length includes 50 LF of a previously piped section of WWC5

**This length includes 20 LF of a previously piped section of UDF1

WWC1 is a wet weather conveyance that originates at the culvert on the western portion of the property. This feature extends for 64 linear feet before terminating at the southeastern edge of Pond 1. WWC1 was dry during the field delineation and received a hydrologic determination score of 8.5.

WWC2 is a wet weather conveyance that begins at the terminus of Wet A, a linear wetland. WWC2 extends for 42 linear feet before flowing out of the Survey Area to the west. This feature appears to act as a pond outfall for Pond 1. This feature lacks a defined bed and bank and biological indicators and received a hydrologic determination score of 12.5.

WWC3 is a wet weather conveyance that transects the majority of the survey area from south to north. This feature begins at a culvert at the southern property boundary beneath the railroad. WWC3 extends for 4,301 linear feet, through forested areas and agricultural fields before turning into sheet flow on the northeastern portion of the Survey Area. The entirety of WWC3 was dry

during the field delineation. This reach was scored in four parts receiving hydrologic determination scores of 12.25, 8, 8.5, and 11, respectively.

WWC4 is a wet weather conveyance that begins along the northeastern property boundary. This feature extends for 105 linear feet until its confluence with WWC5 at the culvert beneath Guthrie Highway, which extends off property to the north. This feature lacks a defined bed and bank and was dry during the field evaluation. WWC4 received a hydrologic determination score of 13.25.

WWC5 is a wet weather conveyance beginning at the culvert beneath the residential gravel driveway off of Guthrie Highway. WWC5 extends for 285 feet until its confluence with WWC4 at the culvert beneath Guthrie Highway, which extends off property to the north. This feature has no defined bed and bank, and the vegetation was composed of upland plant species. WWC5 received a hydrologic determination score of 10.75.

WWC6 is a wet weather conveyance beginning where the channel of UDF3 becomes more apparent. This feature extends for 104 linear feet before terminating at the southwestern edge of Wet C. WWC6 was dry during the site evaluation and lacked a defined bed and bank. This feature received a hydrologic determination score of 11.

WWC7 is a wet weather conveyance beginning at a point on the eastern property boundary and extends for 217 feet before terminating at the eastern edge of Wet C. This feature was dry at the time of the field evaluation and received a hydrologic determination score of 16.5.

UDF1 extends for 45 linear feet and acts as a drainage feature for the surrounding agriculture field. UDF1 ends where WWC1 begins, and the channel becomes more apparent before entering Pond 1. Based on observations made in the field, UDF1 lacked bed and bank and other requisite characteristics and is constructed in an upland to drain an upland.

UDF2 extends for 617 feet south to north. UDF2 appears to act as a pond outfall for Pond 3. During the field evaluation, UDF2 was observed to be a grassy swale. Based on observations made in the field, UDF2 lacked bed and bank and other requisite characteristics and is constructed in an upland to drain an upland.

UDF3 extends for 72 feet and is a drainage feature in the upland for the surrounding agricultural field. UDF3 ends where WWC6 begins, and the bed and bank become more apparent. Based on observations made in the field, UDF3 lacked bed and bank and other requisite characteristics and is constructed in an upland to drain an upland.

UDF4 extends for 247 feet and is an upland drainage feature for the surrounding agricultural field. This feature terminates at a confluence with WWC3. Based on observations made in the field, UDF4 lacked bed and bank and other requisite characteristics and is constructed in an upland to drain an upland.

Pond 2 is a man-made open water pond located in the central portion of the Survey Area and is approximately 0.18 acres. This pond captures sheet flow from the surrounding agricultural fields. Historical aerials from 1949 show the initial stages of Pond 2 development. Between 1955 and 1981, Pond 2 appears to be dry. By 1998, Pond 2 exhibits similar physical characteristics as those observed during the site evaluation. In our opinion, Pond 2 received inflow only from surface sheet flow, therefore should not be considered a jurisdictional Water of the State.

6.0 CONCLUSION

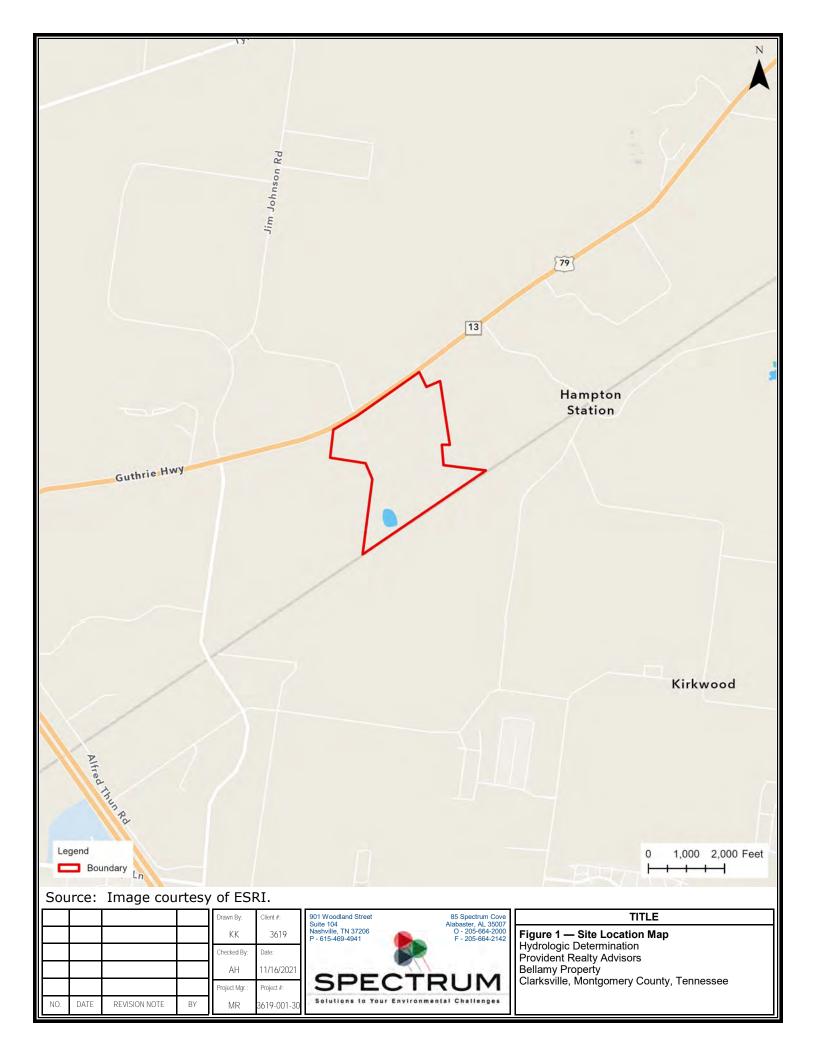
The Project Area contains 8.11 acres of wetland and 1.01 acres of open water pond which, in Spectrum's opinion, would be considered jurisdictional Waters of the State under the authority of the TDEC.

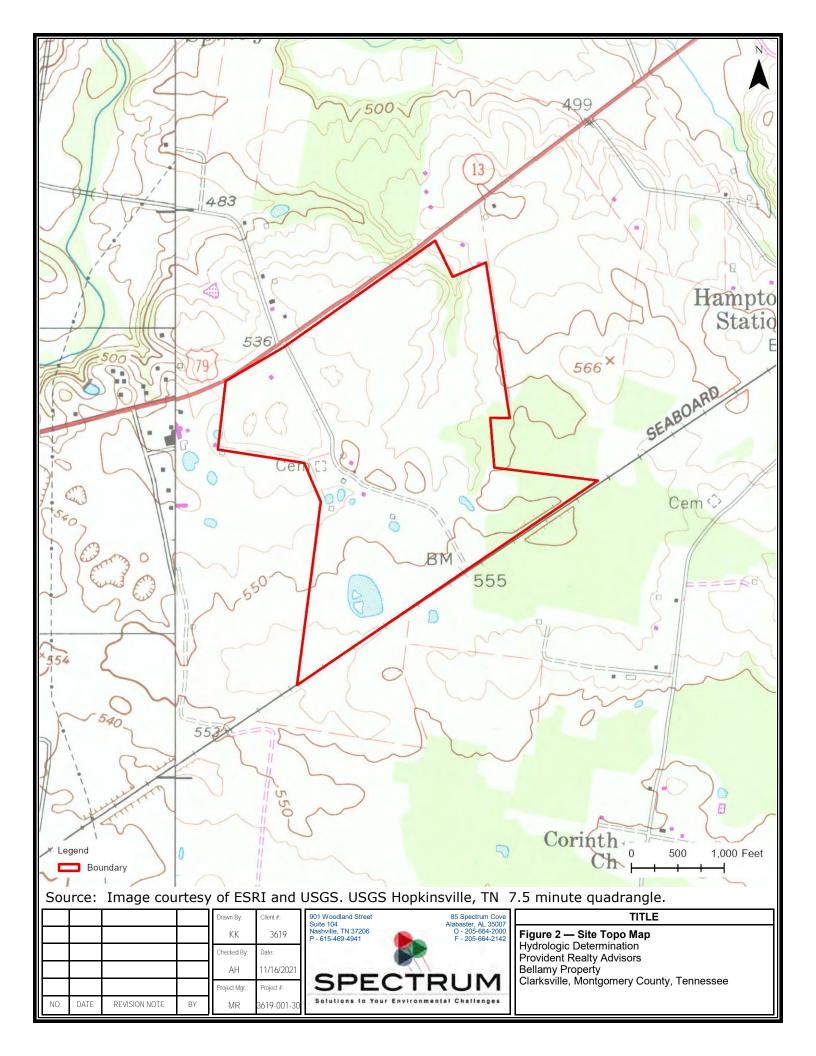
The Project Area also contains 5,119 LF (0.41 acres) of wet weather conveyance, 981 LF of upland drainage features, and 0.18 acres of open water pond which, in Spectrum's opinion, would not be considered jurisdictional Waters of the State under the TDEC.

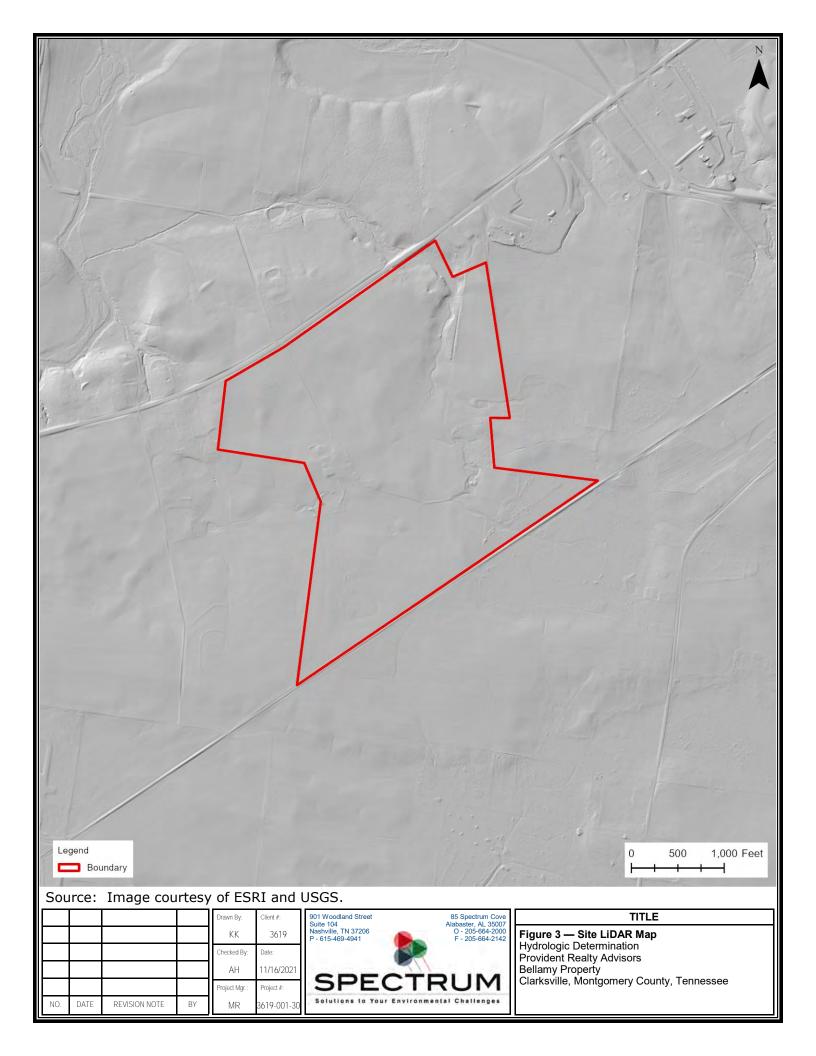
7.0 **REFERENCES**

- Greene, D.C., and Wolfe, W.J., 2000, Superfund GIS 1:250,000 Geology of Tennessee, USGS, (geo250k).
- Griffith, G.E., Omernik, J.M., and Azevedo, S., 2001, Ecoregions of Tennessee, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,700,000).
- Hardeman, W.D., Miller, R.A., and Swingle, G.D., 1966, Geologic Map of Tennessee: Division of Geology, Tennessee Department of Environment and Conservation, 4 sheets, scale 1:250,000
- United States Fish and Wildlife Service (USFWS). December 2002. National Wetlands Inventory website. United States Department of the Interior, Fish and Wildlife Service, St. Petersburg, FL. http://www.nwi.fws.gov. Accessed January 2021.
- Wetland Training Institute, Inc. 1995. Field Guide for Wetland Delineation; 1987 Corps of Engineers Manual. Poolesville, Maryland. WTI 95-3.

FIGURES









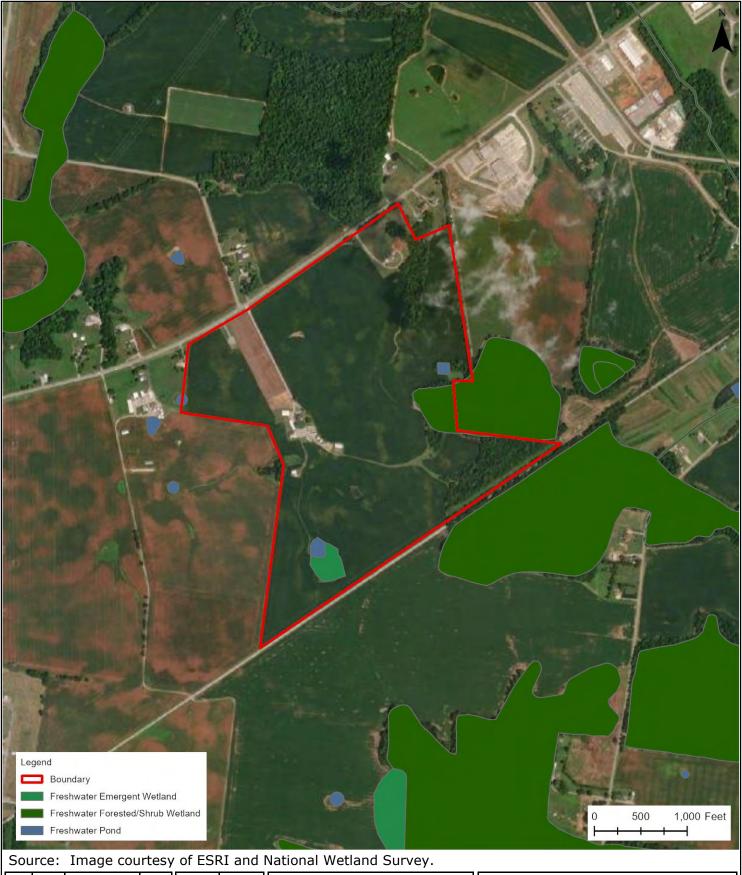
Source: Image courtesy of ESRI.

				Drawn By:	Client #:	9 S
				КК	3619	N P
				Checked By:	Date:	
				AH	11/16/2021	
				Project Mgr.:	Project #:	
NO.	DATE	REVISION NOTE	BY	MR	3619-001-30	2

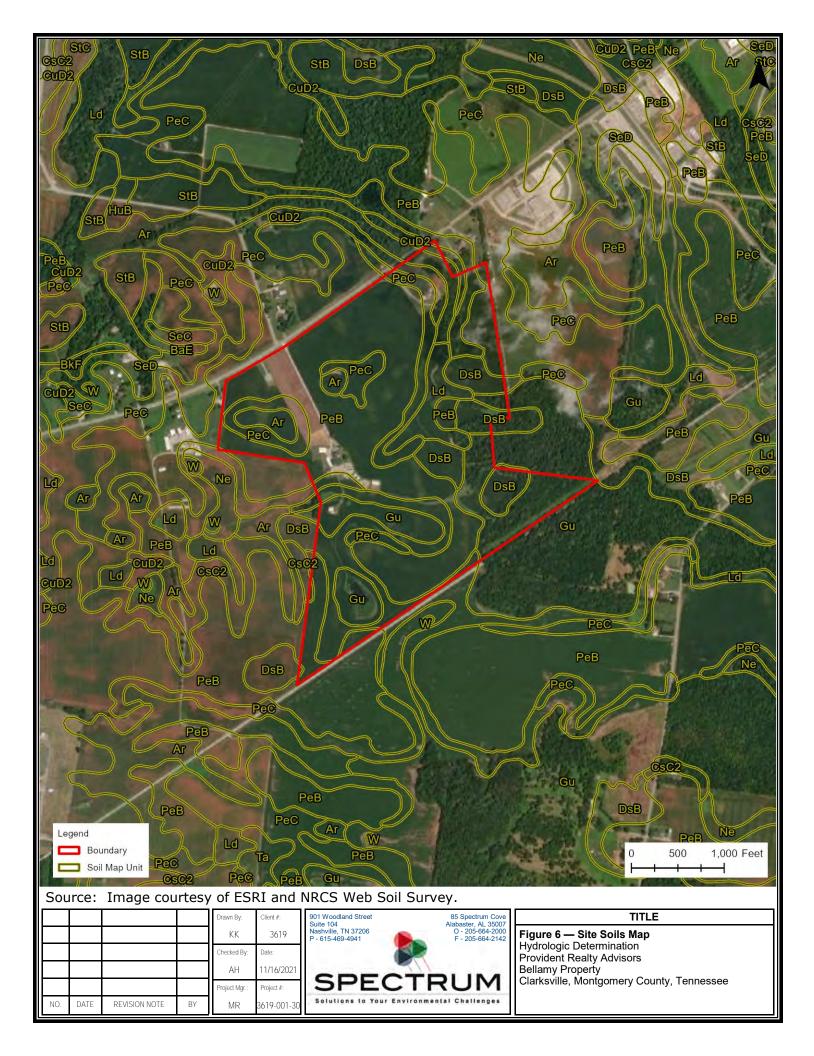


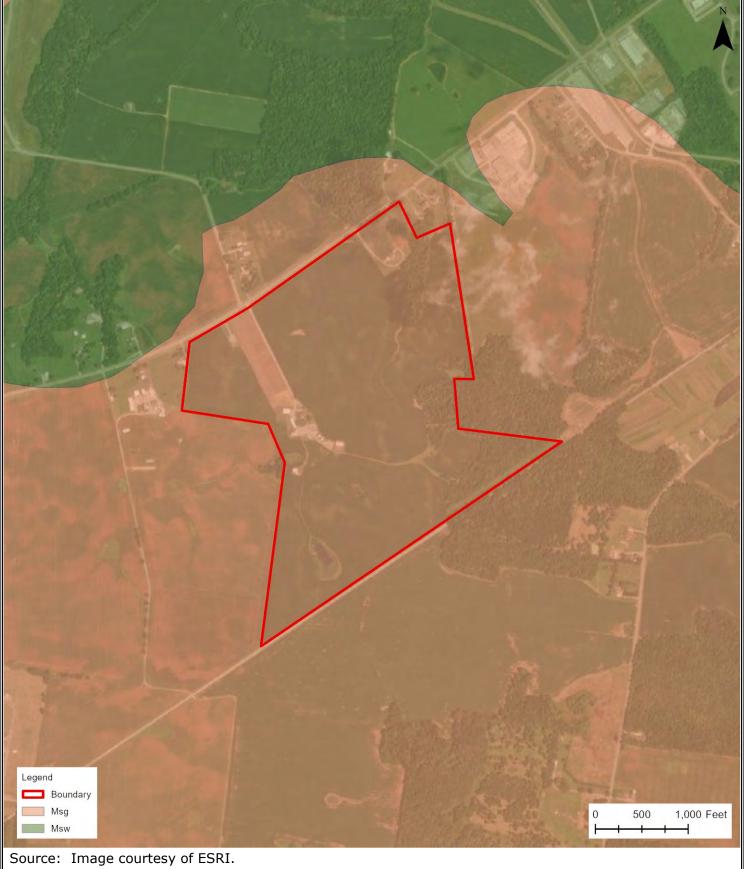
TITLE

Figure 4 — Site Aerial Map Hydrologic Determination Provident Realty Advisors Bellamy Property Clarksville, Montgomery County, Tennessee

