



May 9, 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
Hidden Harbor Drive Property (±18 Acres)
Mt. Juliet, Wilson County, Tennessee
Latitude 36.244700° North and Longitude -86.558100° West
Project No. 3611-001-31


To Whom it May Concern:


Spectrum Environmental, Inc. (Spectrum) was contracted by Doug Myhand Construction to perform a Hydrologic Determination of the potential watercourses at the proposed Hidden Harbour Property project in Mt. Juliet, Wilson 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 Project Area.

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) or Marian Rubin at (615) 613-2066 (mrubin@specenviro.com).

Sincerely,
SPECTRUM ENVIRONMENTAL, INC.


Kari A. Kennel, QHP-IT
Staff Scientist


Marian R. Rubin, QHP-IT
Nashville Division Manager
Natural Resource Biologist

Enclosure – HD Evaluation Report

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



Request for Hydrologic Determination

**Hidden Harbour Property
Mt. Juliet, Wilson County, Tennessee**

Applicant:

Doug Myhand Construction
Attn: Doug Myhand
400 Burris Road
Mt. Juliet, Tennessee 37122

Report Issuance Date: May 9, 2022

Spectrum Project Number:
3611-001-31

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

TABLE OF CONTENTS

Table of Contents	1
Acronyms	3
1.0 Executive Summary	4
2.0 Introduction	5
3.0 Project Location And Description	6
3.1 Land Use and Current/Adjacent Site Conditions	6
Table 3.1-1 – Rainfall Data	6
Table 3.1-2 – Calculation of Normal Weather Conditions for Months Prior to March 2022	7
3.2 Map Review	7
4.0 Assessment Methodology	10
4.1 Preliminary Desktop Evaluation	10
4.2 Mapping	10
4.3 Feature Naming	11
4.4 Photographs	11
5.0 Results of Findings	12
5.1 Potentially Jurisdictional Waterbodies	12
Table 5.1-1 – Potentially Jurisdictional Waterbodies	12
5.2 Potentially Non-Jurisdictional Waterbodies	12
Table 5.2-1 – Potentially Non-Jurisdictional Waterbodies	13
6.0 Conclusion	15
7.0 References	16

FIGURES

Figure 1 – Site Location Map

Figure 2 – Site Topographic Map

Figure 3 – Aerial Map (LiDAR)

Figure 4 – Site Aerial Map

Figure 5 – NWI Map

Figure 6 – Site Soils Map

Figure 7 – Site Geologic Map

Figure 8a – Site Delineation Overview Map (USGS Hopkinsville, TN 7.5 min Topo)

Figure 8b – Site Delineation Overview Map (LiDAR)

Figure 8c – Site Delineation Overview Map (Aerial)

Figure 8d – Site Delineation Table

APPENDICES

Appendix A Landowner Access Letter

Appendix B Calculation of Normal Weather Conditions

Appendix C Site Reconnaissance Photographs

Appendix D Wetland Determination Field Data Sheets

ACRONYMS

DWR	Division of Water Resources
EPA	Environmental Protection Agency
HD	Hydrologic Determination
LF	Linear Feet
NEFO	Nashville Environmental Field Office
NWI	National Wetland Inventory
NRCS	The National Resources Conservation Service
OHWM	Ordinary High Water Mark
Project Area	±15.9-acre tract in Mt. Juliet, Wilson County, Tennessee
Project Proponent	Doug Myhand Construction
Spectrum	Spectrum Environmental, Inc.
TCA	Tennessee Code Annotated
TDEC	Tennessee Department of Environment and Conservation
UDF	Upland Drainage Feature
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WSS	Web Soil Survey
WWC	Wet Weather Conveyance

1.0 EXECUTIVE SUMMARY

Spectrum Environmental, Inc. (Spectrum) was contracted by Doug Myhand Construction to perform a Hydrologic Determination (HD) within an area encompassing ±15.9-acres in Mt. Juliet, Wilson County, Tennessee (Project Area). The Project proponent's information is as follows:

Doug Myhand Construction
Attn: Doug Myhand
400 Burris Road
Mt. Juliet, Tennessee 37122
myhandconstruction@comcast.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 March 1, 2022 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 one (1) wetland which, in our opinion, would be considered jurisdictional under the authority of TDEC. The site also contains two (2) ponds, 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).

END OF SECTION

2.0 INTRODUCTION

Spectrum was contracted by Doug Myhand Construction to perform a delineation of HD features for a ±15.9-acre tract of land located in Mt. Juliet, Wilson County, Tennessee. The parcel ID associated with this property is 095 050 17300 000 2022.

The property is currently owned by:

Owner 1: Douglas R. Myhand
Address: 400 Burris Road
Mt. Juliet, Tennessee 37122
Phone: (615) 714-9691
Email: myhandconstruction@comcast.net

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 conducted field investigations within the Project Area on March 1, 2022, 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.

A follow-up site visit was conducted on April 29, 2022, to further evaluate connectivity to groundwater at the location of the two pond sites identified during the March 1, 2022, site visit.

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.