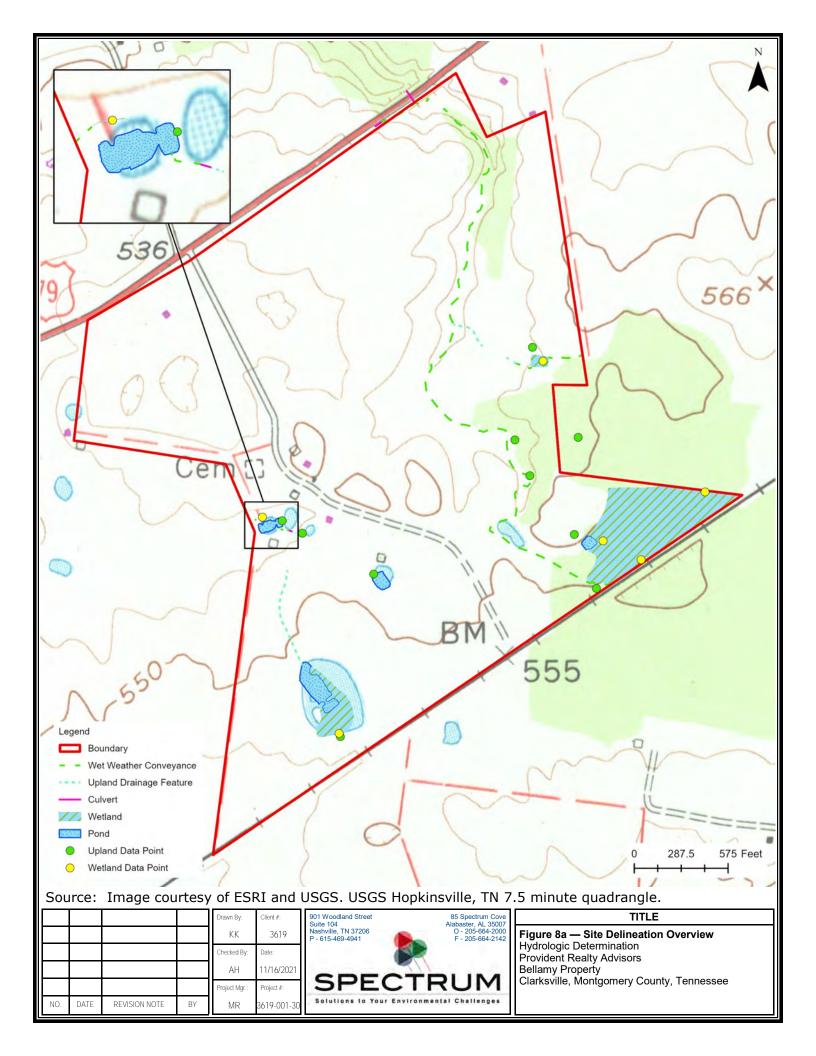


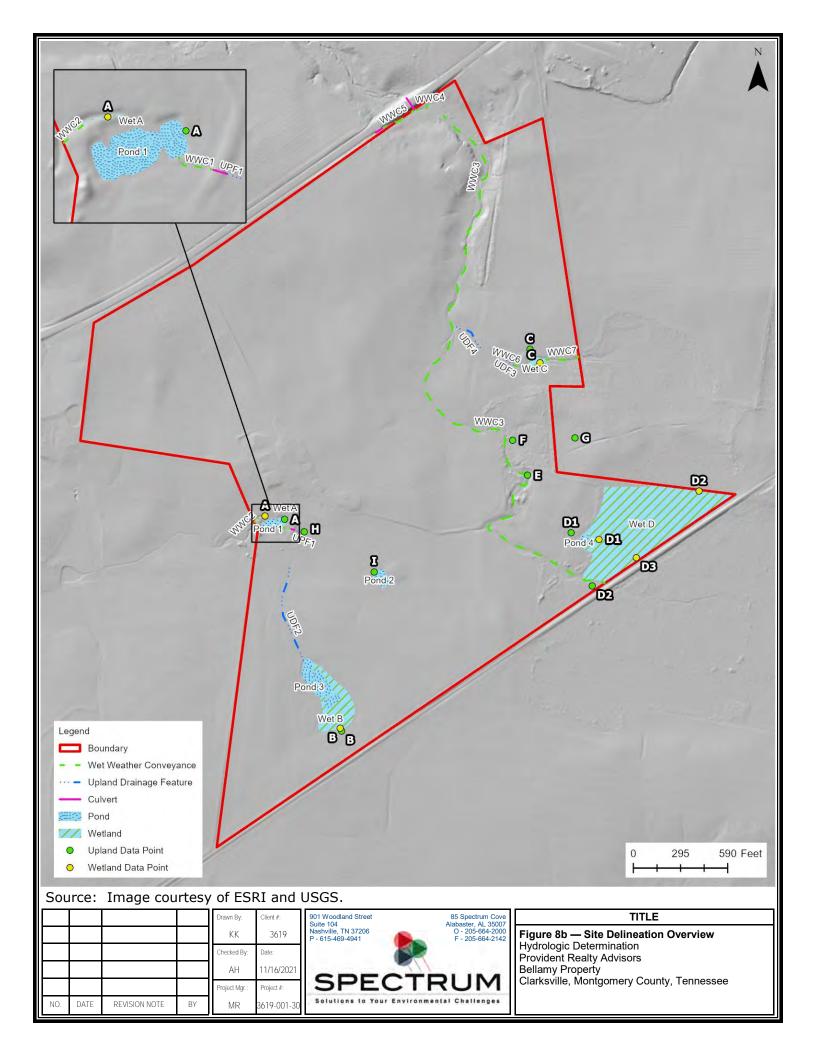
I					Drawn By:			ectrum Cove er, AL 35007	TITLE
I					KK	3610	Nashville, TN 37206 O - 2	05-664-2000	Figure 5 — NWVI Map
					Checked By:	Date:			Hydrologic Determination Provident Realty Advisors
I					AH	11/16/2021	CDECTDU	10.4	Bellamy Property
I					Project Mgr.:	Project #:	SPECTRU	IM	Clarksville, Montgomery County, Tennessee
I	NO.	DATE	REVISION NOTE	BY	MR	3619-001-30	Solutions to Your Environmental Cha	llenges	

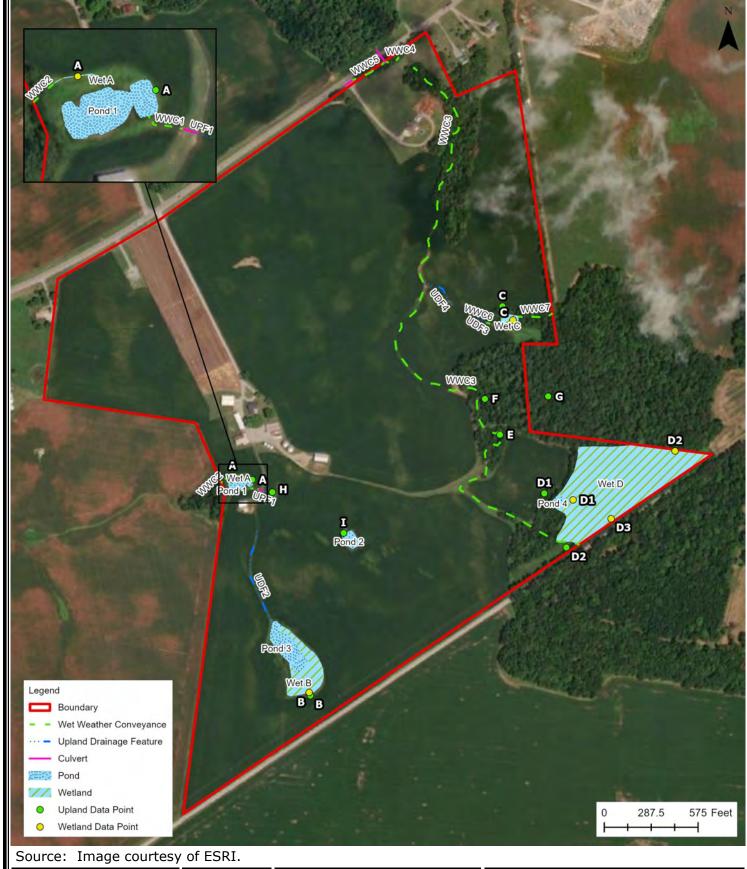




				Drawn By:	Client #:	901 Woodland Street Suite 104	85 Spectrum Cove Alabaster, AL 35007	TITLE
				KK		Nashville, TN 37206 P - 615-469-4941	O - 205-664-2000 F - 205-664-2142	Figure 7 — Site Geologic Map
				Checked By:	Date:			Hydrologic Determination Provident Realty Advisors
				AH	11/16/2021	CREAT		Bellamy Property
				Project Mgr.:	Project #:	SPECTF	ROM	Clarksville, Montgomery County, Tennessee
NO.	DATE	REVISION NOTE	BY	MR	3619-001-30	Solutions to Your Environmen	ital Challenges	







				Drawn By:		901 Woodland Street Suite 104	85 Spectrum Cove Alabaster, AL 35007	TITLE
				KK	3610	Nashville, TN 37206 P - 615-469-4941	O - 205-664-2000 F - 205-664-2142	Figure 8c — Site Delineation Overview
				Checked By:	Date:			Hydrologic Determination Provident Realty Advisors
				AH	11/16/2021			Bellamy Property
				Project Mgr.:	Project #:	SPECT	ROM	Clarksville, Montgomery County, Tennessee
NO.	DATE	REVISION NOTE	BY	MR	3619-001-30	Solutions to Your Environme	ntal Challenges	

Site ID	Start/Mid (Decimal	Lat, Long ^{Degrees})	End Lat (Decimal I		Total I	Mapped	Average Width at OHWM	Туре		
	Latitude	Longitude	Latitude	Longitude	LF	Acre				
WWC1	36.608101	-87.243955	36.608157	-87.244138	64	0.003	2	Wet Weather Conveyance		
WWC2	36.608291	-87.244641	36.608213	-87.244746	42	0.002	2	Wet Weather Conveyance		
WWC3	36.607174	-87.237272	36.615177	-87.240736	4,302	0.37	3.75	Wet Weather Conveyance		
WWC4	36.615342	-87.241027	36.615269	-87.24133	105	0.01	3	Wet Weather Conveyance		
WWC5	36.614951	-87.24202	36.61527	-87.241329	285*	0.01	2	Wet Weather Conveyance		
WWC6	36.610847	-87.238903	36.610899	-87.239216	104	0.005	2	Wet Weather Conveyance		
WWC7	36.611000	-87.238549	36.611055	-87.237833	217	0.01	2.5	Wet Weather Conveyance		
UDF1	36.608062	-87.243809	36.608084	-87.243887	45**	-	-	Upland Drainage Feature		
UDF2	36.605841	-87.243684	36.607436	-87.243994	617	-	-	Upland Drainage Feature		
UDF3	36.610898	-87.239213	36.611002	-87.23942	72	-	-	Upland Drainage Feature		
UDF4	36.611189	-87.239922	36.611548	-87.240527	247	-	-	Upland Drainage Feature		
Pond 1	36.608184	-87.244351	-	-	-	0.18	-	Open Water Pond		
Pond 2	36.607258	-87.242035	-	-	-	0.18	-	Open Water Pond		
Pond 3	36.605454	-87.24337	-	-	-	0.70	-	Open Water Pond		
Pond 4	36.607893	-87.237689	-	-	-	0.13	-	Open Water Pond		
Wet A	36.608319	-87.244493	-	-	-	0.003	-	Linear Wetland		
Wet B	36.605068	-87.24301	-	-	-	1.1	-	Fringe Wetland		
Wet C	36.610939	-87.238732	-	-	-	0.17	-	Forested Wetland		
Wet D	36.608188	-87.236491	-	-	-	6.84	-	Emergent/Forested Wetland		
*Includes 50 LF of a previously piped section of WWC5										
**Includes 20 LF of a previously piped section of UDF1										
		Drawn By: Client #:	901 Woodland Street Suite 104	85 Sp Alabast	ectrum Cove er, AL 35007		Т	ITLE		
	KK 3619 P - 615-469-4941 KK 3619 F - 615-469-4941 KK 3619 F - 615-469-4941 F - 205-664-2000 F - 205-664-2020 F - 205-664-2020 F - 205-664-2020 F - 205-664-2020 F - 205-664-2020 Hydrologic Determination									

SPECTRUM

Solutions to Your Environmental Challenges

Checked By:

AH

Project Mgr.

MR

ΒY

NO.

DATE

REVISION NOTE

Date: 11/16/2021

Project #:

3619-001-30

 Jabasier, AL 35007

 O - 205-664-2000

 F - 205-664-2012

 Hydrologic Determination

 Provident Realty Advisors

 Bellamy Property

 Clarksville, Montgomery County, Tennessee

APPENDIX A

Landowner Access Letter



March 17, 2022

Tennessee Department of Environment and Conservation Division of Water Resources – Nashville Environmental Field Office 711 R. S. Gass Blvd. Nashville, TN 37216

Subject: Request for Hydrologic Determination – Landowner Access Letter Bellamy Property Clarksville, Montgomery County, Tennessee Centered at Latitude 36.609700° North and Longitude -87.242000° West Project No. 3619-011-30

To Whom it May Concern:

I currently own the above-identified property located in Clarksville, Montgomery County, Tennessee.

The subject property is being considered for development. I grant permission for the Tennessee Department of Environment and Conservation – Division of Water Resources personnel to access my property for the purposes of completing a hydrologic determination (HD).

My information is as follows:

Name: Ralph Bellamy Jr. Address: 1490 Charles Bell Rd. Clarksville, TN 37040 Phone: 931-216-4427 Email: dority.ralph@gmail.com Raph Beller Signature:

If you have any questions or need additional information, please feel free to contact Marian Rubin at (615) 613-2066 (<u>mrubin@specenviro.com</u>) or Kari Kennel at (901) 831-3565 (<u>kkennel@specenviro.com</u>)

Sincerely, SPECTRUM ENVIRONMENTAL, INC.

Staff Scientist

Marian R. Rubin, OHP-IT

Mid-South Division Manager Staff Biologist

APPENDIX B

Calculation of Normal Weather Conditions

Table 1.	Calculation of Normal Weather Conditions	/ Bellamy Property -Clarksville, TN - September 2021
----------	--	--

		Long-term Rainfall Records								
	Month		Minus one Std. Dev (DRY)	(Mean	Plus One Std. Dev. (WET)	Actual Rainfall*	Condition	Condition Value	Month Weight Value	Product of Previous two columns
1st month prior	Aug-21	2.03	1.27	3.3	5.33	7.62	Wet	3	3	9
2nd Month prior	Jul-21	1.82	2.03	3.85	5.67	6.25	Wet	3	2	6
3rd month prior	Jun-21	2.22	1.75	3.97	6.19	6.26	Wet	3	1	3
									Sum	18

1 2

3

Note:				
If sum is:		_	Condition Va	lue
6-	9 then prior period has been drier than normal		Dry =	
10-1	4 then prior period has been normal		Normal =	
15-1	8 then prior period has been wetter than normal		Wet=	

Conclusions: Actual rainfall obtained from weather underground station KTNCLARK126 (WU73)

Monthly percipitation standard deviation and mean sourced from NOAA PSL - Clarksville (1991-2020)

Date of field work 9/13/2021

Weather conditions prior to this period have been wetter than normal.

Table 1.	Calculation of Normal Weather Conditions	/ Bellamy Property -Clarksville, TN - November 2021
----------	--	---

			Long-term Rainfall Records							
	Month		Minus one Std. Dev (DRY)	(Mean		Actual Rainfall*	Condition	Condition Value	Month Weight Value	Product of Previous two columns
1st month prior	Oct-21	1.56	1.27	2.83	4.39	5.43	Wet	3	3	9
2nd Month prior	Sep-21	1.98	1.21	3.19	5.17	2.74	Normal	2	2	4
3rd month prior	Aug-21	2.03	1.27	3.3	5.33	7.62	Wet	3	1	3
									Sum	16

1 2

3

Note:			
If sum is:		Condition Va	lue
6-9	then prior period has been drier than normal	Dry =	
10-14	then prior period has been normal	Normal =	
15-18	then prior period has been wetter than normal	Wet=	

Conclusions: Actual rainfall obtained from weather underground station KTNCLARK126 (WU73)

Monthly percipitation standard deviation and mean sourced from NOAA PSL - Clarksville (1991-2020)

Date of field work 11/8/2021 and 11/15/2021

Weather conditions prior to this period have been wetter normal.

APPENDIX C

Site Reconnaissance Photographs



Up H Pit Upgradient from UDF1



Up H Pit Area surrounding Up H pit facing east



Up H Pit Area surrounding Up H pit facing west



Up H Pit Area surrounding Up H pit facing south



UDF1 facing upgradient to the east of culvert (C1)



UDF1 facing down gradient to the east of culvert (C1)



WWC1 facing upgradient to the west of culvert (C1)



WWC1 facing upgradient to the west of culvert (C1) toward Pond 1



Pond 1 facing northwest



Pond 1 facing west



Pond 1 facing east



Pond 1 facing north



WWC2 facing downstream toward western property boundary



WWC2 facing upstream near western property boundary



Linear Wet A soils Wet A Pit



Linear Wet A soils Wet A Pit



Up A Pit Upgradient from the eastern bank of Pond 1



Up A Pit Upgradient from the eastern bank of Pond 1



Area surrounding Up A pit facing west



Area surrounding Up A pit facing south



Pond 2 facing south



Pond 2 facing west



Pond 2 facing north



Pond 2 facing east



Up I pit Upgradient of Pond 2 fringe



Up I pit Upgradient of Pond 2 fringe



Area surrounding Up I pit facing east



Area surrounding Up I pit facing southwest



UDF2 Facing downstream



UDF2 Facing upstream



Pond 3 facing east



Pond 3 and Wet B facing south



Pond 3 and Wet B facing north



Pond 3 and Wet B facing west



Soils within Wet B Wet B Pit



Soils within Wet B Wet B Pit



Wet B Area surrounding Wet B Pit facing north



Wet B Area surrounding Wet B Pit facing east



Wet B Area surrounding Wet B Pit facing west



Wet B Area surrounding Wet B Pit facing south



Up B Pit Upgradient of Wet B



Up B Pit Upgradient of Wet B



Area surrounding Up B Pit facing south



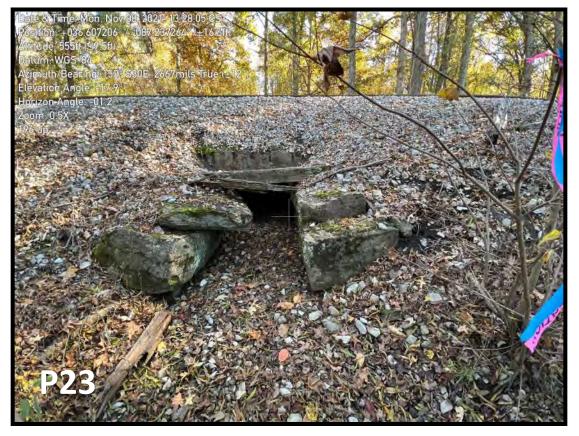
Area surrounding Up B Pit facing east



Area surrounding Up B Pit facing west



Area surrounding Up B Pit facing north



WWC3 facing upstream at property boundary adjacent to rail road tracks



WWC3 facing downstream at property boundary adjacent to rail road tracks



WWC3 facing upstream toward the powerline clearing



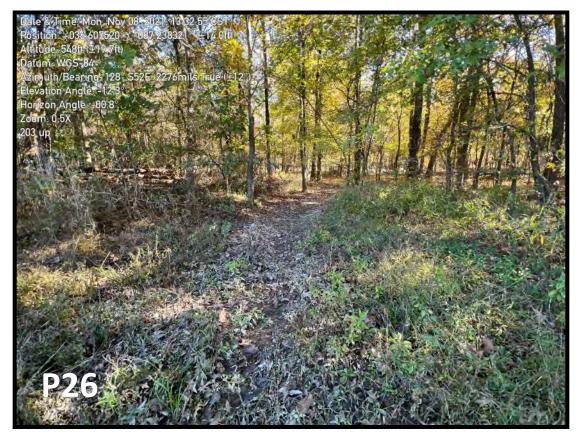
WWC3 facing downstream away from the powerline clearing



WWC3 facing upstream in wood area



WWC3 facing downstream in wood area



WWC3 facing upstream



WWC3 facing downstream



WWC3 (grassy swale) facing upstream



WWC3 (grassy swale) facing downstream



WWC3 (grassy swale) facing upstream



WWC3 (grassy swale) facing downstream



WWC3 facing upstream



WWC3 facing downstream



WWC3 facing upstream



WWC3 facing downstream



Up E Pit Adjacent to WWC3



Up E Pit Adjacent to WWC3



Area surrounding Up E Pit facing east



Area surrounding Up E Pit facing north



Area surrounding Up E Pit facing west



Area surrounding Up E Pit facing south



WWC3 facing upstream



WWC3 facing downstream



Up F Pit



Up F Pit



WWC3 facing upstream at transition from wooded area to crop field



WWC3 facing upstream at transition from wooded area to crop field



WWC3 facing upstream in crop field



WWC3 facing downstream in crop field



WWC3 facing upstream in crop field



WWC3 facing downstream in crop field



WWC3 facing upstream at transition from crop field to wooded area



WWC3 facing upstream at transition from crop field to wooded area



WWC3 facing upstream in wooded area



WWC3 facing downstream in wooded area



WWC3 facing upstream in wooded area



WWC3 facing downstream in wooded area



End of WWC3 facing upstream at transition from wooded area to grassy area



End of WWC3 facing downstream at transition from wooded area to grassy area



WWC4 facing downstream adjacent to Guthrie HWY



WWC4 facing downstream adjacent to Guthrie HWY



WWC4 facing upstream adjacent to Guthrie HWY



Confluence of WWC4 and WWC5R2 facing downstream toward culvert beneath Guthrie HWY



WWC5R2 facing upstream adjacent to Guthrie HWY



WWC5R2 facing upstream toward culvert beneath driveway adjacent to Guthrie HWY



Roadside ditch facing downstream adjacent to Guthrie HWY



Roadside ditch facing upstream adjacent to Guthrie HWY



Roadside ditch facing downstream adjacent to Guthrie HWY



Roadside ditch facing upstream adjacent to Guthrie HWY



Soils from Wetland C Wet C Pit



Soils from Wetland C Wet C Pit



Wetland C Area surrounding Wet C Pit facing south



Wetland C Area surrounding Wet C Pit facing east



Wetland C Area surrounding Wet C Pit facing north



Wetland C Area surrounding Wet C Pit facing west



UDF3 facing northwest 'upstream'



UDF3 facing southeast 'downstream



UDF3 transition into WWC6 facing upstream



UDF3 transition into WWC6 facing downstream toward Wet C



Up C Pit in field upgradient to the north from Wet C



Up C Pit in field upgradient to the north from Wet C



Area surrounding Up C Pit facing west



Area surrounding Up C Pit facing south



Area surrounding Up C Pit facing east



Area surrounding Up C Pit facing southwest



Up G Pit



Up G Pit



Area surrounding Up G Pit facing north



Area surrounding Up G Pit facing south



WWC7 facing upstream across eastern property boundary



WWC7 facing downstream at eastern property boundary



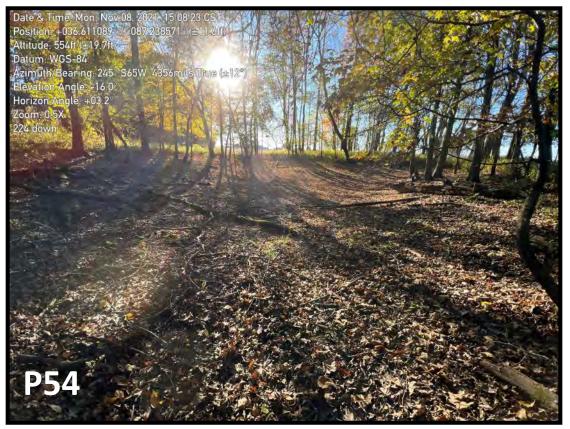
WWC7 facing upstream



WWC7 facing downstream toward Wet C



WWC7 facing upstream at confluence with Wet C



WWC7 facing downstream at confluence with Wet C



Pond 4 located within Wet D



Pond 4 located within Wet D



Soils from Wetland D Wet D1 Pit



Soils from Wetland D Wet D1 Pit



Wetland D Area surrounding Wet D1 Pit facing east



Wetland D Area surrounding Wet D1 Pit facing west



Far eastern portion of Wet D in powerline clearing facing west



Far eastern portion of Wet D in powerline clearing facing east towards adjacent property



Soils from Wetland D Wet D2 Pit



Area surrounding Wet D2 Pit facing south



Soils from Wetland D Wet D3 Pit



Soils from Wetland D Wet D3 Pit



Wet D Area surrounding Wet D3 pit facing northwest



Wet D Area surrounding Wet D3 pit facing northeast



Up D2 Pit located upgradient to the south of Wet D



Area surrounding Up D2 Pit upgradient of to the south of Wet D Facing northeast



Area surrounding Up D2 Pit upgradient of to the south of Wet D Facing southwest



Up D1 Pit located upgradient to the west of Wet D



Area surrounding Up D1 Pit upgradient of to the west of Wet D Facing north



Area surrounding Up D1 Pit upgradient of to the west of Wet D Facing east towards Wet D



Area surrounding Up D1 Pit upgradient of to the west of Wet D Facing south

APPENDIX D

Tennessee Department of Environment and Conservation Hydrologic Determination Field Data Sheets

Hydrologic Determination Field Data Sheet Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UDF2 6PS 188-19	5 Date/Time: 1/8 1:40
Assessors/Affiliation: Marian Rubin QHP-IT, Kar: Kennel Q	HI-IT Project ID :
Site Name/Description: Bellamy Property	3299-023-30
Site Location: Clarks ville, TN	
HUC (12 digit): 051362060603	Lat: 36.605.841
Previous Rainfall (7-days): 0.03	Long: -87,243684
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precipidata : WUNDERGROOND KTN CLARP 50	low abnormally dry unknown
Watershed Size : NIA	County: Montgomero
Soil Type(s) / Geology: Dickson Silt Loum / St. Genevieve	imestore Source: WSS/USG5
Surrounding Land Use: Agriculture / Forsted	1
Degree of historical alteration to natural channel morphology & hydrology (circ	le one & describe fully in Notes) :
Severe Moderate Slight	Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	×	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	-	CWWO
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 		wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 		wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 		Stream
6. Presence of fish (except Gambusia)	1.000	Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic	Determination = Grass, Swale	
Secondary Indicator So	core (if applicable) = $N \mid A$	_
ustification / Notes :	grassy Swale infield	
	5 5	

Tennessee Division of Water Pollution Control, Version 1	.5 11/8/21
Named Waterbody: WWCI	Date/Time: 2:00
Assessors/Affiliation: Maring Rubin QHP-IT, Kar: Kennel QHP-IT	Project ID :
Site Name/Description: Bellam Property	3299-023-30
Site Location: Clarksville, TN	
HUC (12 digit): 051302060603	Lat: 36.608101
Previous Rainfall (7-days): (), () ? "	Long: -87.243955
Precipitation this Season vs. Normal : abnormally wet elevated average low abr Source of recent & seasonal precipitata : Wundergrand KTNCLARKIS	normally dry unknown
Watershed Size : 0.05 51. m; County:	Nontgemery
Soil Type(s) / Geology: Guthic Silt Loan /St Genevicue Limeston	Source: WJS
Surrounding Land Use: Aggingtoral / Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & d Severe Moderate Slight A	escribe fully in Notes) : bsent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	Х	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	Х	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	×	Stream
6. Presence of fish (except Gambusia)	×	Stream
Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	¥	Stream
9. Evidence watercourse has been used as a supply of drinking water	×	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 8.5

Justification / Notes :

A. Geomorphology (Subtotal = \leq)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0 (0 1	2	3
2. Sinuous channel	0 0	2 1	2	3
In-channel structure: riffle-pool sequences	0	1	2	3
Sorting of soil textures or other substrate	0	(1)	2	3
5. Active/relic floodplain	(0)	0.5	1	1.5
Depositional bars or benches	0	1	2	3
7. Braided channel	O	1	2	3
Recent alluvial deposits	0	(0.5)	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	(0)	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
 At least second order channel on existing USGS or NRCS map 	No:	= 0	Yes	= 3

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	(0)	1	2	3
15. Water in channel and >48 hours since sig. rain	0 0	D 1	2	3
16. Leaf litter in channel (January - September)	1.5	D	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No	= 0)	Yes =	: 1.5

C. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	D	0
21. Rooted plants in the thalweg ¹	3 6	2	1	0
22. Crayfish in stream (exclude in floodplain)	9	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	Ø	1	2	3
27. Iron oxidizing bacteria/fungus	Ø	0.5	1	1.5
28.Wetland plants in channel bed ²	0	0.5	1	1.5

¹Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 8.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Hydrologic Determination Field Data Sheet Tennessee Division of Water Pollution Control, Version 1.5

l'ennesser =	
Named Waterbody: NWC2 GP5/1	9-168 Date/Time: 1/8 12 PM
Assessors/Affiliation: Marian Rubin QHP-IT, Kar: Kenn	el QHP-IT Project ID:
Site Name/Description: Bellany Property	3299-023 -30
Site Location: Clarks V: 11e, TN	
HUC (12 digit): 0513 02060603 - Sorian Cree	
Previous Rainfall (7-days): ().03	Long: -87. 24464
	verage low abnormally dry unknown
Watershed Size : () () 59 m:	County: Montgomern
Soil Type(s) / Geology: Dickson Silt loom 1 Genery	reve Linesture Source: USGS
Surrounding Land Use: A gricultural Forested	
Degree of historical alteration to natural channel morphology & hydrold	bgy (circle one & describe fully in Notes) : Absent
Severe Moderate Slight	

Primary Field Indicators Observed

Drimony Indicators	NO	YES
Primary Indicators	X	WWC
 Hydrologic feature exists solely due to a process discharge Defined bed and bank absent, vegetation composed of upland and FACU species 	V	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	WWC
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	8	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	×	Stream
6 Presence of fish (except Gambusia)	X	Stream
 Presence of naturally occurring ground water table connection 	×	Stream
 Presence of naturally coolding ground and ground and	X	Stream
 Plowing water in charmer and 7 days since last proof and proof	М	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 12.5

Justification / Notes :

Continuous bed and bank Sinuous channel In-channel structure; riffle-pool sequences Sorting of soil textures or other substrate Active/relic floodplain Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map <u>Hydrology (Subtotal =)</u> <u>4. Subsurface flow/discharge into channel</u> 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel 5. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 3. Bivalves/mussels	0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0.5 1 0.5 1 0.5 1 0.5 0.5 Weak (1) (1) 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	2 2 2 1 2 2 1 2 2 1 2 1 2 2 1 1 2 2 1 1 1 Yes	Strong 3 3 0 1.5 1.5
In-channel structure: riffle-pool sequences Sorting of soil textures or other substrate Active/relic floodplain Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel 5. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	$ \begin{array}{c} 1 \\ 0.5 \\ 1 \\ 0.5 \\ 1 \\ 0.5 \\ 1 \\ 0.5 \\ 0.5 \\ \hline 0.5 \\ $	2 2 1 2 2 1 2 2 1 1 2 2 1 1 1 Yes Moderate 2 2 2 2 0.5 1 1 1	$ \begin{array}{r} 3 \\ 3 \\ 1.5 \\ 3 \\ 1.5 \\ 3 \\ 1.5 \\ 1.5 \\ 1.5 \\ 1.5 \\ 3 \\ 0 \\ 1.5 \\ 3 \\ 0 \\ 1.5 $
Sorting of soil textures or other substrate Active/relic floodplain Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map <u>Hydrology (Subtotal =)</u> Subsurface flow/discharge into channel Subsurface flow/discharge into channel Leaf litter in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel <u>Biology (Subtotal =)</u> C. Fibrous roots in channel bed ¹ Neoted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	$ \begin{array}{c} 1 \\ 0.5 \\ 1 \\ 0.5 \\ 1 \\ 0.5 \\ 1 \\ 0.5 \\ 0.5 \\ \hline 0.5 \\ $	2 1 2 1 2 1 2 1 1 Yes Moderate 2 2 0.5 1 1 1 1 1 1 1 1 1 1 1 1 1	$3 \\ 1.5 \\ 3 \\ 1.5 \\ 3 \\ 1.5 \\ 1.5 \\ = 3 \\ $
Sorting of soil textures or other substrate Active/relic floodplain Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map <u>Hydrology (Subtotal =)</u> Subsurface flow/discharge into channel Subsurface flow/discharge into channel Leaf litter in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel <u>Biology (Subtotal =)</u> C. Fibrous roots in channel bed ¹ Neoted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0	$\begin{array}{c} 0.5 \\ 1 \\ 1 \\ 0.5 \\ 1 \\ 0.5 \\ 0.5 \\ \hline \end{array}$	1 2 1 2 2 1 1 1 Yes Moderate 2 2 2 0.5 1 1	$ \begin{array}{r} 1.5 \\ 3 \\ 1.5 \\ 3 \\ 1.5 \\ 1.5 \\ = 3 \\ \end{array} $ Strong $\begin{array}{r} 3 \\ 0 \\ 1.5 \\ 1.5 \\ 3 \\ 0 \\ 1.5 \\ 1.5 \\ \end{array} $
Active/relic floodplain Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map <u>Hydrology (Subtotal =)</u> Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel <u>Biology (Subtotal =)</u> <u>Sediment on plants in channel bed 1</u> Rooted plants in the thalweg 1 Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 1 1 0.5 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	2 2 1 2 1 1 Yes Moderate 2 2 2 0.5 1 1	3 3 1.5 3 1.5 1.5 = 3 Strong 3 3 0 1.5 1.5
Depositional bars or benches Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Biology (Subtotal =) Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	$ \begin{array}{c} 1 \\ 0.5 \\ 1 \\ 0.5 \\ 0.5 \\ \hline 0.$	2 1 2 1 1 Yes Moderate 2 2 2 0.5 1 1	3 1.5 3 1.5 1.5 = 3 Strong 3 0 1.5 1.5
Braided channel Recent alluvial deposits Natural levees Headcuts Grade controls At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) A Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Elology (Subtotal =) A Fibrous roots in channel bed 1 Rooted plants in the thalweg 1 Crayfish in stream (exclude in floodplain)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0.5 1 0.5 0.5 0.5 Weak (1) (1) 1 1 0.5 0.5 = 0	2 1 2 1 1 Yes Moderate 2 2 2 0.5 1 1	3 1.5 3 1.5 1.5 = 3 Strong 3 0 1.5 1.5
 Recent alluvial deposits Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Biology (Subtotal =) Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain) 	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5 1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	1 2 1 1 Yes Moderate 2 2 0.5 1	$ \begin{array}{r} 1.5 \\ 3 \\ 1.5 \\ 1.5 \\ = 3 \\ \end{array} $ Strong 3 0 1.5 1.5
 Natural levees Natural levees Headcuts Grade controls Natural valley or drainageway At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Biology (Subtotal =) Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain) 	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	$ \begin{array}{c} 1 \\ 0.5 \\ 0.5 \end{array} $ Weak $ \begin{array}{c} 1 \\ 0.5 \end{array} $ $ \begin{array}{c} 0.5 \\ 0.5 \end{array} $ $ \begin{array}{c} 0.5 \\ 0.5 \end{array} $ $ \begin{array}{c} 0.5 \\ 0.5 \end{array} $ $ = 0 $	2 2 1 1 Yes Moderate 2 2 2 0.5 1	3 3 1.5 1.5 = 3 Strong 3 3 0 1.5 1.5
2. Headcuts 3. Grade controls 3. At least second order channel on existing USGS or 5. NRCS map 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel 5. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	0 0 0 No 0 1.5 0 0 No Absent	Ueak (1) (1) (1) (1) (1) (1) (1) (1)	2 1 1 Yes Moderate 2 2 2 0.5 1	3 1.5 1.5 = 3 Strong 3 3 0 1.5 1.5
Grade controls Art least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) A Subsurface flow/discharge into channel Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Eliology (Subtotal =) A Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	0 0 Absent 0 0 1.5 0 0 No Absent	0.5 0.5 Weak (1) (1) 1 0.5 0.5 = 0	1 1 Yes Moderate 2 2 2 0.5 1	1.5 1.5 = 3 Strong 3 3 0 1.5 1.5
2. Natural valley or drainageway 3. At least second order channel on existing USGS or NRCS map 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel 2. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	0 Absent 0 1.5 0 0 0 No Absent	0.5 Weak (1) (1) 1 0.5 0.5 = 0	1 Yes Moderate 2 2 0.5 1	1.5 = 3 Strong 3 3 0 1.5 1.5
At least second order channel on existing USGS or NRCS map Hydrology (Subtotal =) A. Subsurface flow/discharge into channel S. Water in channel and >48 hours since sig. rain Leaf litter in channel (January – September) Sediment on plants or on debris Organic debris lines or piles (wrack lines) Hydric soils in channel bed or sides of channel Biology (Subtotal =) Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	Absent 0 0 1.5 0 No Absent	Weak (1) (1) 1 (.5) 0.5 = 0	Yes Moderate 2 2 0.5 1 1	= 3 Strong 3 3 0 1.5 1.5
NRCS map . Hydrology (Subtotal =) 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	Absent 0 0 1.5 0 0 No Absent	Weak (1) (1) 1 (0.5) 0.5 = 0	Moderate 2 2 0.5 1	Strong 3 3 0 1.5 1.5
 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 0 1.5 0 0 No Absent	(1) (1) (1) (0.5) (0.5) (0.5) (0.5) (0.5) (0.5)	2 2 0.5 1	3 3 0 1.5 1.5
 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 0 1.5 0 0 No Absent	(1) (1) (1) (0.5) (0.5) (0.5) (0.5) (0.5) (0.5)	2 2 0.5 1	3 3 0 1.5 1.5
 4. Subsurface flow/discharge into channel 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 1.5 0 0 No Absent	(1) 1 0.5 0.5 = 0	2 2 0.5 1	3 3 0 1.5 1.5
 5. Water in channel and >48 hours since sig. rain 6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 1.5 0 0 No Absent	(1) 1 0.5 0.5 = 0	2 0.5 1	3 0 1.5 1.5
6. Leaf litter in channel (January – September) 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel 5. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	1.5 0 0 No	1 0.5 0.5 = 0	0.5 1 1	0 1.5 1.5
 7. Sediment on plants or on debris 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 0 No	0.5 0.5 = 0		1.5 1.5
 8. Organic debris lines or piles (wrack lines) 9. Hydric soils in channel bed or sides of channel c. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain) 	0 No Absent	0.5 = 0	1	1.5
9. Hydric soils in channel bed or sides of channel 2. Biology (Subtotal =) 0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	Absent	= 0		
Biology (Subtotal =) O. Fibrous roots in channel bed ¹ Rooted plants in the thalweg ¹ Crayfish in stream (exclude in floodplain)	Absent		des =	10
0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)		Weak		1.5)
0. Fibrous roots in channel bed ¹ 1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)		weak	Moderate	Ctrong
1. Rooted plants in the thalweg ¹ 2. Crayfish in stream (exclude in floodplain)	1 3	2 /	Moderate	Strong
2. Crayfish in stream (exclude in floodplain)	0		$\frac{1}{2}$	0
3. Bivalves/mussels	3		Ð 1	0
3. Bivalves/mussels	0	1	2	3
	0	1	2	3
4. Amphibians	0	0.5	1	1.5
5. Macrobenthos (record type & abundance)	0	1	- 2	3
6. Filamentous algae; periphyton	(0)	1	2	3
7. Iron oxidizing bacteria/fungus	(0)	0.5	/ 1	1.5
8.Wetland plants in channel bed ²	0	0.5	1	1.5
	is is on the pr		quatic or wetlan	d plants.
Total Points = $12-5$ Inder Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points otes : $\int a d = 4 fay$	6) 40%. 9) 2" 5,	11 15%	redox	IOTRS
otes : I on a out fail				
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Hydrologic Determination Field Data Sheet Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 3 6PS 196	_ 209 Date/Time: 11/6 195
Assessors/Affiliation: Maring Rubin QHP-IT, Kar Kennel QHP-	17 Project ID :
Site Name/Description: Bella my Property	3299-023-30
Site Location: Clarksville, TN	
HUC (12 digit): 051302 060603- Spring Creek	Lat: 36.607174
Previous Rainfall (7-days): 0.03"	Long: -87,237272
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precipidata : Nonderground KTNCLARKIS6	low abnormally dry unknown
Watershed Size : (), 19 Sg. m:	County: Montgomery
Soil Type(s) / Geology: Gethere Silt Loss / St. Genericus	Linestore Source: W55/US65
Surrounding Land Use: Agricultural / Forested	
Degree of historical alteration to natural channel morphology & hydrology (circl Severe Moderate Slight	e one & describe fully in Notes) : Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	¥	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	x	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	٨	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	¥	Stream
6. Presence of fish (except Gambusia)	×	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WWC	
Secondary Indicator Score (if applicable) = 12,25	144
Justification / Notes : WWC Was Stored	in S Parts - Part 1
Start Lat/Long: 36,607174, -87.237272	End Lat/Long: 36.608615, -87.23919

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	D	2	3
 In-channel structure: riffle-pool sequences 	0	0	2	3
Sorting of soil textures or other substrate	0 0	0 1	2	3
5. Active/relic floodplain	(0)	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	9	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	(0.5)	1	1.5
13. At least second order channel on existing USGS or			Vee	- 2
NRCS map	(No:	=0	Yes	= 3
3. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0 6	-7 1	2	3
14. Subsurface now/discharge into channel 15. Water in channel and >48 hours since sig. rain	0 6	(1)	2	3
 Water in channel and >48 hours since sig. fain Leaf litter in channel (January – September) 	1.5	1	0.5	Õ
	0	0.5	1	1.5
17. Sediment on plants or on debris 18. Organic debris lines or piles (wrack lines)	0		D_1	1.5
	No:			= 1.52
9. Hydric soils in channel bed or sides of channel	1 110	0	(03-	
. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	Ð	0
1. Rooted plants in the thalweg ¹	3	3	1	0
2. Crayfish in stream (exclude in floodplain)	0	1	2	3
3. Bivalves/mussels	0	1	2	3
4. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	- CG	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	8	0.5	1	1.5
28.Wetland plants in channel bed ²	0	(0.5)	1	1.5
Inder Normal Conditions, Watercourse is a Wet Weather	a)10TR4,	12 951	·, 51. KO	lox 7.5
Total Points =?.? 5 Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points	")101K"	12 4 5	1 24.40	x0x f.s

Tennessee Division of Water Pollution Control, Ve	ersion 1.5 9/13/21
Named Waterbody: 1439-1444 WWC.3	Date/Time: 1:00 pm
Assessors/Affiliation: Marian Rubin QHP-IT, Kar Kennel Spectrum	Project ID :
Site Name/Description: Bellamy Property	3299-023-30
Site Location: Clerk-sv: 11e, TN	
HUC (12 digit): 051302060603 - Spring Creek	Lat: 36,608,615
Previous Rainfall (7-days):	Long: -87.239193
Precipitation this Season vs. Normal : abnormally wet elevated average is Source of recent & seasonal precipitata : Wundering and KTNCLARK 150	
Watershed Size : 0.19 Jg. m;	County: Montgomery
Soil Type(s) / Geology: Guthice Silt Lann / St. Grevieve Lines	L Course's s
Surrounding Land Use: Agricultural Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	one & describe fully in Notes) : Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	NIA	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	X	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	X	Stream
6. Presence of fish (except Gambusia)	X	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = ww c
Secondary Indicator Score (if applicable) = δ
Justification / Notes: WWC3 Was scored in 5 parts - Part 2
start Lat /long: 36.608615, -87.239193 End Lat/Long: 36.609223, -87.23929.
large debris pile at start of WWCI, field to the South drains itito wwcl

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong	
1. Continuous bed and bank	0	1 (F) 2	3	1-5
2. Sinuous channel	0 (-	-) 1	2	3	0.5
3. In-channel structure: riffle-pool sequences	0 6	5 1	2	3	0.5
Sorting of soil textures or other substrate	0	(1)	2	3	1
5. Active/relic floodplain	(0)	0.5	1	1.5	
Depositional bars or benches	(0)	1	2	3	
7. Braided channel	0	1	2	3	
Recent alluvial deposits	0 6	0.5	1	1.5	0.1
9. Natural levees	(0)	1	2	3	
10. Headcuts	(0)	1	2	3	
11. Grade controls	0 6	0.5	1	1.5	0.1
12. Natural valley or drainageway	0	0.5)	1	1.5	0.
13. At least second order channel on existing USGS or NRCS map	No :		Yes	= 3	

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January - September)	1.5	1	(0.5)	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5)	1	1.5
19. Hydric soils in channel bed or sides of channel	No	0	Yes =	1.5

C. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	(1)	0
21. Rooted plants in the thalweg ¹	3	2 (Ð 1	0
22. Crayfish in stream (exclude in floodplain)	\bigcirc	1	2	3
23. Bivalves/mussels	\bigcirc	1	2	3
24. Amphibians	Ø	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28.Wetland plants in channel bed ²	(0)	0.5	1	1.5
	Ecour is on the pre	aconco of a	quatia actuation	d alasta

¹Focus is on the presence of terrestrial plants. ² Focus is on the presence of aquatic or wetland plants.

Total Points = 8

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

areas of continuity tareas of interuption 3) long reach Notes : uniform hydraulies 5.6 readily observed 4 Whole reach Souting one are of sortin through mentioned in \$\$4 7) No recent deposits except one area 6) (omple King ac Width where roots Span Channel + slightly in one area 11 GC Pres 14) No Water in Channel, mostly Indistinct Contours No Seens or Spring S 12 (6) 40%. 17) No sediment observed on plants inclaunel or onlanks 14 Sel IS downstream Slight indication of plants Swayed in divection, occassion debris 18 19 paternes of fiberous roots 21 plants in channel absent 20 rook pile every 2 - 4 paces

Hydrologic	Determination Field Data Sheet	
Tennessee Division	of Water Pollution Control Version 1.5	

Tennessee Division of Water Pollution Control, Version 1	.5 9/13/21
Named Waterbody: 1444-1455 WWC3	Date/Time: 1:30 m
Assessors/Affiliation: Maria Rubin QHP-IT, Kar Kennel Spectrum Environmental	Project ID :
Site Name/Description: Bellang Property	3299-023-30
Site Location: Clarksville, TN	
HUC (12 digit): 051302060603	Lat: 36.609 223
Previous Rainfall (7-days):	Long: - 87.239297
Precipitation this Season vs. Normal: abnormally wet elevated average low abn Source of recent & seasonal precipitata: Winderground KTNCLARK 150	normally dry unknown
Watershed Size : 0.19 VB. 01: County:	Montgomery
Soil Type(s) / Geology: Butmie Silt Loam/Lindell Silt Learn /St. Generious Livest	
Surrounding Land Use: Agricultural [Forested	,
Degree of historical alteration to natural channel morphology & hydrology (circle one & d	lescribe fully in Notes) : bsent

Primary Field Indicators Observed

Primary Indicators	NO	YES
 Hydrologic feature exists solely due to a process discharge 	V	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	6	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	NIA	WWC
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	X	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	X	Stream
6. Presence of fish (except Gambusia)	X	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	×	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

	core (if applicable) = 8.5
Justification / Notes :	WWC3 Was scored in 5 parts - Part 3.
Start Lat/Long: 36.61	09223,-87.239297 End Lat/Long: 36.609841,-87.239827
Culvert 4/w Wwel	part 2 + Part 3 (prassy swale); (viver + packed w/ hay

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1 (Ð 2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	D	2	3
4. Sorting of soil textures or other substrate	0 (Ð 1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	(0)	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	(0)	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	(0)	0.5	1	1.5
12. Natural valley or drainageway	0	(0.5)	1	1.5
 At least second order channel on existing USGS or NRCS map 	No	=0	Yes	= 3

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong	
14. Subsurface flow/discharge into channel	0	1	2	3	
15. Water in channel and >48 hours since sig. rain	(07	1	2	3	
16. Leaf litter in channel (January – September)	1.5	1	0.5	0	0.
17. Sediment on plants or on debris	(0)	0.5	1	1.5	
18. Organic debris lines or piles (wrack lines)	0	(0.5)	1	1.5	0.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1 (1

C. Biology (Subtotal =)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	(1)	0
21. Rooted plants in the thalweg ¹	3	(2)	1	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	Ø	0.5	1	1.5
28 Wetland plants in channel hed 2	0	0.5	1	1.5
20. Worland plante in encode of torrostrial plants	Focus is on the pre	esence of a	quatic or wetland	d plants.

⁺Focus is on the presence of terrestrial plants.

Total Points = 8.5

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes: Dareas of continuity + areas of interruption 3) Uniform hydraulics

4) Channel Subtrate Similar to Jurrounding upla	ind Substrate 5) completely lacking
B) completely absent, No over bank depositi	ion 11 None 12 mostly indistinct
Contours (1) No water, No seeps or Springs	
18) drift piles occassionally 19) NO 30)	patches of fiberous roots 21) Occassional
rooted plants in channel spaced many	paces apart
TOPPED PLANTS IN CHANNEL SPACE	

Tennessee Division of Water Pollution Control, Version 1.	5 9/13/21					
Named Waterbody: 1455-1472 WWC3	Date/Time: 2: 15 pm					
Assessors/Affiliation: Marian Rubin RHP-It, Kari Kennel Spectrum	Project ID :					
Site Name/Description: Bellang Property	3299-023-30					
Site Location: Clarksville, TN						
	Lat: 36. 609841					
Previous Rainfall (7-days) : 0	Long: -87.239827					
Precipitation this Season vs. Normal : abnormally wet elevated average low abn Source of recent & seasonal precipitata : Wunderstand KTMCLARK 150	ormally dry unknown					
Watershed Size : 0./9 Jg. m: County: /	Montgomery					
Soil Type(s) / Geology: Lindell Silt Loam / St. Generieve Linestore	Source:					
Surrounding Land Use: Adr: with rail forested						
Degree of historical alteration to natural channel morphology & hydrology (circle one & d	escribe fully in Notes) : osent					

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		(wwc)
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	X	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	×	Stream
6. Presence of fish (except Gambusia)	Х	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Secondary Indicator Score (if applicable) =	
Justification / Notes: WWC 3 was reared in	
	St parts- Part 4
Justification / Notes: WWC 3 Was round in Istart Lat [Long: 36.60984], -87.239827 End [-+12003: 36.612933,-87.240245

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	1	2	3
4. Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5	1	1.5
12. Natural valley or drainageway	0	0.5	1	1.5
 At least second order channel on existing USGS or NRCS map 	No	= 0	Yes	= 3

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	1	2	3
16. Leaf litter in channel (January - September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No	= 0	Yes =	= 1.5

Absent	Weak	Moderate	Strong
3	2	1	0
3	2	1	0
0	1	2	3
0	1	2	3
0	0.5	1	1.5
0	1	2	3
0	1	2	3
0	0.5	1	1.5
0	0.5	1	1.5
	Absent 3 0	3 2 3 2 0 1 0 1 0 0.5 0 1 0 1 0 0.5 0 1 0 1 0 1 0 1 0 1 0 1.5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

¹Focus is on the presence of terrestrial plants. ² Focus is on the presence of aquatic or wetland plants.

Total Points = ____

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Tennessee Division of Water Pollution Control, Version	n 1.5 9/13/21
Named Waterbody: 1472-1483 WWC3	Date/Time: 2:45pm
Assessors/Affiliation: Marian Rubin QHP-IT, Kar: Kennel Spectron Environme	Project ID :
Site Name/Description: Bellany logerty	3299-023-30
Site Location: (lades ville 1 Th	
HUC (12 digit): 05/302060603 - Spring Creek	Lat: 36.6/2933
Previous Rainfall (7-days) :	Long: -87.240245
Source of recent & seasonal precip data : Wunderground KINCLARK ISO	abnormally dry unknown
Watershed Size : 0.39 Jg. m; County	: Montgomery
Soil Type(s) / Geology: Accompton Silt Loam 1 St. Generieve Line store	Source: WSJ/WGJ
Surrounding Land Use: Agricultural / forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one a	& describe fully in Notes) :
Severe Moderate Slight	Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	×	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	×	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	ĸ	wwe
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	ĸ	Stream
6. Presence of fish (except Gambusia)	К	Stream
7. Presence of naturally occurring ground water table connection	×	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	×	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination =	MWC							
Secondary Indicator Score (if applicable) =	11		_					
Justification / Notes : WWC3 Was	crured	10	5	ports	par	+ 5	A	
Justification / Notes: WWC3 Was Start Lat/Long: 36.612933,-87.24	0245	End	Lat	1Long:	36.6	15234	-87.240-	143
downstream of grassy Small								_
								_

Continuous bed and bank		Weak	Moderate	Strong
O'anna ab anna al	0	1	(2)	3
. Sinuous channel	0	D	2	3
In-channel structure: riffle-pool sequences	0	(1)	2	3
. Sorting of soil textures or other substrate	0	0	2	3
Active/relic floodplain	0	0.5	1	1.5
Depositional bars or benches	0	0	2	3
Braided channel	(0)	1	2	3
Recent alluvial deposits	(0)	0.5	1	1.5
Natural levees	0	1	2	3
). Headcuts	(0)	1	2	3
. Grade controls	8	0.5	1	1.5
2. Natural valley or drainageway	0	0.5 C		1.5
8. At least second order channel on existing USGS or NRCS map	No	1	Yes	
Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
Subsurface flow/discharge into channel	(0)	1	2	3
		1	2	3
. Water in channel and >48 hours since sig. rain		1	0.5	0
. Leaf litter in channel (January – September)	1.5			
. Sediment on plants or on debris	0	0.5	1	1.5
3. Organic debris lines or piles (wrack lines)	0	0.5	F) 1	1.5
. Hydric soils in channel bed or sides of channel	No:	= 0	Yes =	= 1.5
Biology (Subtotal =)	Absent	Weak	Moderate	Strong
. Fibrous roots in channel bed ¹	3	2	(1)	0
. Rooted plants in the thalweg ¹	3	(2)	1 1	0
. Crayfish in stream (exclude in floodplain)	0	1	2	3
B. Bivalves/mussels	0	1	2	3
. Amphibians	0	0.5	1	1.5
	0		2	
Macrobenthos (record type & abundance)		1		3
. Filamentous algae; periphyton	0	1	2	3
. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
Wetland plants in channel bed ²	0	0.5	1	1.5
ocus is on the presence of terrestrial plants. ² Focus	s is on the pre	sence of ac	ualic of welland	- presider
ocus is on the presence of terrestrial plants. 2 Focus otal Points = der Normal Conditions, Watercourse is a Wet Weather nveyance if Secondary Indicator Score < 19 points	s is on the pre			

Tennessee Division of Water Pollution Control, Version 1	.5 11/15/21
Named Waterbody: WWC 4	Date/Time: 8:30
Assessors/Affiliation: Marin Rubin QHP-IT, Kar: Kennel QHP-IT	Project ID :
Site Name/Description: Bellomy Property	3299-023-30
Site Location: Clarksville, TN	
HUC (12 digit): 051302060603 - Spring Creek	Lat: 36.615342
Previous Rainfall (7-days): 0.32"	Long: -87.241027
Precipitation this Season vs. Normal : abnormally wet elevated average low abn Source of recent & seasonal precipidata : Nunderscand KTNCLARKISS	ormally dry unknown
Watershed Size : 0,40 59, m: County: /	Nontgomen
Soil Type(s) / Geology: Arrivation Silt Long / St. Generice Limestor	Source: WSS/VJ6S
Surrounding Land Use: Anrice Hurn (Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & d Severe Moderate Slight Al	escribe fully in Notes) : bsent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	X	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	×	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	X	Stream
6. Presence of fish (except Gambusia)	X	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall	Hydrologic	Determination	=	1.11.1	6
Overall	riyurulugic	Determination	_		

Secondary Indicator Score (if applicable) = 13,25

Justification / Notes :

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	\bigcirc	3
2. Sinuous channel	0	(1)	2	3
3. In-channel structure: riffle-pool sequences	0	D	2	3
Sorting of soil textures or other substrate	0	715	2	3
5. Active/relic floodplain	0	0.5	1	1.5
Depositional bars or benches	0 0	5 1	2	3
7. Braided channel	0	1	2	3
Recent alluvial deposits	0	(0.5)	1	1.5
9. Natural levees	05	1	2	3
10. Headcuts	87	1	2	3
11. Grade controls	0	0.5	18	-
12. Natural valley or drainageway	-			1.5
13. At least second order channel on existing USGS or	0	0.5 (1.5
NRCS map	No	=0)	Yes	= 3

B. Hydrology (Subtotal =)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	$\left(0\right)$	1	2	3
15. Water in channel and >48 hours since sig_rain	0	(1)	2	3
 Leaf litter in channel (January – September) 	1.5	1	(0.5)	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	(0.5)	1	1.5
19. Hydric soils in channel bed or sides of channel	(No	=0)	Yes =	

Absent	Weak	Moderate	Strong
3	2	(1)	0
3	2 (5 1	0
(0)	1	2	3
0	1	2	3
0	0.5	1	1.5
Ø	1	2	3
(0)	1	2	3
(0)	0.5	1	1.5
0	0.5	1	1.5
	Absent 3 0 0 0 0 0 0 0 0 0 0 0 0 0	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

10.75 2.50 3.25

Focus is on the presence of terrestrial plants. ² Focus is on the presence of aquatic or wetland plants.

contrul

loverage

Total Points = (3.25)

Leaf

6

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes: 1. Bed and Bank Continues - few interruption 11 Medium to large free routs act

to file route Aryo act as grade itter Chan-el approy. in 75

Tennessee Division of Water Pollution Control, Version 1.	.5 11/15/21
Named Waterbody: WW C 5	Date/Time: 9:00
Assessors/Affiliation: Morion Rubin QHP-IT, Kari Kennel QHP-IT	Project ID :
Site Name/Description: Bellamy Property	3299-023-30
Site Location: Clackswille Tr	
HUC (12 digit): 051302060603	Lat: 36.614951
Previous Rainfall (7-days): (), 3 2."	Long: -87,24202
Precipitation this Season vs. Normal : abnormally wet elevated average low abn Source of recent & seasonal precipidata : Www.gen.sea.d KTNCLARKISO	ormally dry unknown
Watershed Size : 0.40 sg m: County:	Montgomery
Soil Type(s) / Geology: Accim ton S: It Lorm / St Consulty e finestore	Source: VISS/
Surrounding Land Use: Agricultural /forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & d Severe Moderate Slight A	escribe fully in Notes) : bsent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	×	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	×	Stream
6. Presence of fish (except Gambusia)	×	Stream
7. Presence of naturally occurring ground water table connection	×	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	×	Stream
9. Evidence watercourse has been used as a supply of drinking water	×	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = |().75|

Justification / Notes :

A. Geomorphology (Subtotal = 6.75	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1 (2	3
2. Sinuous channel	0	0	2	3
3. In-channel structure: riffle-pool sequences	0	(1)	2	3
4. Sorting of soil textures or other substrate	0	1	P 2	3
5. Active/relic floodplain	(0)	0.5	1	1.5
6. Depositional bars or benches	0 (D 1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits	0	(0.5)	1	1.5
9. Natural levees	0	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	6	0.5	1	1.5
12. Natural valley or drainageway	0	0.5 (\mathcal{D} 1	1.5
13. At least second order channel on existing USGS or NRCS map	No	= 0	Yes	= 3

B. Hydrology (Subtotal = 2)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0 0	21	2	3
16. Leaf litter in channel (January - September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	(No = 0)		Yes = 1.5	

Absent	Weak	Moderate	Strong
3	2	1	0
3	2	(1)	0
0	1	2	3
0	1	2	3
0	0.5	1	1.5
Ø	1	2	3
Ø	1	2	3
0	0.5	1	1.5
0	0.5	1	1.5
	3 3 0	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

¹Focus is on the presence of terrestrial plants.

² Focus is on the presence of aquatic or wetland plants.

Total Points = 10.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

Hydrologic Determination Field Data Sheet Tennessee Division of Water Pollution Control, Version 1.5 11/8/21

Named Waterbody: WWWC (0	Date/Time: 2:00
Assessors/Affiliation: Marien Rubin QHP-IT, Kar. Kennel QHP-IT	Project ID :
Site Name/Description: Belling Property	3299-023-30
Site Location: Clarksville TN	
HUC (12 digit): 051302060603	Lat: 36.610847
Previous Rainfall (7-days): 0.03"	Long: _87,238903
Precipitation this Season vs. Normal : abnormally wet elevated average low a Source of recent & seasonal precipitatia : Woodrogroup KTWCLARIE 150	bnormally dry unknown
	Montgomery
Soil Type(s) / Geology: Dickson Jilt Loam / St. Genevieve Lineste	Litte
Surrounding Land Use: Agricultural / Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one &	
Severe Moderate Slight	Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	×	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	Х	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	X	Stream
6. Presence of fish (except Gambusia)	X	Stream
7. Presence of naturally occurring ground water table connection	×	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	×	Stream
9. Evidence watercourse has been used as a supply of drinking water	¥	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall Hydrologic Determination =	WW	C	

Secondary Indicator Score (if applicable) =

Justification / Notes :

A. Geomorphology (Subtotal = 6^{-7})	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1.0	2 2	3
2. Sinuous channel	0	(1)	2	3
In-channel structure: riffle-pool sequences	0	B	2	3
Sorting of soil textures or other substrate	0	(1)	2	3
5. Active/relic floodplain	(0)	0.5	1	1.5
6. Depositional bars or benches	0	(1)	2	3
7. Braided channel	1	1	2	3
Recent alluvial deposits		(0.5)	1	1.5
9. Natural levees	()	1	2	3
10. Headcuts	07	1	2	3
11. Grade controls	(0)	0.5		
12. Natural valley or drainageway	0	(0.5)	1	1.5
 At least second order channel on existing USGS or NRCS map 	No		Yes	1.5 = 3

B. Hydrology (Subtotal = \sim)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	(0)	1	2	3
15. Water in channel and >48 hours since sig, rain	0 0	DI	2	3
16. Leaf litter in channel (January – September)	1.5	1	(0.57	0
17. Sediment on plants or on debris	0	(0.5)	1	1.5
18. Organic debris lines or piles (wrack lines)	0	(0.52	1	1.5
19. Hydric soils in channel bed or sides of channel	(No:		Yes =	

C. Biology (Subtotal = 2, 5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	2	(1)	0
21. Rooted plants in the thalweg ¹	3	2 (0
22. Crayfish in stream (exclude in floodplain)	(0)	1	2	3
23. Bivalves/mussels	Ő	1	2	3
24. Amphibians	85	0.5	1	1.5
25. Macrobenthos (record type & abundance)	(0)	1	2	3
26. Filamentous algae; periphyton	W	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28.Wetland plants in channel bed ²	(0)	0.5	1 1	1.5

Focus is on the presence of terrestrial plants.

Total Points =

² Focus is on the presence of aquatic or wetland plants.

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

8 Small Notes : alluvial abserve d amount T No Flow (tond:m 14 water Doul CI eaf litter 1 16 approx 30 %

Tennessee Division of Water Pollution Control, Version 1.	5 11/8/21
Named Waterbody: WWC 7 6PS 218-224	Date/Time: 310 pm
Assessors/Affiliation: Marian Rubin QHP-IT, Kari Kennel QHP-IT	Project ID :
Site Name/Description: Bellany Property	3299-023-30
Site Location: Clarksville, TN	
HUC (12 digit): 051302060603- Soring Creek	Lat: 36. 611000
Previous Rainfall (7-days): 0.03 "	Long: -87,238549
Precipitation this Season vs. Normal : abnormally wet elevated average low abn Source of recent & seasonal precipitata : Wundergrand KTNCLARKISO	ormally dry unknown
Watershed Size : 0,03 Sg. Mi County:	Montgomery
Soil Type(s) / Geology: Guthrie filt Loam / St Genevieve Linest	1 1 4 . 1
Surrounding Land Use: Ancievitical / Forested	
Degree of historical alteration to natural channel morphology & hydrology (circle one & d Severe Moderate Slight Al	escribe fully in Notes) : osent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	X	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	X	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	NA	wwc
 Daily flow and precipitation records showing feature only flows in direct response to rainfall 	NIA	wwc
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	X	Stream
6. Presence of fish (except Gambusia)	X	Stream
7. Presence of naturally occurring ground water table connection	X	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	X	Stream
9. Evidence watercourse has been used as a supply of drinking water	X	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5

Overall H	Hydrologic	Determination	=	MWC
-----------	-------------------	---------------	---	-----

Secondary Indicator Score (if applicable) = 16.5

Justification / Notes :

A. Geomorphology (Subtotal = 625	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	(2)	3
2. Sinuous channel	0	(1)	2	3
3. In-channel structure: riffle-pool sequences	0 0	21	2	3
Sorting of soil textures or other substrate	Q	(1) (2	3
5. Active/relic floodplain	(0)	0,5	1	1.5
6. Depositional bars or benches	0 4	00	2	3
7. Braided channel	(0)	1	2	3
8. Recent alluvial deposits	0	0.5	1	1.5
9. Natural levees	(0)	1	2	3
10. Headcuts	0	1	2	3
11. Grade controls	0	0.5		1.5
12. Natural valley or drainageway	0	(0.5)	1	1.5
13. At least second order channel on existing USGS or NRCS map	No =	-	Yes	= 3

3((,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	L	1 Marale	Medanata	Ctrong
B. Hydrology (Subtotal = d d)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	(07	1	2	3
15. Water in channel and >48 hours since sig. rain	0 (D 1	2	3
16. Leaf litter in channel (January - September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	(0.5)	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	P 1	1.5
19. Hydric soils in channel bed or sides of channel	No	= 0	Yes =	1.5

C. Biology (Subtotal = 7)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed ¹	3	(2)	1	0
21. Rooted plants in the thalweg 1	3	(2)	1	0
22. Crayfish in stream (exclude in floodplain)	Q	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	Q	0.5	1	1.5
25. Macrobenthos (record type & abundance)	Q	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	(0)	0.5	1	1.5
28.Wetland plants in channel bed ²	0	0.5	1	1.5

6.5

Total Points = ___

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

19) 10 TR +/2 981., 21. Fedox 7.5 TR 4/6

Notes :

APPENDIX E

Wetland Datasheets

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Bellamy Property City/C	County: Clarksville, Montgomery County Sampling Date: 2021-11-08
	State: Tennessee Sampling Point: Up A
Investigator(s).Marian Rubin & Kari Kennel; Spectrum Environmental, Inc. Secti	
• · · · ·	lief (concave, convex, none): Linear Slope (%): 2
	Long: -87.244112 Datum: NAD 83
Soil Map Unit Name: DSB - Dickson silt loam, 2 to 5 percent slo	
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes 🖌 No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distu	rbed? Are "Normal Circumstances" present? Yes <u>/</u> No
Are Vegetation, Soil, or Hydrology naturally problem	
	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓ Remarks: Ketter Ketter Ketter Ketter	Is the Sampled Area within a Wetland? Yes No
According to the Normal Weather Conditions calculation utiliz months) has been normal; the area in which this upland pit wa purposes, specifically for the creation of a pond (Pond 1). The	as taken has been historically altered for the agricultural
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants	
High Water Table (A2) Hydrogen Sulfide Oc Saturation (A3) Oxidized Rhizosphere	
Vater Marks (B1) Presence of Reduce	
Vale Marks (B1) Recent Iron Reducted	
Drift Deposits (B3) Thin Muck Surface (
Algal Mat or Crust (B4)	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes <u>No</u> Depth (inches):	
Saturation Present? Yes No <u>✓</u> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No_
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Up A

,	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 0 (A)
2				
				Total Number of Dominant Species Across All Strata: 0 (B)
3				Species Across All Strata: 0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov		Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover:	0	OBL species $\frac{0}{2}$ x 1 = $\frac{0}{2}$
Sapling/Shrub Stratum (Plot size: 15)				FACW species 0 $x 2 = 0$
1				FAC species 0 x 3 = 0
2				FACU species <u>10</u> x 4 = <u>40</u>
3				UPL species $10 \times 5 = 50$
				Column Totals: <u>20</u> (A) <u>90</u> (B)
4				
5				Prevalence Index = B/A = 4.50
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8	·			2 - Dominance Test is >50%
9				 3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				
1. Glycine max	60	~		Problematic Hydrophytic Vegetation ¹ (Explain)
_{2.} Dactylis glomerata	10		FACU	
3. Stellaria media	10		UPL	¹ Indicators of hydric soil and wetland hydrology must
4. Lamium purpureum	5			be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9	·			than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	0 = 0/			
	85%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 42.5		= Total Cov total cover:		
				Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)	20% of	total cover:	17	
Woody Vine Stratum (Plot size: 15)	20% of	total cover:	17	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15) 1 2	20% of	total cover:	17	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15) 1	20% of	total cover:	17	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15) 1	20% of	total cover:	17	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 15) 1	20% of	total cover:	<u>17</u>	Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation
Woody Vine Stratum (Plot size: 15) 1	20% of	total cover:	17 	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: 15) 1	20% of	total cover:	17 	Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation

Note - soybean crop listed was recently harvested and the reported coverage percentages reflect coverage post harvest. Glycine max and Lamium purpureum did not have a indicator status listed on the USDA website.

hes) Color (- 6 10YR 4/		%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	/3	100					Sandy Clay Loam	
-								
-								
e: C=Concentration	n, D=Deple	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: P	L=Pore Lining, M=Matrix.
ric Soil Indicators:							Indica	ators for Problematic Hydric Soils
Histosol (A1)			Dark Surface	e (S7)			2	cm Muck (A10) (MLRA 147)
Histic Epipedon (A2	2)		Polyvalue Be	low Surfac	e (S8) (M	ILRA 147,	, 148) C	oast Prairie Redox (A16)
Black Histic (A3)	,		Thin Dark Su	Irface (S9)	(MLRA 1	47, 148)	,	(MLRA 147, 148)
Hydrogen Sulfide (A	4)		Loamy Gleye	. ,	•		Р	iedmont Floodplain Soils (F19)
Stratified Layers (A	,		Depleted Ma	•	_)		·	(MLRA 136, 147)
2 cm Muck (A10) (L	,		Redox Dark	· ,	2)		V	ery Shallow Dark Surface (TF12)
Depleted Below Da		(111)	Depleted Da					ther (Explain in Remarks)
		(ATT)					0	(Explain in Remarks)
Thick Dark Surface			Redox Depre					
Sandy Mucky Mine		RR N,	Iron-Mangan		s (F12) (I	_RR N,		
MLRA 147, 148)			MLRA 13				0	
Sandy Gleyed Matr	ix (S4)		Umbric Surfa	ace (F13) (I	MLRA 13	6, 122)	³Ind	icators of hydrophytic vegetation and
Sandy Redox (S5)			Piedmont Flo	odplain So	oils (F19)	(MLRA 14	48) we	tland hydrology must be present,
Stripped Matrix (S6)		Red Parent I	Material (F2	21) (MLR	A 127, 147	7) un	less disturbed or problematic.
rictive Layer (if ob	served):							
уре:								
epth (inches):							Hydric Soil	Present? Yes No 🖌
							•	

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

WEILAND DETERMINATION DA	TA FORM – Eastern Mountains and Fleumont Region
Project/Site: Bellamy Property	City/County: Clarksville, Montgomery County Sampling Date: 2021-11-08
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Up B
Investigator(s): ^{Marian} Rubin & Kari Kennel; Spectrum Environment	
• • • •	Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): <u>N 122</u> Lat: 36.60	
	cent slopes, occasionally ponded_ NWI classification:
	me of year? Yes No (If no, explain in Remarks.)
	ificantly disturbed? Are "Normal Circumstances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology natu	urally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Kenter Kenter	Is the Sampled Areavwithin a Wetland?YesNo
wetland in an area that is not wetland. According to the Normal W	etland habitat is classified as a PEM1C, the soil pit was dug upgradient of the NWI mapped Veather Conditions calculation utilized for TDEC HD submittals, the prior period (past three aken has been historically altered for the agricultural purposes, specifically for the creation of wed routinely and utilized for soybean production.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply) Surface Soil Cracks (B6)
Surface Water (A1) True Ad	quatic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	en Sulfide Odor (C1) Drainage Patterns (B10)
	ed Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
	Lee of Reduced Iron (C4) Dry-Season Water Table (C2)
	t Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8) uck Surface (C7) Saturation Visible on Aerial Imagery (C9)
	Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No 🔽 Depth	(inches):
Water Table Present? Yes No <u> V</u> Depth	
Saturation Present? Yes No _ Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aer	
Describe Recorded Data (Stream gauge, monitoring well, aer	
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Up B

		-	Odmping Font.
Trop Stratum (Blat aize:		Dominant Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1)		Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2		·	Total Number of Dominant
3			Species Across All Strata: 0 (B)
4			
5			Percent of Dominant Species That Are OBL_FACW_or_FAC [·] NaN (A/B)
			That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
6			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
		= Total Cover	$\begin{array}{c c} \hline \\ \hline $
50% of total cover:	20% o	r total cover:	FACW species 0 $x^2 = 0$
Sapling/Shrub Stratum (Plot size:)			
1		·	FAC species $\frac{0}{2}$ x 3 = $\frac{0}{2}$
2			FACU species 0 $x 4 = 0$
3			UPL species $0 \times 5 = 0$
4			Column Totals: <u>0</u> (A) <u>0</u> (B)
5			Prevalence Index = B/A = NaN
6			Hydrophytic Vegetation Indicators:
7		·	1 - Rapid Test for Hydrophytic Vegetation
8		·	2 - Dominance Test is >50%
9		·	3 - Prevalence Index is $\leq 3.0^{1}$
		= Total Cover	
50% of total cover:	20% o	f total cover:	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:)			data in Remarks or on a separate sheet)
1. Glycine max	90	 ✓ 	Problematic Hydrophytic Vegetation ¹ (Explain)
2			¹ Indicators of hydric soil and wetland hydrology must
3			be present, unless disturbed or problematic.
4		·	Definitions of Four Vegetation Strata:
5		·	Tree Manda de la tre construir en Oin (7.0 em) en
6		·	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7			height.
8			
9			Sapling/Shrub – Woody plants, excluding vines, less
10		·	than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			, ca
11	90%	·	Herb – All herbaceous (non-woody) plants, regardless
		= Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 45	20% 0	f total cover: 18	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)			height.
1		·	
2			
3			
4			
5			Hydrophytic Vegetation
v		= Total Cover	Present? Yes No
50% of total cover:			
Remarks: (Include photo numbers here or on a separate	sneet.)		

Note - soybean crop listed was recently harvested and the reported coverage percentages reflect coverage post harvest. Glycine max did not have a indicator status listed on the USDA website.

1-6 10YR 4/4 100	1-6 10YR 4/4 100 Silt Loam -	1-6 10YR 4/4 100	ches) Color (moist) %	<u></u>	Texture Remarks
Indicators: Indicators for Problematic Hydric Soils ³ : _ Histosol (A1)	Indicators: Indicators for Problematic Hydric Soils ³ _ Histosol (A1)	dric Soil Indicators: Indicators for Problematic Hydric Soils ³ Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipedon (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, other (Explain in Remarks) Sandy Gleyed Matrix (S6) Piedmont Floodplain Soils (F19) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Strictive Layer (if observed): Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:			
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Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:	Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:	Black Histic (A3)	Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type:	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type:	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:	Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	148) Coast Prairie Redox (A16)
Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 136, 127, 147) unless disturbed or problematic. stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:	Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Type:	Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (TF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Iron-Manganese Masses (F12) (LRR N, Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type:	Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
2 cm Muck (A10) (LRR N)	2 cm Muck (A10) (LRR N)	2 cm Muck (A10) (LRR N)	Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Iron-Manganese Masses (F12) (LRR N, Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type:	Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Iron-Manganese Masses (F12) (LRR N, Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. estrictive Layer (if observed): Type:	Depleted Below Dark Surface (A11)	Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
Thick Dark Surface (A12)	Thick Dark Surface (A12)	Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type: Depth (inches): Murch (inches):	2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes	Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes	Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):	Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) strictive Layer (if observed): Type: Type: Hydric Soil Present? Yes No	Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) strictive Layer (if observed): Type: Type: Hydric Soil Present? Yes No	Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):	Thick Dark Surface (A12)	Redox Depressions (F8)	
MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, expension of the present, ex	MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, expension of the present, ex	MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and vegetation and vegetation solis (F19) (MLRA 148) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type: Hydric Soil Present? Yes No			
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydric Soil Present? Yes No	Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Red Parent Material (F21) (MLRA 127, 147) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if observed): Type: Hydric Soil Present? Yes No	Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type: Depth (inches): No			
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):			³ Indicators of hydrophytic vegetation and
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No _	Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No _	Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Layer (if observed):			
Type:	Type:	Type:			
Depth (inches): Hydric Soil Present? Yes No ✓	Depth (inches): Hydric Soil Present? Yes No ✓	Depth (inches): No _	strictive Layer (if observed):		
			Туре:		
marks:	marks:	marks:	Depth (inches):		Hydric Soil Present? Yes No
			marks:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Bellamy Property	_ City/County: Clarksville, Montgomery County Sampling Date: 2021-11-08				
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Up C				
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, In					
• • • •	Local relief (concave, convex, none): Concave Slope (%): 0				
Subregion (LRR or MLRA): N 122 Lat: 36.61122					
Soil Map Unit Name: GuGuthrie silt loam, 0 to 2 percent s					
Are climatic / hydrologic conditions on the site typical for this time of					
	ntly disturbed? Are "Normal Circumstances" present? Yes <u>V</u> No				
Are Vegetation, Soil, or Hydrology naturally					
SUMMARY OF FINDINGS – Attach site map showi	ng sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No					
Hydric Soil Present? Yes No 🗸	Is the Sampled Area within a Wetland? Yes No ✔				
Wetland Hydrology Present? Yes No 🗸					
Remarks:					
normal; the area in which this uplandpit was taken has been h	ed for TDEC HD submittals, the prior period (past three months) has been istorically altered for the agricultural purposes, specifically for the creation of pgradient of Wetland C is mowed routinely and utilized for soybean				
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that app	<u>y)</u> Surface Soil Cracks (B6)				
Surface Water (A1) True Aquation	Plants (B14) Sparsely Vegetated Concave Surface (B8)				
	ulfide Odor (C1) Drainage Patterns (B10)				
	izospheres on Living Roots (C3) Moss Trim Lines (B16)				
	Reduced Iron (C4) Dry-Season Water Table (C2)				
	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)				
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1) Iron Deposits (B5) Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)				
Multication visible on Aerian imagery (57)					
Aquatic Fauna (B13)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No 🗾 Depth (inch	es):				
Water Table Present? Yes No 🖌 Depth (inch	es):				
Saturation Present? Yes <u>No</u> Depth (inch (includes capillary fringe)	es): Wetland Hydrology Present? Yes No				
Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections), if available:				
Remarks:					

Sampling Point: Up C

, , ,	Abaaluta	- Deminent	Indiantan	Deminence Test worksheet
Tree Stratum (Plot size: <u>30</u>)	Absolute			Dominance Test worksheet:
			<u>Status</u>	Number of Dominant Species
1. Quercus palustris	10	<u> </u>	FACW	That Are OBL, FACW, or FAC: <u>3</u> (A)
2. Liquidambar styraciflua	5	~	FAC	
3 Acer negundo	5	V	FAC	Total Number of Dominant
	5			Species Across All Strata: <u>4</u> (B)
4				
5				Percent of Dominant Species That Are OBL_EACW_or_EAC: 75 (A/B)
		·		That Are OBL, FACW, or FAC: <u>75</u> (A/B)
6				Prevalence Index worksheet:
7				
	20%	= Total Cov	٥r	Total % Cover of: Multiply by:
50% of total cover: 10			-	OBL species $0 x_1 = 0$
	20% 01	total cover:	-	
Sapling/Shrub Stratum (Plot size: 15)				FACW species $\frac{17}{12}$ x 2 = $\frac{34}{22}$
_{1.} Lonicera japonica	15	~	FACU	FAC species <u>10</u> x 3 = <u>30</u>
2. Juniperus virginiana	5	·	FACU	FACU species <u>35</u> x 4 = <u>140</u>
3. Celtis laevigata	5		FACW	
4. Quercus palustris	2		FACW	Column Totals: <u>62</u> (A) <u>204</u> (B)
		·	·	、 , 、 ,
5				Prevalence Index = $B/A = 3.29$
6				
				Hydrophytic Vegetation Indicators:
7		·		1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				
	27%			3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 13.5	20% of	total cover:	5.4	
Herb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
1. Glycine max	80	~		Problematic Hydrophytic Vegetation ¹ (Explain)
2. Dactylis glomerata	15		FACU	1
3				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4	·			Definitions of Four Vegetation Strata:
5				
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6	·			more in diameter at breast height (DBH), regardless of
7				height.
8				
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
	· ·			
11	0.5%	· <u> </u>		Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 47.5	20% of	total cover:	19	
Woody Vine Stratum (Plot size: 15				Woody vine – All woody vines greater than 3.28 ft in
				height.
1				
2				
3				
4				Undrankutia
5				Hydrophytic Vegetation
				Present? Yes No V
		= Total Cov		
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate s	sheet)			1
Remarks. (include photo numbers here of on a separate s	sneet.)			
Glycine max did not have an indicato	r etatu	hateil e	on the	LISDA wahsita
orycline max did not nave an indicato	n statu	Silsteu	on the	USDA WEDSILE.

Depth <u>Matrix</u> nches) Color (moist) %	<u> </u>	Texture Remarks
1 - 8 10YR 3/4 100		Silt Loam
1-8 1011(3)4 100		
-		
		· · · · · · · _ · _ · _ ·
		·
-		
		· ·
		· · · · · · · · · _ · _ · _ · _ · _ · _ · _ · · _ ·
	RM=Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.
ydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
_ Histosol (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
_ Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
_ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
_ Depleted Below Dark Surface (A11)		Other (Explain in Remarks)
_ Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,		
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and
_ Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 14	
estrictive Layer (if observed):		
Туре:		
		Hydric Soil Present? Yes No
Depth (inches):		
emarks:		

Project/Site: Bellamy Property City/Co	ounty: Clarksville, Montgomery County Sampling Date: 2021-11-15
	State: Tennessee Sampling Point: Up D1
Investigator(s). Marian Rubin & Kari Kennel; Spectrum Environmental, Inc. Section	
· · · ·	f (concave, convex, none): Linear Slope (%): 2
	Long: -87.238011 Datum: NAD 83
Soil Map Unit Name: DSB - Dickson silt loam, 2 to 5 percent slope	
Are climatic / hydrologic conditions on the site typical for this time of year? Ye	s 🖌 No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturb	ed? Are "Normal Circumstances" present? Yes <u>/</u> No
Are Vegetation, Soil, or Hydrology naturally problemat	
SUMMARY OF FINDINGS – Attach site map showing sam	
Ludria Sail Dragant? IES NO V	Is the Sampled Area within a Wetland? Yes No EC HD submittals, the prior period (past three months) has been
normal; the area downgradient of this upland pit has been historically a pond 4, which hydrologically contributes to Wet D, between 1955 and 1 mowed routinely and utilized for soybean production.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	r (C1) Drainage Patterns (B10) s on Living Roots (C3) Moss Trim Lines (B16) Iron (C4) Dry-Season Water Table (C2) in Tilled Soils (C6) Crayfish Burrows (C8) 7) Saturation Visible on Aerial Imagery (C9) arks) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Water Table Present? Yes No V Depth (inches): Saturation Present? Yes No V Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev Remarks:	ious inspections), if available:

Sampling Point: Up D1

Tree Stratum (Plot size: 30 y. Cover Species? Status Number of Dominant Species That <i>R</i> OW, or FAC: 2 2. Carya ovata 10 V FACW Total Number of Dominant Species Total Number of Dominant Species 3. 10 V FACW Total Number of Dominant Species Total Number of Dominant Species 5. 10 V FACW Total Number of Dominant Species Total Number of Dominant Species 6. 10 V FACU Percent of Dominant Species Total Number of Dominant Species 7. 45% = Total Cover 50% of total cover: 22.5 20% of total cover: 9 FACU Species 5 x 1 = 0 7. 10 V FACU FACU Species 5 x 2 = 70 7. 10 V FACU FACU Species 5 x 3 = 15 7. 10 V FACU FACU Species 5 x 3 = 15 7. 10 V FACU FACU Species 5 x 3 = 15 8. 10 15% = Total Cover 1 Prevalence Index is 3.0' 1 <			•		
1. Cellis laevigata 35 ✓ FACW 2 Carya ovata 10 ✓ FACW 3. ✓ FACW 3. ✓ FACW 4. ✓ Facular 5. ✓ Facular 6. ✓ Facular 7. ✓ Facular 8. ✓ Facular 9. ✓ Facular 1. Loniceral japonica 10 ✓ 4. ✓ Facular 7. ✓ Facular 6. ✓ Facular 7. ✓ Facular 2. Asimina triloba 5 ✓ 3. ✓ Facular 6. ✓ Facular 7. ✓ Facular 8. ✓ ✓ 9. ✓ ✓ 1. Otypicity constant Signing/Shub Signing/Shub 1. Otypicar Signing/Shub Signing/Shub 2. Asimina triloba ✓ Facular 1. Concer S	Tree Stratum (Plot size: 30	Absolute % Cover			Dominance Test worksheet:
2 Carya ovata 10 ✓ FACU 3 Total Number of Dominant Species Across All Strata: 4 4 Percent of Dominant Species Across All Strata: 4 6 Total Number of Dominant Species Across All Strata: 4 7 50% of total cover: 22.5 20% of total cover: 22.5 20% of total cover 50% of total cover: 22.5 20% of total cover 1 10 ✓ FACU 7 Sapiling/Shrub Stratum (Plot size: 15) 1 10 ✓ FACU 7 Sapiling Shrub Stratum (Plot size: 15) FACU 1 Sapiling Shrub Stratum (Plot size: 5) 10 2 Asimina triloba 5 ✓ 3 - - FACU FACU 7 - - - - 8 - - - - 9 - - - - 1 Signita triloba - - - 1 - - -					Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
1 Total Number of Dominant Species 4			·		
4			·		
5. Percent of DBL, FACU Species 50 6. 7. 45% = Total Cover Total Are OBL, FACU species 50 7. 50% of total cover: 22.5 20% of total cover: 9 FACU Species 35 x 1 = 0 7. 1. Onicera japonica 10 ✓ FACU FACU Species 5 x 3 = 15 1. Onicera japonica 10 ✓ FACU FACU Species 5 x 3 = 10 2. Asimina triloba 5 ✓ FACU FACU Species 5 x 3 = 15 6. FACU Species 5 x 4 = 180 9. FACU Species 5 x 4 = 180 9. Facu Brain Table Total Cover 10. 11. 12. Conicra japonica 10 FACU 13. Hackella virginiana					Species Across All Strata: <u>4</u> (B)
6			·	·	
7. 45% = Total Cover Freedence index worksheet: 50% of total cover: 22.5 20% of total cover: 9 FACU Seelies 0 x 1 = 0 2. Asimina triloba 5 ✓ FACU FACU species 3. x 2 = 70 2. Asimina triloba 5 ✓ FACU FACU species 0 x 5 = 0 3.					That Are OBL, FACW, or FAC: <u>50</u> (A/B)
Image: constraint of the stratum (plot size: 15	6				Prevalence Index worksheet:
50% of total cover; 22.5 20% of total cover; 9 1 10 ✓ FACU 2, Asimina triloba 5 ✓ FACU 3	7		·		
Sapiling/Shrub Stratum (Plot size: 15 10 ✓ FACU FACU species 35 x 2 = 70 2. Asimina triloba 5 ✓ FAC species 5 x 3 = 15 3. - - - FACU species 5 x 3 = 16 4. - - - FACU species 5 x 4 = 180 9. - - - - Column Totals: 85 (A) 265 9. - - - - - Column Totals: 85 (A) 265 9. - - - - - - Column Totals: 85 - - Column Totals: 85 (A) 265 9. - - - - - - - - Column Totals: 85 - - - - - - Column Totals: 85 - - - - - - - - - - - - - - - - - </td <td></td> <td></td> <td></td> <td></td> <td></td>					
1. Lonicera japonica 10 \checkmark FACU FACU FACU species 5 x 3 = 15 2. Asimina triloba 5 \checkmark FAC FACU FACU species $\frac{5}{45}$ x 4 = 180 3. Column Totals: $\frac{5}{45}$ x 4 = 180 4. Column Totals: $\frac{6}{45}$ x 4 = 180 5. Perula chack statum (Plot size: 5		20% of	total cover:	9	
2 Asimina triloba 5 ✓ FAC 3.					
Image: Second Stratum Image: Second St					FAC species $3 \times 3 = 13$
Column Totals: 85 (A) 265 Column Totals: 85 (A) 265 Prevalence Index = B/A = 3.12 Hydrophytic Vegetation Indicators: -	_{2.} Asimina triloba	5	 ✓ 	FAC	
4	3				
5.					Column Totals: <u>85</u> (A) <u>265</u> (B)
6. Intervalence index = John = = Jo					
7.					
8. 1 1 1 2 Dominance Test is >50% 3 - Prevalence Index is >3.0° 9. 15% = Total Cover 3 - A composition of total cover: 3 - A composition of total cover: 3 1 Glycine max 45 ✓ - A composition of total cover: 3 - A composition of total cover: 3 1 Glycine max 45 ✓ - A composition of total cover: 3 - A composition of total cover: 3 1 Glycine max 45 ✓ - A composition of total cover: 3 - A composition of total cover: 3 2 Lonicera japonica 10 FACU - Problematic Hydrophytic Vegetation 1 (Explain 1 (Expla					
9. 15% = Total Cover 3. Prevalence Index is \$3.0° 1. Glycine max 45 ✓ 2. Lonicera japonica 10 FACU 3. Hackelia virginiana 5 FACU 4. Perilla frutescens 5 FACU 5. Ageratina altissima 5 FACU 8. 9.					
15% = Total Cover 50% of total cover: 2.0% of total cover: 1. Glycine max 45 2. Lonicera japonica 10 3. Hackelia virginiana 5 4. Perilla frutescens 5 5. Ageratina altissima 5 6. - 7. - 8. - 9. - 10. - 7. - 8. - 9. - 10. - 10. - 7. - 8. - 9. - 10. - 11. - 50% of total cover: 35 50% of total cover: - 20% of total cover: - 20% of total cover: - 14. - - - 50% of total cover: - 20% o			·	·	
50% of total cover: 7.5 20% of total cover: 3 4	9	15%			3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5) 1. Glycine max 45 ✓ 2. Lonicera japonica 10 FACU 3. Hackelia virginiana 5 FACU 4. Perilla frutescens 5 FACU 5. Ageratina altissima 5 FACU 6. - - 7. - - 8. - - 9. - - 10. - - 7. - - - 8. - - - 9. - - - 10. - - - - 10. - - - - 8. - - - - - 9. - - - - - - 10. - - - - - - - 10. - - - - - - - - - - - - - <td>50% of total according 7.5</td> <td></td> <td></td> <td></td> <td> 4 - Morphological Adaptations¹ (Provide supporting</td>	50% of total according 7.5				4 - Morphological Adaptations ¹ (Provide supporting
1. Glycine max 45 ✓ 2. Lonicera japonica 10 FACU 3. Hackelia virginiana 5 FACU 4. Perilla frutescens 5 FACU 5. Ageratina altissima 5 FACU 6.		20% 01	total cover.	<u> </u>	data in Remarks or on a separate sheet)
2. Lonicera japonica 10 FACU 3. Hackelia virginiana 5 FACU 4. Perilla frutescens 5 FACU 5. Ageratina altissima 5 FACU 6.	,	45	~		Problematic Hydrophytic Vegetation ¹ (Explain)
2. Hackelia virginiana 5 FACU Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic. 3. Hackelia virginiana 5 FACU Indicators of hydric soil and wetland hydrology m be present, unless disturbed or problematic. 4. Perilla frutescens 5 FACU Definitions of Four Vegetation Strata: 5. Ageratina altissima 5 FACU Definitions of Four Vegetation Strata: 6.				FACIL	
3. Hackella vuginiaria 3 1 Accella vuginiaria 5 1 Accella vuginiaria 5 4. Perilla frutescens 5 FACU FACU Definitions of Four Vegetation Strata: 5. Ageratina altissima 5 FACU FACU Tree – Woody plants, excluding vines, 3 in. (7.6 of more in diameter at breast height (DBH), regardle height. 8.					¹ Indicators of hydric soil and wetland hydrology must
5. Ageratina altissima 5 FACU 6.					
5. regression Tree – Woody plants, excluding vines, 3 in. (7.6 c more in diameter at breast height (DBH), regardle height. 8.	••				Definitions of Four Vegetation Strata:
0.	5. Ageratina altissima	5		FACU	The Aller the plants and discussions of the (7.0 pm) and
7	6				Iree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of
8.					
9.					
10					
11.					• · · · ·
$\frac{70\%}{20\% \text{ of total cover: } 35} = \text{Total Cover}$ $\frac{70\%}{20\% \text{ of total cover: } 14} = \text{Total Cover}$ $\frac{50\% \text{ of total cover: } 35}{20\% \text{ of total cover: } 14} = \text{Merb} = \text{All Herb} = $					
50% of total cover: 35 20% of total cover: 14 Woody Vine Stratum (Plot size: 15) 1.	· · ·	70%	= Total Cov		
Woody Vine Stratum (Plot size: 15) Woody vine - All woody vines greater than 3.28 height. 1 2 3 4	50% of total cover: 35				
1					Woody vine – All woody vines greater than 3.28 ft in
2 3 4 5 = Total Cover Hydrophytic Vegetation Present? Yes No _✓					neight.
3					
4 Hydrophytic 5 = Total Cover					
5 = Total Cover Vegetation Present? Yes No _					
= Total Cover Present? Yes No					Hydrophytic
	5		·		
50% of total cover: 20% of total cover:					Present? Yes No V
	50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate sheet.)	Remarks: (Include photo numbers here or on a separate s	heet.)			

Note - soybean crop listed was recently harvested and the reported coverage percentages reflect coverage post harvest. Glycine max did not have an indicator status listed on the USDA website.

Depth	Matrix Color (moist)	%		x Features	uno ¹	Loc ²	Taytura		Domorko	
inches)			Color (moist)	<u>%</u> T	ype ¹		Texture		Remarks	
1 - 13	10YR 4/4	100					Silt Loam			
-										
_										
				<u> </u>						
-										
-										
-										
-										
-										
-				<u> </u>						
Type: C=C	oncentration. D=De	oletion. RM=	Reduced Matrix, M	S=Masked Sa	nd Grain	s.	² Location: F	L=Pore Lini	ng, M=Matrix.	
21	Indicators:		,						oblematic H	
Histosol	(A1)		Dark Surface	e (S7)			2	cm Muck (A	10) (MLRA 1	47)
	oipedon (A2)		Polyvalue Be		S8) (MLF	RA 147.			Redox (A16)	
	stic (A3)			urface (S9) (M				(MLRA 14	()	
	en Sulfide (A4)			ed Matrix (F2)		,,	F		odplain Soils	(F19)
_ , ,	d Layers (A5)		Depleted Ma					(MLRA 13	•	
	uck (A10) (LRR N)		Redox Dark				١		Dark Surface	e (TF12)
	d Below Dark Surfac	ce (A11)		rk Surface (F7	7)				in in Remarks	· · ·
	ark Surface (A12)	()	Redox Depre		,			、 I		,
	/ucky Mineral (S1) (LRR N.		iese Masses (F12) (LR	RN.				
-	A 147, 148)		MLRA 13			-				
Sandy G	Gleyed Matrix (S4)		Umbric Surfa	, ace (F13) (ML	RA 136,	122)	³ Inc	licators of h	drophytic veg	etation and
	Redox (S5)			podplain Soils				-	logy must be	
	Matrix (S6)			Material (F21)	· / ·		•	•	ed or problem	
estrictive	Layer (if observed)	:			•					
Type:										
	ches):						Hydric Soi	Drocont?	Yes	
	ciles).						Hyune Sol	Fiesenti	165	
emarks:										

Project/Site: Bellamy Property	City/County: Clarksville, Montgomery County Sampling Date: 2021-11-15
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Up D2
Investigator(s): ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, In	
÷ .,	Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): N 122 Lat: 36.60718	
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 percen	
Are climatic / hydrologic conditions on the site typical for this time o	f year? Yes 🖌 No (If no, explain in Remarks.)
	ntly disturbed? Are "Normal Circumstances" present? Yes <u>// No // </u>
	problematic? (If needed, explain any answers in Remarks.)
	ing sampling point locations, transects, important features, etc.
	Is the Sampled Area
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	within a Wetland? Yes No 🖌
Remarks:	
the southeastern property boundary. Based on historical aeri	historically altered for installation of TVA lines and the railroad tracks forming als, this area appears to be mowed routinely.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
	c Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1) Drainage Patterns (B10)
	nizospheres on Living Roots (C3) Moss Trim Lines (B16)
	f Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck S	
	ain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9) Aquatic Fauna (B13)	Microtopographic Relief (D4) FAC-Neutral Test (D5)
Field Observations:	(Ac-Neutral rest (55)
Surface Water Present? Yes No Depth (incl	nes):
Water Table Present? Yes No V Depth (incl	
Saturation Present? Yes No 🔽 Depth (incl	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pl	
Describe Recorded Data (stream gauge, monitoring well, aerial pr	totos, previous inspections), ir available.
Remarks:	

Sampling Point: Up D2

	Abaaluta	- Deminent	Indiantan	Deminence Test werkehest
Tree Stratum (Plot size: 30)		Dominant Species?		Dominance Test worksheet:
	_/0 Cover	opecies:		Number of Dominant Species
1		·		That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>2</u> (B)
4				Percent of Dominant Species
5		·		That Are OBL, FACW, or FAC: 50 (A/B)
6				
7				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
FOO/ of total accord		= Total Co		OBL species 0 x 1 = 0
50% of total cover:	20% of	total cover		
Sapling/Shrub Stratum (Plot size: 15)				FACW species $\frac{7}{25}$ x 2 = $\frac{14}{105}$
1				FAC species 35 x 3 = 105
2				FACU species 20 x 4 = 80
				UPL species 0 x 5 = 0
3		·		
4				Column Totals: <u>62</u> (A) <u>199</u> (B)
5				
				Prevalence Index = B/A = <u>3.21</u>
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				
9				2 - Dominance Test is >50%
- 9				3 - Prevalence Index is ≤3.0 ¹
		= Total Co		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover	·:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5				
1. Solidago altissima	20	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Sporobolus airoides	15	~	FAC	
				¹ Indicators of hydric soil and wetland hydrology must
3. Pycnanthemum muticum	10		FAC	be present, unless disturbed or problematic.
4. Xanthium strumarium	10		FAC	
5. Bidens aristosa	5		FACW	Definitions of Four Vegetation Strata:
	2		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
_{6.} Boehmeria cylindrica	2		FACW	more in diameter at breast height (DBH), regardless of
7				height.
8				
				Sapling/Shrub – Woody plants, excluding vines, less
9		·		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		·		m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	62%	= Total Co	vor	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 31		f total cover		
	20% 0		. 12.7	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Co	ver	Present? Yes No 🖌
50% of total cover:				
Remarks: (Include photo numbers here or on a separate	sheet.)			

Sampling Point: Up D2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Redo	x Feature	S				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks		
0 - 4	10YR 3/1	100					Silt Loam		
4 - 9	10YR 5/2	98	7.5YR 4/6	2	С	М	Silt Loam		
-									
-									
-									
-									
-						·			
						·			
¹ Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, MS	S=Masked	I Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils ³ :		
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)		
Histic Ep	pipedon (A2)		Polyvalue Be				, 148) Coast Prairie Redox (A16)		
Black Hi	stic (A3)		Thin Dark Su	rface (S9)	(MLRA [·]	47, 148)	(MLRA 147, 148)		
Hydroge	n Sulfide (A4)		Loamy Gleye	d Matrix (F2)		Piedmont Floodplain Soils (F19)		
Stratified	l Layers (A5)		Depleted Mat	trix (F3)			(MLRA 136, 147)		
2 cm Mu	ick (A10) (LRR N)		Redox Dark S	Surface (F	6)		Very Shallow Dark Surface (TF12)		
Depleted	d Below Dark Surface	e (A11)	Depleted Dar	k Surface	(F7)		Other (Explain in Remarks)		
Thick Da	ark Surface (A12)		Redox Depre	ssions (F	8)				
Sandy M	lucky Mineral (S1) (L	.RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,			
MLRA	A 147, 148)		MLRA 13	6)					
Sandy G	eleyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ Indicators of hydrophytic vegetation and		
Sandy R	edox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	48) wetland hydrology must be present,		
Stripped	Matrix (S6)		Red Parent N						
	_ayer (if observed):				, .				
Туре:									
	ches):						Hydric Soil Present? Yes No 🖌		
Remarks:									

Project/Site: Bellamy Property	City/County: Clarks	sville, Montgomery County Sampling Date: 2021-09-13
Applicant/Owner: Provident Realty Advisors	,	State: Tennessee Sampling Point: Up E
Investigator(s): ^{Marian} Rubin & Kari Kennel; Spectrum Environment		
Landform (hillslope, terrace, etc.): Depression		-
Subregion (LRR or MLRA): N 122 Lat: 36.60		Long:87.238938 Datum: NAD 83
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 per		
Are climatic / hydrologic conditions on the site typical for this tir	-	
Are Vegetation, Soil, or Hydrology sign		re "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natu	Irally problematic? (I	f needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling poin	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	~	
Hydric Soil Present? Yes No	✓ Is the Samp	
Wetland Hydrology Present? Yes 🗸 No	within a We	
Remarks:		
While the NWI map reflects this area as Freshwater Emergent Wetland habit ephemeral stream channel (WWC for TDEC). While hydrology in the form of Normal Weather Conditions calculation utilized for TDEC HD submittals, the been historically altered for the agricultural purposes, specifically for soyber	drainage/flow path was observed, prior period (past three months) h	hydrophytic vegetation/hydric soils were not observed. According to the
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	Surface Soil Cracks (B6)
	quatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
	en Sulfide Odor (C1)	Drainage Patterns (B10)
	d Rhizospheres on Living R	
	ce of Reduced Iron (C4)	Dry-Season Water Table (C2)
	Iron Reduction in Tilled Soi	
<u> </u>	uck Surface (C7) Explain in Remarks)	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No 🔽 Depth	(inches):	
Water Table Present? Yes No 🖌 Depth	(inches):	
Saturation Present? Yes No <u></u>	(inches):	Wetland Hydrology Present? Yes <u>✓</u> No
Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspecti	ons), if available:
Remarks:		

Sampling Point: Up E

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		
1. Celtis laevigata	65	~	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: _60 (A/B)
6				
7				Prevalence Index worksheet:
	65%	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: <u>32.5</u>				OBL species $0 x_1 = 0$
Sapling/Shrub Stratum (Plot size: 15				FACW species _95 x 2 = _190
1. Celtis laevigata	30	~	FACW	FAC species 20 x 3 = 60
	25	·	FACU	FACU species $50 \times 4 = 200$
2. Ligustrum sinense		<u> </u>		
3. Symphoricarpos orbiculatus	10		FACU	
4. Carya tomentosa	5			Column Totals: <u>165</u> (A) <u>450</u> (B)
5				2.72
6				Prevalence Index = B/A = 2.73
				Hydrophytic Vegetation Indicators:
7		·		1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	70%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 35	20% of	total cover:	14	
Herb Stratum (Plot size: 5				data in Remarks or on a separate sheet)
1. Ageratina altissima	15	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Persicaria longiseta	15	 V 	FAC	
3. Microstegium vimineum	5	·	FAC	¹ Indicators of hydric soil and wetland hydrology must
		·		be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree Meeduralente evoluding vince 2 in (7.0 em) er
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		·		
11	0.5%	·		Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>17.5</u>	20% of	total cover:	/	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes No V
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate s	heet.)			
Olyging may and Osmus tamparts and	-ا به م به		ا م ا	have at a transferred and the LICDA
Glycine max and Carya tomentosa di	u not n	ave an	indicat	tor status listed on the USDA
website.				

iches)	<u>Matrix</u> Color (moist)	%	<u>Redox Features</u> Color (moist) % Type	¹ Loc ²	Texture	Remarks	
0 - 12	10YR 4/4	100			Silt Loam	Kemano	
0-12	101 K 4/4	100					
-							
-							
-							
-							
-							
-							
-							
	noontration D-Don	lotion DM-	Reduced Matrix, MS=Masked Sand	Craina	² Location: PL=Pore Lining,	M-Motrix	
	ndicators:		Reduced Matrix, MS-Masked Sand	Gidilis.		Iematic Hydric Soils	
			Dark Surface (S7)		2 cm Muck (A10	-	
Histosol (pedon (A2)		Polyvalue Below Surface (S8)	/MI DA 147		, ,	
Black His	• • • •		Thin Dark Surface (S9) (MLR		(MLRA 147,	()	
	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	- 1 <i>-1</i> , 1-0)	• •	,	
, ,	Layers (A5)		Depleted Matrix (F3)		Piedmont Floodplain Soils (F19) (MLRA 136, 147)		
	ck (A10) (LRR N)		Redox Dark Surface (F6)		Very Shallow Dark Surface (TF12)		
	Below Dark Surfac	e (A11)	Depleted Dark Surface (F7)		Other (Explain in Remarks)		
	rk Surface (A12)		Redox Depressions (F8)			in tomano)	
	ucky Mineral (S1) (LRR N.	Iron-Manganese Masses (F12) (LRR N.			
-	147, 148)	,	MLRA 136)	, (,			
	eyed Matrix (S4)		Umbric Surface (F13) (MLRA	136, 122)	³ Indicators of hvdr	ophytic vegetation and	
Sandy Re			Piedmont Floodplain Soils (F			y must be present,	
-	Matrix (S6)		Red Parent Material (F21) (M				
	ayer (if observed)	:		,			
Гуре:	,						
	hes):				Hydric Soil Present?	′es No 🖌	

Project/Site: Bellamy Property Cit	ty/County: Clarksville, Montgomery County Sampling Date: 2021-09-13					
-	State: Tennessee Sampling Point: Up F					
Investigator(s).Marian Rubin & Kari Kennel; Spectrum Environmental, Inc. Se						
- · · · · · · · · · · · · · · · · · · ·	relief (concave, convex, none): Concave Slope (%): 0					
Subregion (LRR or MLRA): N 122 Lat: 36.609676	Long: -87.239255 Datum: NAD 83					
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 percent slopes, occasionally ponded NWI classification: Pretwater Forested Shubbatis is described as a Providence of the state of the st						
· · · · · · · · · · · · · · · · · · ·						
Are climatic / hydrologic conditions on the site typical for this time of year?						
Are Vegetation, Soil, or Hydrology significantly dis	sturbed? Are "Normal Circumstances" present? Yes <u>/</u> No					
Are Vegetation, Soil, or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes No 🖌						
Hydric Soil Present? Yes No 🗸	Is the Sampled Area within a Wetland? Yes No 🖌					
Wetland Hydrology Present? Yes No 🗸	within a Wetland? Yes No V					
Remarks:						
wetland soil. Hydrology/hydrophytic vegetation/hydric soils were n	and habitat is classified as a PEM1C, the soil data did not reflect that of not observed. According to the Normal Weather Conditions calculation s) has been normal; the area adjacent to where this upland pit was taken ally for soybean production.					
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) True Aquatic Plan						
High Water Table (A2) Hydrogen Sulfide						
	heres on Living Roots (C3) Moss Trim Lines (B16)					
Water Marks (B1) Presence of Redu						
	ction in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3) Thin Muck Surface						
Algal Mat or Crust (B4) Other (Explain in F						
Iron Deposits (B5)	Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9) Aquatic Fauna (B13)	Microtopographic Relief (D4) FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No Depth (inches):						
Water Table Present? Yes <u>No</u> Pepth (inches):						
Saturation Present? Yes No Pepth (inches): Depth (inches):						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:					
Remarks:						
Reliaits.						

Sampling Point: Up F

	Abaaluta	Densinent	Indiantan	Deminence Test worksheet
Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1 Celtis laevigata	<u>45</u>	<u>opecies:</u>	FACW	Number of Dominant Species
		·		That Are OBL, FACW, or FAC: <u>5</u> (A)
2. Gaultheria procumbens	40	~	FACU	Total Number of Dominant
_{3.} Ulmus alata	5		FACU	Species Across All Strata: 8 (B)
4				()
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 62.5 (A/B)
6				Prevalence Index worksheet:
7				
	90%	= Total Cov	er	Total % Cover of: Multiply by:
50% of total cover: 45	20% of	total cover	18	OBL species $0 x_1 = 0$
Sapling/Shrub Stratum (Plot size: 15)				FACW species _65 x 2 = _130
	25	~	FAC	FAC species 70 x 3 = 210
1. Asimina triloba				
2. Celtis laevigata	20	~	FACW	
3. Nyssa sylvatica	10		FAC	UPL species 0 x 5 = 0
4. Ulmus alata	10		FACU	Column Totals: <u>245</u> (A) <u>780</u> (B)
	10		FACU	
5. Cercis canadensis	10	·	FACU	Prevalence Index = $B/A = 3.18$
_{6.} Carya tomentosa				Hydrophytic Vegetation Indicators:
7				
				1 - Rapid Test for Hydrophytic Vegetation
8	·			
9		·		3 - Prevalence Index is ≤3.0 ¹
	75%	= Total Cov	er	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 37.5	20% of	total cover	15	
Herb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
1. Lonicera japonica	30	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
 2 Frangula alnus 	25	~	FAC	
				¹ Indicators of hydric soil and wetland hydrology must
3. Ageratina altissima	15	~	FACU	be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
				Deminions of Four vegetation Strata.
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		·	<u> </u>	more in diameter at breast height (DBH), regardless of
7				height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
				m) tall.
10				
11	· <u> </u>	·		Herb – All herbaceous (non-woody) plants, regardless
	70%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>35</u>	20% of	total cover	14	
Woody Vine Stratum (Plot size: 15)				Woody vine – All woody vines greater than 3.28 ft in
1 Toxicodendron radicans	10	~	FAC	height.
·· <u> </u>	·			
2				
3				
4				
5.				Hydrophytic Vegetation
- J	1001			Present? Yes No V
F		= Total Cov	-	
50% of total cover: <u>5</u>		total cover	2	
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Carya tomentosa did not have an inc	licator s	status I	sted o	n the USDA website.

ches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Texture Remarks	
0 - 12	10YR 5/3	100		Silt Loam	
				·	
-					
-					
-					
-					
-					
-					
pe: C=Co	ncentration, D=Dep	oletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	² Location: PL=Pore Lining, M=Matrix.	
dric Soil I	ndicators:			Indicators for Problematic Hydric S	Soils
Histosol	(A1)		Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)	
	ipedon (A2)		Polyvalue Below Surface (S8) (MLRA 147, 7	148) Coast Prairie Redox (A16)	
Black His			Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)	
, ,	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)	
	Layers (A5)		Depleted Matrix (F3)	(MLRA 136, 147)	
	ck (A10) (LRR N)	()	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12	2)
	Below Dark Surfac	æ (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)	
	rk Surface (A12) ucky Mineral (S1) (Redox Depressions (F8) Iron-Manganese Masses (F12) (LRR N ,		
-	147, 148)	LKK N,	MLRA 136)		
	leyed Matrix (S4)		Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation	n and
	edox (S5)		Piedmont Floodplain Soils (F19) (MLRA 148		
•	Matrix (S6)		Red Parent Material (F21) (MLRA 127, 147)		ιι,
	ayer (if observed)	:	(=)(=,(=,=,=)		
	,				
•••	hes):			Hydric Soil Present? Yes No	~
narks:					

Project/Site: Bellamy Prop	erty			City/Co	unty: <u>Clarksville, Mon</u>	tgomery County Sa	ampling Date: 20)21-11-08
Applicant/Owner: Provident		lvisors		-				
Investigator(s).Marian Rubin & P	(ari Kennel; S	Spectrum Env	/ironmental, I					
Landform (hillslope, terrace, e					f (concave, convex, nor		Slope	(%): 0
Subregion (LRR or MLRA): N					Long: -87			
Soil Map Unit Name: Gu - G								
Are climatic / hydrologic condi								
		•••		•			,	
Are Vegetation, Soil								No
Are Vegetation, Soil	, or Hy	drology	naturall	y problemat	ic? (If needed, e	explain any answers in	n Remarks.)	
SUMMARY OF FINDIN	GS – Atta	ach site r	nap show	ving samp	oling point locatio	ons, transects, ir	nportant fea	tures, etc.
Hydrophytic Vegetation Pres	ent?	Yes	No 🖌					
Hydric Soil Present?		Yes	No 🗸		Is the Sampled Area within a Wetland?	Yes	No 🖌	
Wetland Hydrology Present?	,	Yes	No 🗸					
Remarks:				-				
While the NWI map reflects wetland soil. Hydrology/hy utilized for TDEC HD submi has been historically altere	drophytic v ittals, the p	egetation/l rior period	nydric soils (past three	were not ol months) ha	oserved. According to s been normal; the ar	the Normal Weathe ea adjacent to wher	er Conditions ca	alculation
HYDROLOGY								
Wetland Hydrology Indicat	ors:					Secondary Indicators	s (minimum of tw	vo required)
Primary Indicators (minimum	of one is re	quired; che	ck all that ap	ply)		Surface Soil Cra	icks (B6)	
Surface Water (A1)			True Aqua	tic Plants (B	14)	Sparsely Vegeta	ated Concave Su	ırface (B8)
High Water Table (A2)			Hydrogen	Sulfide Odor	· (C1)	Drainage Patter	ns (B10)	
Saturation (A3)			Oxidized R	hizospheres	on Living Roots (C3)	Moss Trim Lines	s (B16)	
Water Marks (B1)			Presence of	of Reduced	ron (C4)	Dry-Season Wat	ter Table (C2)	
Sediment Deposits (B2)					in Tilled Soils (C6)	Crayfish Burrow		
Drift Deposits (B3)				Surface (C7		Saturation Visibl	-	
Algal Mat or Crust (B4)			Other (Exp	lain in Rema	arks)	Stunted or Stres		
Iron Deposits (B5)						Geomorphic Pos	. ,	
Inundation Visible on Ae Water-Stained Leaves (I		(D7)				Shallow Aquitare Microtopographi		
Aquatic Fauna (B13)	29)					FAC-Neutral Tes	. ,	
Field Observations:							51 (20)	
Surface Water Present?	Yes	No 🖌	_ Depth (inc	ches) [.]				
Water Table Present?			_ Depth (inc					
Saturation Present?			_ Depth (inc			lydrology Present?	Yes	No_
(includes capillary fringe)				-				
Describe Recorded Data (str	eam gauge,	monitoring	well, aerial p	onotos, previ	ous inspections), if ava	liable:		
Remarks:								

Sampling Point: Up G

	Absolute	- Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)		Species?	Status	Number of Dominant Species
1. Quercus palustris	30	~	FACW	That Are OBL, FACW, or FAC: _4 (A)
2. Acer rubrum	20	~	FAC	
3. Juglans nigra	20	~	FACU	Total Number of Dominant Species Across All Strata: 7 (B)
4. Celtis laevigata	10		FACW	Species Across All Strata: 7 (B)
	10	·		Percent of Dominant Species
5	·	·		That Are OBL, FACW, or FAC: <u>57.1</u> (A/B)
6				Prevalence Index worksheet:
7				
		= Total Cov		
50% of total cover: 40	20% of	total cover:	16	
Sapling/Shrub Stratum (Plot size: 15)				FACW species 45 x 2 = 90
1. Acer rubrum	15	~	FAC	FAC species 35 x 3 = 105
2. Celtis laevigata	5	~	FACW	FACU species <u>60</u> x 4 = <u>240</u>
3				UPL species 0 x 5 = 0
				Column Totals: <u>140</u> (A) <u>435</u> (B)
4				
5				Prevalence Index = B/A = 3.11
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				3 - Prevalence Index is $\leq 3.0^1$
	20%	= Total Cov	er	
50% of total cover: <u>10</u>	20% of	total cover:	4	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5				data in Remarks or on a separate sheet)
1. Parthenocissus quinquefolia	20	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Lonicera japonica	10	~	FACU	
3. Fraxinus americana	5		FACU	¹ Indicators of hydric soil and wetland hydrology must
4. Morus rubra	5		FACU	be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		·		more in diameter at breast height (DBH), regardless of
7				height.
8		·		Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Have All borbassaus (non woody) plants, recordings
	40%	= Total Cov	er	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 20		total cover:		,
Woody Vine Stratum (Plot size: 15)				Woody vine – All woody vines greater than 3.28 ft in
				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov	er	Present? Yes No V
50% of total cover:	20% of	total cover:		
Remarks: (Include photo numbers here or on a separate	sheet.)			

Profile Desc	ription: (Describe	to the dept	th needed to docur	nent the ir	ndicator	or confirn	n the absence	of indicator	·s.)	
Depth (inchos)	Matrix	%		x Features		Loc ²	Toxturo		Domorko	
<u>(inches)</u> 0 - 10	Color (moist) 10YR 3/3	100	Color (moist)	%	Type ¹	LOC	Texture Silt Loam		Remarks	
0 - 10	10TR 3/3	100					SIILLUAIII	. <u> </u>		
-										
-		<u> </u>								
-										
-										
		·								
						·				
-										
		- <u> </u>								
¹ Type: $C=C_{1}$	oncentration, D=Dep	letion RM=	Reduced Matrix M	S=Masked	Sand Gra	ains	² Location: P	=Pore Linin	a M=Matrix	
Hydric Soil									blematic Hydric	Soils ³ :
Histosol			Dark Surface	(S7)					10) (MLRA 147)	
	pipedon (A2)		Polyvalue Be		ce (S8) (N	ILRA 147.		Coast Prairie		
Black Hi			Thin Dark Su				, _	(MLRA 147	. ,	
	n Sulfide (A4)		Loamy Gleye	d Matrix (F	-2)		F		odplain Soils (F19)	
<u>Stratified</u>	l Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136	5, 147)	
2 cm Mu	ick (A10) (LRR N)		Redox Dark \$	Surface (F	6)		V	/ery Shallow	Dark Surface (TF1	2)
	d Below Dark Surfac	e (A11)	Depleted Dar	k Surface	(F7)		C	Other (Explair	n in Remarks)	
	ark Surface (A12)		Redox Depre							
-	lucky Mineral (S1) (I	_RR N,	Iron-Mangan		es (F12) (I	LRR N,				
	A 147, 148)		MLRA 13				3.			
	Bleyed Matrix (S4)		Umbric Surfa						drophytic vegetatic	
	edox (S5)		Piedmont Flo							
	Matrix (S6) ayer (if observed):		Red Parent N	/laterial (F2	21) (MLR	A 127, 14	/) un	liess disturbe	d or problematic.	
							Hudria Sail	Present?	Yes No	~
	ches):						Hydric Soli	Fiesent		
Remarks:										

Project/Site: Bellamy Property	City/County: Clarksville, Montgomery County Sampling Date: 2021-11-15
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Up H
Investigator(s): ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc.	
• • • •	ocal relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): N 122 Lat: 36.608107	· · · · · · · · · · · · · · · · · · ·
Soil Map Unit Name: Gu - Guthrie silt loam, 0 to 2 percent s	
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🚩 No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Normal Circumstances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No 🖌	
Hydric Soil Present? Yes No 🖌	Is the Sampled Area within a Wetland? Yes No 🗸
Wetland Hydrology Present? Yes No 🗸	
Remarks:	
a pond (Pond 1). The vegetation around Pond 1 is mowed routin 1.	storically altered for the agricultural purposes, specifically for the creation of lely. Additionally, a culvert to west of Up H conveys storm runoff into Pond
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) True Aquatic F	
High Water Table (A2) Hydrogen Sull	
	ospheres on Living Roots (C3) Moss Trim Lines (B16) Reduced Iron (C4) Dry-Season Water Table (C2)
	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Su	
Algal Mat or Crust (B4) Other (Explain	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Compared Depth (inches	
Water Table Present? Yes No Depth (inches	
Saturation Present? Yes <u>No</u> Depth (inchest (includes capillary fringe)	s): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial pho	los, previous inspections), if available:
Remarks:	

Sampling Point: Up H

		•		
Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant I Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				
3				Total Number of Dominant Species Across All Strata: 0 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: NaN (A/B)
6				,
7				Prevalence Index worksheet:
		= Total Cove	r	Total % Cover of:Multiply by:
50% of total cover:	20% of	total cover:		OBL species $\frac{0}{2}$ x 1 = $\frac{0}{2}$
Sapling/Shrub Stratum (Plot size: 15)				FACW species 0 x 2 = 0
1				FAC species $0 \times 3 = 0$
2				FACU species 0 x 4 = 0
3				UPL species 0 x 5 = 0
4				Column Totals: 0 (A) 0 (B)
5				
6				Prevalence Index = B/A = <u>NaN</u>
7				Hydrophytic Vegetation Indicators:
8				1 - Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
		= Total Cove	r	3 - Prevalence Index is ≤3.0 ¹
50% of total cover:				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5)		·····		data in Remarks or on a separate sheet)
1. Glycine max	85	~		Problematic Hydrophytic Vegetation ¹ (Explain)
2				
				¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11	0.5%			Herb – All herbaceous (non-woody) plants, regardless
		= Total Cove		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>42.5</u>	20% of	total cover:	1/	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cove	r	Present? Yes No V
50% of total cover:	20% of	total cover:		

reflect coverage post harvest. Glycine max did not have an indicator status listed on the USDA website.

Sampling Point: Up H

Profile Desc	cription: (Describe	to the dep	oth needed to docur	nent the i	indicator	or confirm	n the absence of indicators.)	
Depth	Matrix		Redo	x Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0 - 5	10YR 4/3	100					Silt Loam	
5 - 11	10YR 4/3	98	7.5YR 4/6	2	С	М	Silt Loam	
-								
-								
-						·		
-								
						·		
						·		
						·		
1- 0.0							2	
Type: C=C Hydric Soil		pletion, RM	=Reduced Matrix, M	S=Masked	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hyd	ric Soils ³ :
			Dark Surface	(07)			•	
Histosol	(AT) pipedon (A2)		Dark Surface Polyvalue Be		00 (SQ) /		2 cm Muck (A10) (MLRA 147 148) Coast Prairie Redox (A16)	()
	stic (A3)		Thin Dark Su				(MLRA 147, 148)	
	en Sulfide (A4)		Loamy Gleye	•	, ,	47, 140)	Piedmont Floodplain Soils (F	10)
	d Layers (A5)				(12)			19)
			Depleted Ma		-6)		(MLRA 136, 147)	
	uck (A10) (LRR N) d Below Dark Surfac	o (A11)	Redox Dark				Very Shallow Dark Surface (Other (Explain in Remarks)	1F12)
-		e (ATT)	Depleted Da					
	ark Surface (A12)		Redox Depre	•	,			
	lucky Mineral (S1) (LRR N,	Iron-Mangan		es (F12) (LRR N,		
	A 147, 148)		MLRA 13				3	
	Bleyed Matrix (S4)		Umbric Surfa	• • •	•		³ Indicators of hydrophytic veget	
	Redox (S5)		Piedmont Flo					
	Matrix (S6)		Red Parent N	Material (F	21) (MLR	A 127, 14	7) unless disturbed or problemat	c.
	Layer (if observed)							
Type: Depth (in	ches).						Hydric Soil Present? Yes	No 🖌
Remarks:	ciles).							NO
Remarks.								

Project/Site: Bellamy Property	City/County: Clarksville, Montgomery County Sampling Date: 2021-11-08
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Up I
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc.	
- · · · -	cal relief (concave, convex, none): Linear Slope (%): 2
Subregion (LRR or MLRA): <u>N 122</u> Lat: <u>36.607243</u>	Long: -87.242204 Datum: NAD 83
Soil Map Unit Name: DSB - Dickson silt Ioam, 2 to 5 percent	
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No 🖌	
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes No
Wetland Hydrology Present? Yes No 🗸	within a Wetland? Yes <u>No</u>
Remarks:	
According to the Normal Weather Conditions calculation utilized	for TDEC HD submittals, the prior period (past three months) has been
	orically altered for the agricultural purposes, specifically for the creation of
a pond (Pond 2) sometime around 1949. The vegetation around F	Yond 2 is mowed routinely and utilized for soybean production
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Pla	
High Water Table (A2) Hydrogen Sulfic	
	spheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Re	
	duction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surfa	
Algal Mat or Crust (B4) Other (Explain i	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2)
Water-Stained Leaves (B9)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches)	
Water Table Present? Yes No Depth (inches)	
Saturation Present? Yes No Depth (inches)	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), il available:
Remarks:	

Sampling Point: Up I

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species
_{1.} Salix nigra	5	~	OBL	That Are OBL, FACW, or FAC: _3 (A)
2				
3				Total Number of Dominant Species Across All Strata: 5 (B)
		<u> </u>		Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>60</u> (A/B)
6	·			Prevalence Index worksheet:
7	= 0/			Total % Cover of: Multiply by:
		= Total Cov		$\begin{array}{c} \hline \hline \\ OBL species \\ 10 \\ \hline \\ x 1 = \\ 10 \\ \hline \end{array}$
50% of total cover: 2.5	20% of	f total cover:	<u> </u>	
Sapling/Shrub Stratum (Plot size: 15)				FACW species 5 $x = 10$ FAC species 15 $x_3 = 45$
_{1.} Artemisia vulgaris	15	<u> </u>	UPL	
2. Solidago gigantea	5	<u> </u>	FACW	FACU species $70 x 4 = 280$
3. Hibiscus moscheutos	5	~	OBL	UPL species 15 x 5 = 75
4				Column Totals: <u>115</u> (A) <u>420</u> (B)
5				
		<u> </u>		Prevalence Index = B/A = <u>3.65</u>
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9	05%			3 - Prevalence Index is $≤3.0^1$
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>12.5</u>	20% of	f total cover:	5	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
_{1.} Dactylis glomerata	70	 ✓ 	FACU	
2. Glycine max	20			1
3. Rumex crispus	10		FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Ranunculus sardous	5		FAC	Definitions of Four Vegetation Strata:
5. Lamium purpureum	5			Deminions of Four vegetation Strata.
6	·			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
				more in diameter at breast height (DBH), regardless of
7				height.
8	·			Sapling/Shrub – Woody plants, excluding vines, less
9	·			than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11	·			Herb – All herbaceous (non-woody) plants, regardless
		= Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>55</u>	20% of	f total cover:	22	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
2				
3				
4				
5				Hydrophytic Vocatation
0				Vegetation Present? Yes <u>No</u>
50% of total cover:		= Total Cov		
		i total cover:		
Remarks: (Include photo numbers here or on a separate s	sneet.)			

Note - soybean crop listed was recently harvested and the reported coverage percentages reflect coverage post harvest. Glycine max and Lamium purpureum did not have an indicator status listed on the USDA website.

Sampling Point: Up I

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Redo	x Feature	s					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0 - 4	10YR 4/3	95	7.5YR 4/6	5	С	М	Silt Loam			
4 - 12	10YR 5/2	90	7.5YR 4/6	10	С	Μ	Silt Loam			
-					_					
-										
_										
						- <u> </u>				
·										
				·						
1						·	2			
Hydric Soil		pletion, RM	=Reduced Matrix, MS	S=Masked	a Sand Gr	ains.	² Location: PL=Pore L Indicators for	Ining, M=Matrix. Problematic Hydric Soils ³ :		
Histosol			Dark Surface	(\$7)				< (A10) (MLRA 147)		
	oipedon (A2)		Polyvalue Be		ce (S8) (I	/LRA 147		irie Redox (A16)		
Black Hi			Thin Dark Su					147, 148)		
	en Sulfide (A4)		Loamy Gleye			· · · , · · · ,		Floodplain Soils (F19)		
	d Layers (A5)		Depleted Ma					136, 147)		
	ick (A10) (LRR N)		Redox Dark	. ,	-6)		•	ow Dark Surface (TF12)		
	d Below Dark Surfac	ο (Δ11)	Depleted Dark	•			-	blain in Remarks)		
-										
	ark Surface (A12)		Redox Depre							
	lucky Mineral (S1) (LRR N,	Iron-Mangan		es (F12) (LRR N,				
	A 147, 148)		MLRA 13				3			
	Bleyed Matrix (S4)		Umbric Surfa					f hydrophytic vegetation and		
-	Redox (S5)		Piedmont Flo	odplain S	ioils (F19)	(MLRA 14	18) wetland hyd	Irology must be present,		
	Matrix (S6)		Red Parent N	Material (F	21) (MLR	A 127, 14	7) unless distu	irbed or problematic.		
	Layer (if observed)	:								
Type:							Ukudaia Cail Daasaat			
	ches):						Hydric Soil Present	? Yes 🖌 No		
Remarks:										

Project/Site: Bellamy Propert	у		City/County: Cla	arksville, Mor	tgomery County	Sampling Date:	2021-11-15
Applicant/Owner: Provident Re		6			State: Tennesse	e Sampling Poir	_{nt:} Wet A
Investigator(s).Marian Rubin & Kari I			c. Section, Townsh	nip, Range: N	/A		
Landform (hillslope, terrace, etc.):			Local relief (concav			Slo	pe (%): 2
Subregion (LRR or MLRA): N 12		Lat: 36.60837	•			Datur	
Soil Map Unit Name: DsB - Dic							
Are climatic / hydrologic conditions							
Are Vegetation, Soil					I Circumstances" p		No
-		-	-				NO
Are Vegetation, Soil					explain any answer		
SUMMARY OF FINDINGS	– Attach si	ite map showi	ng sampling po	oint locatio	ons, transects,	, important fe	atures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: According to the Normal Weather C	Yes Yes Conditions calcul		DEC HD submittals, th				
which this wetland pit was taken ha potentially the head of a stream tha wetland pit was dug. Wetland A tra HYDROLOGY	at flows west off	property prior to th	ne creation of the pon	d around 1950			
					Secondary Indicat	tora (minimum of	two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of c		check all that ann	(x)		Surface Soil (two required)
<u>✓</u> Surface Water (A1)	<u>ine is required,</u>	True Aquatio	• •				Surface (B8)
✓ High Water Table (A2)			ulfide Odor (C1)		Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)		
Saturation (A3)			izospheres on Living	g Roots (C3)	Moss Trim Lir		
Water Marks (B1)			Reduced Iron (C4)	5		Water Table (C2)	
Sediment Deposits (B2)			Reduction in Tilled	Soils (C6)	Crayfish Burr		
Drift Deposits (B3)		Thin Muck S			-	sible on Aerial Im	agery (C9)
Algal Mat or Crust (B4)		Other (Expla	ain in Remarks)		Stunted or St	ressed Plants (D	1)
Iron Deposits (B5)					Geomorphic I	Position (D2)	
Inundation Visible on Aerial	Imagery (B7)				Shallow Aquit	tard (D3)	
Water-Stained Leaves (B9)						phic Relief (D4)	
Aquatic Fauna (B13)					FAC-Neutral	Test (D5)	
Field Observations:			2				
		Depth (inch					
		Depth (inch	,				
Saturation Present? Y (includes capillary fringe)	es 🔽 No	Depth (inch	nes): <u>0</u>	Wetland I	lydrology Present	t? Yes 🔽	No
Describe Recorded Data (stream	gauge, monito	oring well, aerial ph	notos, previous inspe	ections), if ava	ilable:		
Remarks:							
i temano.							

Sampling Point: Wet A

	Absoluto	• Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: <u>1</u> (B)
4				Demont of Dominant Species
5		<u> </u>		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6			. <u> </u>	
7	·	<u></u>	. <u> </u>	Prevalence Index worksheet:
	0.07	= Total Cov	ver	Total % Cover of: Multiply by:
50% of total cover: 0	20% of	total cover	<u>0</u>	OBL species 30 x 1 = 30
Sapling/Shrub Stratum (Plot size: 15)				FACW species 0 x 2 = 0
1	·	<u></u>	. <u> </u>	FAC species $\frac{25}{17}$ x 3 = $\frac{75}{22}$
2				FACU species <u>15</u> x 4 = <u>60</u>
3				UPL species $0 \times 5 = 0$
4				Column Totals: <u>70</u> (A) <u>165</u> (B)
5				Prevalence Index = $B/A = 2.36$
6		·		Hydrophytic Vegetation Indicators:
7	·	·		✓ 1 - Rapid Test for Hydrophytic Vegetation
8		. <u>.</u>		✓ 2 - Dominance Test is >50%
9		·	. <u> </u>	\checkmark 3 - Prevalence Index is $\leq 3.0^{1}$
		= Total Cov	ver	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover	. <u> </u>	
Herb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
1. Persicaria hydropiperoides	30	 ✓ 	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Chloris verticillata	20	~		1
3. Setaria parviflora	15		FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
_{4.} Carex blanda	10		FAC	Definitions of Four Vegetation Strata:
_{5.} Rubus argutus	10		FACU	Deminions of Four Vegetation Strata.
6. Glycine max	5			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
7. Sorghum halepense	5		FACU	more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1
10.			·	m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	95%	= Total Cov	ver	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>47.5</u>		total cover		
Woody Vine Stratum (Plot size: 15)				Woody vine – All woody vines greater than 3.28 ft in height.
<u> </u>				Toight.
2.		·	·	
3.			·	
4			·	
				Hydrophytic Vegetation
5		= Total Cov		Vegetation Present? Yes <u></u> No
50% of total cover:				
	<u></u> <u></u> <u></u> 0 /0 UI		·	
Remarks: (Include photo numbers here or on a separate s	boot)			

Note - soybean crop listed was recently harvested and the reported coverage percentages reflect coverage post harvest. Glycine max did not have an indicator status listed on the USDA website.

Depth	Matrix	to the de	pth needed to docu	ox Feature					// 3./	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0 - 11	10YR 6/1	85	7.5YR 5/6	15	С	М	Clay Loam			
-	·		·		·					
					·					
-										
-								<u> </u>		
-										
-										
					· - <u></u>					
					· <u> </u>					
-										
-										
	oncentration D=Der		1=Reduced Matrix, M	S=Masko	d Sand Gr	aine	² Location: E	Pl = Pore Lini	ng, M=Matrix.	
Hydric Soil						ams.			oblematic Hy	dric Soils ³ :
Histosol			Dark Surface	e (S7)					A10) (MLRA 14	
	pipedon (A2)		Polyvalue Be	. ,	ace (S8) (I	MLRA 147		•	Redox (A16)	,
	istic (A3)		Thin Dark S				· · ·	(MLRA 14	. ,	
Hydroge	en Sulfide (A4)		 Loamy Gley 				F	Piedmont Flc	odplain Soils ((F19)
	d Layers (A5)		Depleted Ma	• • •				(MLRA 13		
	uck (A10) (LRR N)		Redox Dark	•	,			•	Dark Surface	. ,
	d Below Dark Surfac	e (A11)	Depleted Da		. ,		(Other (Explai	in in Remarks)	
	ark Surface (A12)		Redox Depr	•	,					
	/lucky Mineral (S1) (A 147, 148)	LRR N,	Iron-Mangar MLRA 13		ses (F12) (LRR N,				
	Gleyed Matrix (S4)		Umbric Surfa		(MI RA 1'	86 122)	³ Inc	dicators of h	ydrophytic veg	etation and
	Redox (S5)		Piedmont Fl	• •	•	•			logy must be p	
	d Matrix (S6)		Red Parent	•	, ,	•		•	ed or problema	
	Layer (if observed)	:			, ,				•	
Type:										
Depth (in	ches):						Hvdric Soi	I Present?	Yes_	No
Remarks:	/						,			
Remarko.										

Project/Site: Bellamy Property	City/County: Clarksville, Montgomery County Sampling Date: 2021-11-08
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Wet B
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc.	
<u> </u>	ical relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): N 122 Lat: 36.604751	Long: -87.242922 Datum: NAD 83
	ppes, occasionally ponded NWI classification: reshwater Emergent Wetland habitat is classified as a PEMIC
•	
Are climatic / hydrologic conditions on the site typical for this time of ye	
	v disturbed? Are "Normal Circumstances" present? Yes <u>/</u> No
Are Vegetation, Soil, or Hydrology naturally pre	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes 🖌 No	
Hydric Soil Present? Yes V No	Is the Sampled Area
Wetland Hydrology Present? Yes V	within a Wetland? Yes Ves No
Remarks:	
According to the Normal Weather Conditions calculation utilized	for TDEC HD submittals, the prior period (past three months) has been
•	storically altered for the agricultural purposes, specifically for the creation
of a pond (Pond 3/Wetland B). The vegetation around Pond 3 is	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) ✓ True Aquatic P	Plants (B14) Sparsely Vegetated Concave Surface (B8)
✓ High Water Table (A2) ✓ Hydrogen Sulfi	de Odor (C1) Drainage Patterns (B10)
✓ Saturation (A3) Oxidized Rhize	ospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Re	educed Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Re	eduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Sur	
Algal Mat or Crust (B4) Other (Explain	in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
✓ Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	× 4
Surface Water Present? Yes <u>V</u> No Depth (inches	
Water Table Present? Yes <u>V</u> No Depth (inches	
Saturation Present? Yes <u>Ves</u> No <u>Depth</u> (inches (includes capillary fringe)): 0 Wetland Hydrology Present? Yes <u>V</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Deve educ	
Remarks:	

Sampling Point: Wet B

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are OBL_EACW_ or EAC: 100 (A/B)
			·	That Are OBL, FACW, or FAC: 100 (A/B)
6			·	Prevalence Index worksheet:
7				
		= Total Cov	ver	Total % Cover of: Multiply by:
50% of total cover:	20% of	total cover		OBL species 20 x 1 = 20
Sapling/Shrub Stratum (Plot size: 15				FACW species 0 x 2 = 0
				FAC species 75 x 3 = 225
1	·		·	
2			. <u> </u>	FACU species $\underline{0}$ x 4 = $\underline{0}$
3				UPL species $0 \times 5 = 0$
			·	Column Totals: <u>95</u> (A) <u>245</u> (B)
4			·	
5				Prevalence Index = $B/A = 2.58$
6				Hydrophytic Vegetation Indicators:
7				
				1 - Rapid Test for Hydrophytic Vegetation
8			·	✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is $\leq 3.0^1$
	:	= Total Cov	ver	
50% of total cover:	20% of	total cover		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
	75	~	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Persicaria virginiana			·	
2. Carex bullata	20	~	OBL	
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5	·		·	Tree Meedy plants evaluating vince 2 in (7.0 ers) or
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
				noight.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	95%		·	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		= Total Cov		of size, and woody plants less than 5.26 it tall.
50% of total cover: 47.5	20% of	total cover	19	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
			·	
2			·	
3			·	
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes <u>V</u> No
50% of total cover:		total cover		
Remarks: (Include photo numbers here or on a separate s	sheet.)			

		to the de	pth needed to docu			or confirm	n the absenc	e of indicators.)
Depth (inches)	<u>Matrix</u> Color (moist)	%	Color (moist)	<u>ox Feature</u> %	<u>Type¹</u>	Loc ²	Texture	Remarks
<u>0 - 10</u>	10YR 5/1	85	7.5YR 4/6	15	C	<u> </u>	Silt Loam	
0-10	101 K 3/1	00	7.518 4/0	15	<u> </u>			
-								
-								
_								
-								
-								
-								
					·			
¹ Type: C=C	oncentration, D=Dep	oletion, RM	I=Reduced Matrix, M	S=Maske	d Sand Gi	ains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil			· · · · · ·					cators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
	bipedon (A2)		Polyvalue Be	elow Surfa	ace (S8) (I	MLRA 147		Coast Prairie Redox (A16)
Black H	stic (A3)		Thin Dark S	urface (S9) (MLRA	147, 148)		(MLRA 147, 148)
Hydroge	en Sulfide (A4)		Loamy Gley	ed Matrix	(F2)			Piedmont Floodplain Soils (F19)
	d Layers (A5)		 Depleted Ma 	atrix (F3)				(MLRA 136, 147)
2 cm Mi	uck (A10) (LRR N)		Redox Dark	Surface (I	F6)			Very Shallow Dark Surface (TF12)
	d Below Dark Surfac	ce (A11)	Depleted Da	rk Surface	é (F7)			Other (Explain in Remarks)
·	ark Surface (A12)	· · /	Redox Depr		. ,			
	/ucky Mineral (S1) (LRR N,	Iron-Mangar	•		(LRR N,		
-	A 147, 148)		MLRA 13		. ,			
	Gleyed Matrix (S4)		Umbric Surfa	•	(MLRA 1	36, 122)	³ In	dicators of hydrophytic vegetation and
	Redox (S5)		Piedmont Fl	oodplain S	Soils (F19)	(MLRA 1	48) w	vetland hydrology must be present,
Stripped	Matrix (S6)		Red Parent	Material (F	F21) (MLF	RA 127, 14	7) u	nless disturbed or problematic.
Restrictive	Layer (if observed)	:						
Type:								
Depth (in	ches):						Hydric So	il Present? Yes 🖌 No
Remarks:	,							
Remarks.								

Project/Site: Bellamy Property C	ity/County: Clarksville, Montgomery County_ Sampling Date: 2022-03-15
-	State: Tennessee Sampling Point: Wet C
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc.	
- · · · ·	al relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): N 122 Lat: 36.610995	Long: -87.238665 Datum: NAD 83
	es, occasionally ponded NWI classification: Freshwater Pond habitat is classified as a PUBHx
Are climatic / hydrologic conditions on the site typical for this time of year	
	isturbed? Are "Normal Circumstances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally prob	lematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes 🖌 No	
Hydric Soil Present? Yes V No	Is the Sampled Area within a Wetland? Yes ¥ No
Wetland Hydrology Present? Yes 🗸 No	within a Wetland? Yes V No
Remarks:	
According to the Normal Weather Conditions calculation utilized for	or TDEC HD submittals, the prior period (past three months) has been
	orically altered for the agricultural purposes, specifically for the creation
of a pond between 1955 and 1981. The pond appears to have tran	sitioned into Wetland C. The vegetation around and upgradient of
Wetland C is mowed routinely and utilized for soybean production	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Pla	nts (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide	e Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizos	oheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Red	uced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Red	uction in Tilled Soils (C6) Crayfish Burrows (C8)
✓ Drift Deposits (B3) Thin Muck Surface	ce (C7) <u> Y</u> Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches): Water Table Departs (inches): No Depth (inches): No Depth (inches): No No Depth (inches): No No Depth (inches): No No Depth (inches): No Depth (inches): No No No No No No No Depth (inches): No NON	
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):	
Saturation Present? Yes <u>V</u> No Depth (inches): (includes capillary fringe)	5 Wetland Hydrology Present? Yes <u>V</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), if available:
Remarks:	
Remarks.	

Sampling Point: Wet C

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species
1. Quercus palustris	40	~	FACW	That Are OBL, FACW, or FAC: <u>3</u> (A)
2. Acer rubrum	20	~	FAC	
3. Ulmus alata	15		FACU	Total Number of Dominant
	-			Species Across All Strata: <u>4</u> (B)
4. Salix nigra	5		OBL	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: <u>75</u> (A/B)
6	<u> </u>			
7.				Prevalence Index worksheet:
	80%	= Total Cov	or	Total % Cover of: Multiply by:
50% of total cover: 40				OBL species <u>10</u> x 1 = <u>10</u>
	20 /0 01			FACW species 40 x 2 = 80
Sapling/Shrub Stratum (Plot size: 15)				FAC species $20 \times 3 = 60$
1				
2				
3	<u> </u>			UPL species 0 x 5 = 0
4				Column Totals: <u>95</u> (A) <u>250</u> (B)
5				Prevalence Index = B/A = 2.63
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				
		= Total Cov	er	\checkmark 3 - Prevalence Index is $\leq 3.0^1$
50% of total cover:				4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5				data in Remarks or on a separate sheet)
1. Persicaria posumbu	10	~	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
	5	· · ·		
2. Ludwigia palustris	5	~	OBL	¹ Indicators of hydric soil and wetland hydrology must
3				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Deminions of Four Vegetation Strata.
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				
	15%	- Total Car		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 7.5		= Total Cov		or size, and woody plants less than 5.20 it tall.
	20% 01	total cover	5	Woody vine – All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 15)				height.
1				
2	<u> </u>			
3				
4				
				Hydrophytic
5				Vegetation Present? Yes <u>V</u> No
		= Total Cov		
50% of total cover:	20% of	total cover		
Remarks: (Include photo numbers here or on a separate	sheet.)			

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the i	indicator	or confirr	n the absence	of indicato	ors.)	
Depth	Matrix		Redo	x Feature	s					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
1 - 6	10YR 4/2	95	7.5YR 4/6	5	С	Μ	Silt Loam			
6 - 12	10YR 4/2	75	7.5YR 4/6	25	С	М	Silt Loam			
-		·								
		·								
		·		. <u></u>						
		·								
-		·								
		·								
-										
-										
								-		
		lotion PM	=Reduced Matrix, MS	S-Maskor			² Location: Pl	-Poro Linir	og M-Matrix	
Hydric Soil					J Sanu Gi	airi5.				ydric Soils ³ :
Histosol			Dark Surface	(S7)					10) (MLRA	-
	bipedon (A2)		Polyvalue Be	. ,	ce (S8) (/ILRA 147		•	Redox (A16)	
Black Hi			Thin Dark Su					(MLRA 14		
Hydroge	en Sulfide (A4)		Loamy Gleye	d Matrix ((F2)		P	iedmont Flo	odplain Soils	(F19)
Stratified	d Layers (A5)		 Depleted Mat 	trix (F3)				(MLRA 13	6, 147)	
2 cm Mu	ick (A10) (LRR N)		Redox Dark \$	Surface (F	-6)		V	ery Shallow	Dark Surfac	e (TF12)
Depleted	d Below Dark Surface	e (A11)	Depleted Dar	k Surface	e (F7)		0	ther (Explai	n in Remarks	3)
Thick Da	ark Surface (A12)		Redox Depre	essions (F	8)					
Sandy M	lucky Mineral (S1) (L	.RR N,	Iron-Mangan	ese Mass	es (F12) (LRR N,				
MLRA	A 147, 148)		MLRA 13	6)						
Sandy G	Gleyed Matrix (S4)		Umbric Surfa	ce (F13)	(MLRA 13	86, 122)	³ Ind	icators of hy	/drophytic ve	getation and
Sandy R	Redox (S5)		Piedmont Flo	odplain S	ioils (F19)	(MLRA 1	48) we	tland hydrol	logy must be	present,
	Matrix (S6)		Red Parent N	Aaterial (F	21) (MLR	A 127, 14	7) unl	ess disturbe	ed or problem	natic.
Restrictive I	Layer (if observed):									
, <u> </u>										
Depth (ind	ches):						Hydric Soil	Present?	Yes 🔽	No
Remarks:										

Project/Site: Bellamy Property City/C	County: Clarksville, Montgomery County Sampling Date: 2021-11-15
Applicant/Owner: Provident Realty Advisors	State: Tennessee Sampling Point: Wet D1
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc. Secti	
÷ · · · · · · · · · · · · · · · · · · ·	lief (concave, convex, none): <u>Concave</u> Slope (%): <u>0</u>
Subregion (LRR or MLRA): N 122 Lat: 36.607979	Long: -87.237413 Datum: NAD 83
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 percent slope	
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes 🚩 No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly distu	rbed? Are "Normal Circumstances" present? Yes 🖌 No
Are Vegetation, Soil, or Hydrology naturally problem	
	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No	Is the Sampled Area within a Wetland? Yes <u>V</u> No
Remarks:	
According to the Normal Weather Conditions calculation utilized for T normal; the area of this wetland pit has been historically altered for th which hydrologically contributes to Wet D, between 1955 and 1981. A the installation of TVA lines between 1955 and 1981.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	dor (C1) Drainage Patterns (B10) res on Living Roots (C3) ✓ Moss Trim Lines (B16) ed Iron (C4) Dry-Season Water Table (C2) on in Tilled Soils (C6) Crayfish Burrows (C8) C7) Saturation Visible on Aerial Imagery (C9) omarks) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Water Table Present? Yes No Peptin (incles):	
Saturation Present? Yes <u>V</u> No Depth (inches): <u>5</u>	Wetland Hydrology Present? Yes _
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro-	

Sampling Point: Wet D1

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)		Species?		Number of Dominant Species
1Acer rubrum	30	~	FAC	That Are OBL, FACW, or FAC: <u>3</u> (A)
2. Ulmus americana	5		FACW	
3. Quercus palustris	5		FACW	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				Prevalence Index worksheet:
7	40%			Total % Cover of: Multiply by:
		= Total Cov	-	$\begin{array}{c c} \hline \hline \\ $
50% of total cover: 20	20% of	f total cover:	0	
Sapling/Shrub Stratum (Plot size: 15)				
1. Acer rubrum	15	<u> </u>	FAC	
2		<u></u>		FACU species $\frac{0}{2}$ x 4 = $\frac{0}{2}$
3				UPL species $0 \times 5 = 0$
4				Column Totals: 70 (A) 200 (B)
5				
				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				✓ 2 - Dominance Test is >50%
9				✓ 3 - Prevalence Index is $\leq 3.0^1$
		= Total Cov		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 7.5	20% of	f total cover:	3	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				
1. Smilax rotundifolia	15	~	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2				
3				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
4				Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
6		. <u> </u>		more in diameter at breast height (DBH), regardless of
7				height.
8				Sapling/Shrub – Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Herb – All herbaceous (non-woody) plants, regardless
	15%	= Total Cov	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 7.5		f total cover:		
Woody Vine Stratum (Plot size: 15				Woody vine – All woody vines greater than 3.28 ft in
1,				height.
0		·		
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cov		Present? Yes <u>/</u> No
50% of total cover: <u>0</u>	20% of	f total cover:	0	
Remarks: (Include photo numbers here or on a separate	sneet.)			

Profile Desc	ription: (Describe	to the dep	oth needed to docur	ment the	indicator	or confirr	n the absence of indicators.)	
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
1 - 4	10YR 5/2	90	7.5YR 4/6	10	C	М	Silt Loam	
4 - 12	10YR 5/2	85	7.5YR 4/6	15	С	Μ	Silt Loam	
-					_			
-								
-								
-								
						- <u> </u>		
							·	
					- <u> </u>			
1							2	
Hydric Soil		oletion, RM	=Reduced Matrix, M	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric	Soils ³ .
Histosol			Dark Surface	(97)			2 cm Muck (A10) (MLRA 147)	
	bipedon (A2)		Polyvalue Be	· · ·	000 (58) /			
	stic (A3)		Thin Dark Su				(MLRA 147, 148)	
						147, 140)		
	n Sulfide (A4)		Loamy Gleye		(FZ)		Piedmont Floodplain Soils (F19)	
	d Layers (A5)		Depleted Ma	. ,			(MLRA 136, 147)	-
	ıck (A10) (LRR N)		Redox Dark		,		Very Shallow Dark Surface (TF1	2)
Depleted	d Below Dark Surfac	e (A11)	Depleted Da	rk Surface	e (F7)		Other (Explain in Remarks)	
Thick Da	ark Surface (A12)		Redox Depression	essions (F	-8)			
-	lucky Mineral (S1) (I	LRR N,	Iron-Mangan		ses (F12) ((LRR N,		
	A 147, 148)		MLRA 13					
	Bleyed Matrix (S4)		Umbric Surfa	. ,	•		³ Indicators of hydrophytic vegetatic	
	Redox (S5)		Piedmont Flo	•	. ,	•		nt,
	Matrix (S6)		Red Parent I	Material (I	=21) (MLR	A 127, 14	7) unless disturbed or problematic.	
	Layer (if observed)							
Type:							Hydric Soil Present? Yes 🖌 No	
	ches):						Hydric Soil Present? Yes V	·
Remarks:								

Project/Site: Bellamy Property City/C	ounty: Clarksville, Montgomery County Sampling Date: 2021-11-15
	State: Tennessee Sampling Point: Wet D2
Investigator(s). ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc. Section	
• • • • •	ef (concave, convex, none): Concave Slope (%): 0
	Long: -87.235286 Datum: NAD 83
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 percent slopes	
Are climatic / hydrologic conditions on the site typical for this time of year? Y	
Are Vegetation, Soil, or Hydrology significantly disturb	
Are vegetation, Soil, or Hydrology significantly disturb Are Vegetation, Soil, or Hydrology naturally problema	
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes 🖌 No	Is the Sampled Area
Hydric Soil Present? Yes 🖌 No	within a Wetland? Yes 🖌 No
Wetland Hydrology Present? Yes 🖌 No	<u> </u>
Remarks:	
According to the Normal Weather Conditions calculation utilized for TL normal; the area of this wetland pit has been historically altered for the which hydrologically contributes to Wet D, between 1955 and 1981. Ac the installation of TVA lines between 1955 and 1981.	e agricultural purposes, specifically for the creation of a pond 4,
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (I	
High Water Table (A2) Hydrogen Sulfide Odd	
✓ Saturation (A3) Oxidized Rhizosphere Water Marks (B1) Presence of Reduced	
Water Marks (B1) Presence of Reduced Sediment Deposits (B2) Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (C	
Algal Mat or Crust (B4) Other (Explain in Ren	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes <u>V</u> No Depth (inches): <u>4</u>	Wetland Hydrology Present? Yes <u>V</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	

Sampling Point: Wet D2

	Absolute	Dominant	Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: <u>30</u>)		Species?		Number of Dominant Species			
1. Quercus palustris	20	~	FACW	That Are OBL, FACW, or FAC: 6 (A)			
2. Ostrya virginiana	20	~	FACU				
3. Celtis laevigata	15	~	FACW	Total Number of Dominant Species Across All Strata: <u>8</u> (B)			
4. Acer rubrum	15	~	FAC	Species Across Air Strata. <u> </u>			
5. Carya ovata	10		FACU	Percent of Dominant Species			
		·		That Are OBL, FACW, or FAC: 75 (A/B)			
6				Prevalence Index worksheet:			
7	0.00%			Total % Cover of: Multiply by:			
40		= Total Cov		$\frac{1}{\text{OBL species}} = \frac{5}{\text{x 1 = } 5}$			
50% of total cover: 40	20% of	total cover:	10	FACW species 57 x 2 = 114			
Sapling/Shrub Stratum (Plot size: 15)	~~						
_{1.} Ostrya virginiana	20		FACU				
2. Ulmus americana	20	 ✓ 	FACW	FACU species $50 x 4 = 200$			
_{3.} Asimina triloba	2		FAC	UPL species $0 \times 5 = 0$			
4				Column Totals: <u>151</u> (A) <u>436</u> (B)			
5				0.00			
		·		Prevalence Index = B/A = 2.89			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
8		·		✓ 2 - Dominance Test is >50%			
9		. <u> </u>		✓ 3 - Prevalence Index is $\leq 3.0^1$			
	42% = Total Cover			4 - Morphological Adaptations ¹ (Provide supporting			
50% of total cover: 21	50% of total cover: 21 20% of total cover: 8.4		8.4	data in Remarks or on a separate sheet)			
Herb Stratum (Plot size: 5)							
1. Microstegium vimineum	10	~	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)			
2. Smilax rotundifolia	10	~	FAC				
3. Carex pedunculata	5	·	OBL	¹ Indicators of hydric soil and wetland hydrology must			
4 Celtis laevigata	2 FA		FACW	be present, unless disturbed or problematic.			
5. Acer rubrum	2		FAC	Definitions of Four Vegetation Strata:			
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or			
6				more in diameter at breast height (DBH), regardless of			
7				height.			
8				Conting/Chrub Woody planta avaluding vince loss			
9				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1			
10				m) tall.			
11.							
	29%	= Total Cov		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
50% of total cover: 14.5		total cover:					
Woody Vine Stratum (Plot size: 15)	20/00			Woody vine – All woody vines greater than 3.28 ft in			
				height.			
1							
2							
3							
4				Hydrophytic			
5				Vegetation			
		= Total Cov	er	Present? Yes 🖌 No			
50% of total cover:	20% of total cover:						
Remarks: (Include photo numbers here or on a separate sheet.)							

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks			
1-3	10YR 3/2	95	7.5YR 4/6	5	С	М	Silt Loam			
3 - 8	10YR 5/1	90	7.5YR 4/6	10	С	М	Silt Loam			
-										
-						·		·		
		·			<u></u>	·				
		·				·				
		·	·			·				
		·			. <u> </u>	·				
					<u></u>	·				
-		·				·				
		·	·			·				
		letion, RM	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.	-		
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils	°:		
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 14										
Histic Ep	oipedon (A2)		Polyvalue Be	low Surfa	ace (S8) (N	ILRA 147	, 148) Coast Prairie Redox (A16)	· · · ·		
Black Hi	stic (A3)		Thin Dark Sι	irface (S9) (MLRA [·]	47, 148)	(MLRA 147, 148)			
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		Piedmont Floodplain Soils (F19)			
	Layers (A5)		 Depleted Ma 		· /		(MLRA 136, 147)			
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)						Very Shallow Dark Surface (TF12)				
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)						Other (Explain in Remarks)				
·	ark Surface (A12)	0 (/ (/ / /)	Redox Depre		. ,					
	lucky Mineral (S1) (L		Iron-Mangan	•	,					
-		-nn n,				LNN N,				
MLRA 147, 148) MLRA 136)							³ Indicators of hydrophytic vegetation and	d		
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)										
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 14						, , ,				
Stripped Matrix (S6)Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic.										
	,									
Type:										
	ches):						Hydric Soil Present? Yes V No			
Remarks:										

Project/Site: Bellamy Property City/C	county: Clarksville, Montgomery County Sampling Date: 2021-11-15							
Applicant/Owner: Provident Realty Advisors State: Tennessee Sampling Point: Wet D3								
Investigator(s): ^{Marian} Rubin & Kari Kennel; Spectrum Environmental, Inc. Section, Township, Range: N/A								
• • • • •	ief (concave, convex, none): Concave Slope (%): 0							
	Long:87.236618 NAD 83							
Soil Map Unit Name: Gu - Guthrie silt Ioam, 0 to 2 percent slopes								
Are climatic / hydrologic conditions on the site typical for this time of year? Y								
Are Vegetation, Soil, or Hydrology significantly distur								
Are vegetation, Soil, or Hydrology significantly disturb Are Vegetation, Soil, or Hydrology naturally problema								
SUMMARY OF FINDINGS – Attach site map showing sam	ipling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes 🖌 No	Is the Sampled Area							
Hydric Soil Present? Yes 🖌 No	within a Wetland? Yes 🗸 No							
Wetland Hydrology Present? Yes 🖌 No								
Remarks:								
According to the Normal Weather Conditions calculation utilized for TDEC HD submittals, the prior period (past three months) has been normal; the area of this wetland pit has been historically altered for the installation of TVA lines between 1955 and 1981. Water s discharged into Wetland D from a culvert beneath the railroad tracks located approximately at 36.607186, -87.237211.								
HYDROLOGY								
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)							
✓ Surface Water (A1) True Aquatic Plants (· · · · · · · · · · · · · · · · · · ·							
High Water Table (A2) Hydrogen Sulfide Od								
✓ Saturation (A3) Oxidized Rhizosphere Water Marks (B1) Presence of Reduced								
Valer Marks (B1) Recent Iron Reduced								
Drift Deposits (B3) Thin Muck Surface (C								
Algal Mat or Crust (B4) Other (Explain in Ren	· _ · · · · ·							
Iron Deposits (B5)	Geomorphic Position (D2)							
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)							
Water-Stained Leaves (B9)	Microtopographic Relief (D4)							
Aquatic Fauna (B13)	FAC-Neutral Test (D5)							
Field Observations:								
Surface Water Present? Yes <u>V</u> No Depth (inches): <u>1.5</u>	[
Water Table Present? Yes V Depth (inches): 5 Saturation Present? Yes No Depth (inches): 0	Wetland Hydrology Present? Yes No							
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:							
Remarks:								

Sampling Point: Wet D3

	Absolute	Dominant	t Indicator	Dominance Test worksheet:			
Tree Stratum (Plot size: <u>30</u>)		Species		Number of Dominant Species			
1				That Are OBL, FACW, or FAC: _4 (A)			
2				Total Number of Dominant			
3		<u> </u>		Species Across All Strata: <u>4</u> (B)			
4				Demonst of Deminerat Creation			
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)			
6				Prevalence Index worksheet:			
7		- <u> </u>		Total % Cover of: Multiply by:			
		= Total Co					
50% of total cover:	20% of	f total cove	r:				
Sapling/Shrub Stratum (Plot size: 15				FACW species 25 x 2 = 50			
1				FAC species $10 \times 3 = 30$			
				FACU species $2 x 4 = 8$			
2				UPL species $0 \times 5 = 0$			
3							
4				Column Totals: <u>72</u> (A) <u>123</u> (B)			
5				171			
				Prevalence Index = B/A = <u>1.71</u>			
6				Hydrophytic Vegetation Indicators:			
7		·		1 - Rapid Test for Hydrophytic Vegetation			
8				✓ 2 - Dominance Test is >50%			
9							
				\checkmark 3 - Prevalence Index is ≤3.0 ¹			
50% of total cover: 20% of total cover:				4 - Morphological Adaptations ¹ (Provide supporting			
	20 % 01		ı. <u> </u>	data in Remarks or on a separate sheet)			
Herb Stratum (Plot size: <u>5</u>)	05		0.01	Problematic Hydrophytic Vegetation ¹ (Explain)			
1. Juncus pylaei	25	<u> </u>	OBL				
2. Dichanthelium scoparium	10	~	FACW	1			
3. Microstegium vimineum	10	~	FAC	¹ Indicators of hydric soil and wetland hydrology must			
4. Solidago gigantea	10	~	FACW	——— be present, unless disturbed or problematic.			
	5		OBL	Definitions of Four Vegetation Strata:			
5. Rhexia mariana		·		Tree Meady plants evaluating vince 2 in (7.6 am) or			
_{6.} Cyperus strigosus	5		FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of			
7. Carex lacustris	5		OBL	height.			
8. Symphyotrichum ericoides	2		FACU				
		·		Sapling/Shrub – Woody plants, excluding vines, less			
				than 3 in. DBH and greater than or equal to 3.28 ft (1			
10				m) tall.			
11		<u> </u>		Herb – All herbaceous (non-woody) plants, regardless			
	72%	= Total Co	ver	of size, and woody plants less than 3.28 ft tall.			
50% of total cover: <u>36</u>		f total cove					
Woody Vine Stratum (Plot size: 15)				Woody vine – All woody vines greater than 3.28 ft in			
				height.			
1		·					
2							
3							
4				Hydrophytic			
5		·		Vegetation			
	Present? Yes V No						
50% of total cover:							
Remarks: (Include photo numbers here or on a separate sheet.)							

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture Remarks			
1 - 5	10YR 4/1	95	7.5YR 4/6	5	С	Μ	Silt Loam			
5 - 12	10YR 5/1	90	7.5YR 4/6	10	С	М	Silt Loam			
-										
_		- <u> </u>								
		·			·					
		·			. <u> </u>					
		·			<u></u>					
		·			·					
					<u></u>					
¹ Type: C=Ce	oncentration, D=Dep	letion, RM:	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil							Indicators for Problematic Hy			
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147)								47)		
	bipedon (A2)		Polyvalue Be		ace (S8) (I	MLRA 147	148) Coast Prairie Redox (A16)			
Black Hi	,		Thin Dark Su					(MLRA 147, 148)		
	en Sulfide (A4)		Loamy Gleye		<i>,</i> .	, ,	Piedmont Floodplain Soils	(F19)		
	Layers (A5)		 Depleted Ma 		、		(MLRA 136, 147)			
	ick (A10) (LRR N)		Redox Dark	. ,	F6)		Very Shallow Dark Surface (TF12)			
	d Below Dark Surfac	e (A11)	Depleted Dai	•	,		Other (Explain in Remarks)			
	ark Surface (A12)	c (/ (11)	Redox Depre		. ,)		
	lucky Mineral (S1) (I	RRN	Iron-Mangan		,					
		,			503 (1 12) (LINK 14,				
MLRA 147, 148) MLRA 136)						³ Indicators of hydrophytic veg	etation and			
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 14)										
Sandy Redox (S5) Pleamont Floodplain Solis (F19) (MLRA 14										
Restrictive Layer (if observed):										
Туре:	. , ,									
Depth (in	ches):						Hydric Soil Present? Yes 🖌	No		
Remarks:										