END OF SECTION

3.0 PROJECT LOCATION AND DESCRIPTION

Spectrum performed a jurisdictional determination of a ±15.9-acre site located south of Hidden Harbour Drive in Mt. Juliet, Wilson County, Tennessee. Project Area is centered at Latitude 36.244700° North and Longitude -86.558100° West (Figure 1). The Project Area is located in the Cumberland River-Shutes Branch watershed (HUC12-051302010605), which is part of the Lower Cumberland – Old Hickory Lake (HUC8-05130201) watershed.

3.1 Land Use and Current/Adjacent Site Conditions

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

According to the United States Department of Agriculture (USDA) Drought Monitor, the Project Area was experiencing normal conditions during the time of the inspection. According to data obtained from Weather Underground, the closest weather station ([KTNGREEN22](#)) indicated that the site received 0.04 inches of precipitation within 48 hours prior to the site reconnaissance on March 1, 2022 (Table 3.1-1).

Table 3.1-1 – Rainfall Data

Date	2/22	2/23	2/24	2/25	2/26	2/27	2/28	3/1
KTNGreen22	1.59"	0.37"	1.72"	0.04"	0.00"	0.02"	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 (March 1, 2022) were determined to be wetter than normal (Table 3.1-2). 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)].

Table 3.1-2 – Calculation of Normal Weather Conditions for Months Prior to March 2022

	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	Feb-22	1.97	1.83	3.8	5.77	8.69	Wet	3	3	9
2 nd Month Prior	Jan-22	2.34	1.71	4.05	6.39	5.74	Normal	2	2	4
3 rd Month Prior	Dec-21	2.69	1.56	4.25	6.94	3.41	Normal	2	1	2
									Sum =	15

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 KTNGREEN22
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 Map Review

Prior to the site reconnaissance visits, Spectrum conducted a desktop assessment of the Project Area. The United States Geological Survey (USGS) 7.5 Minute Hopkinsville Topographic map depicts one karst feature located within the southern portion of the Project Area (Figure 2). In general, the topography of the northern portion of the Project Area is characterized by a ridge trending east-to-west. Generally, the topography of the Project Area exhibits higher elevations in the north and south creating a shallow trough which opens towards the east. Similarly, the Light Detection and Ranging (LiDAR) imagery depicts a pond within the western portion of the Project Area (Figure 3). An aerial depiction dated October 2021 reflects forested coverage of the Project Area (Figure 4). The NWI map does not depict any wetland or reverence features (Figure 5).

Spectrum utilized the NRCS web soil survey to identify the soils present within the Project Area (Figure 6). 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:

Wilson County Soils

1. *Gladeville-Rock outcrop complex, 2 to 15 percent slopes, extremely stony*

Gladeville-Rock outcrop complex (GaC) soils are found on the flats of backslopes. These soils are formed from clayey residuum weathered from limestone. A typical profile consists of very flaggy silty clay loam, very flaggy loam, and bedrock. These soils are relatively shallow, well-drained, and have a moderately very low to moderately low permeability rate. Depth to restrictive feature, lithic bedrock, is between 8 to 20 and depth to the water table is more than 80 inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

2. *Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded*

Inman flaggy silty clay loam (InD2) soils are found on the hillslopes of backslopes. These soils are formed from clayey alluvium derived from limestone and shale. A typical profile consists of flaggy silty clay loam, flaggy silty clay, and bedrock. These soils are moderately deep, well-drained, and have a moderately low to moderately high permeability rate. Depth to restrictive feature, paralithic bedrock, is between 20 to 39 inches and depth to the water table is more than 80 inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

3. *Stiversville silt loam, 5 to 12 percent slopes, eroded*

Stiversville silt loam (StC2) soils are found on the hillslopes of backslopes. These soils are formed from loamy residuum weathered from limestone, sandstone, and shale. A typical profile consists of silt loam, clay loam, parachannery clay loam, and bedrock. These soils are moderately deep, well-drained, and have a very low to moderately high permeability rate. Depth to restrictive feature, paralithic bedrock, is 39 to 59 inches and depth to the water table is more than 80 inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

4. *Stiversville silt loam, 12 to 20 percent slopes, eroded*

Stiversville silt loam (StD2) soils are found on the hillslopes of backslopes. These soils are formed from loamy residuum weathered from limestone, sandstone, and shale. A typical profile consists of silt loam, clay loam, parachannery clay loam, and bedrock. These soils are moderately deep, well-drained, and have a very low to moderately high permeability rate. Depth to restrictive feature, paralithic bedrock, is 39 to 59 inches and depth to the water table is more than 80 inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

5. *Talbott silt loam, 5 to 20 percent slopes, eroded, rocky*

Talbott silt loam (TrC2) soils are found on the hillslopes of sideslopes. These soils are formed from clayey residuum weathered from limestone. A typical profile consists of silt loam, clay, and bedrock. These soils are moderately deep, well-drained, and have a very low to moderately low permeability rate. Depth to restrictive feature, lithic bedrock, is 20 to 40 inches and depth to the water table is more than 80 inches. This soil is not classified as prime farmland. There is no hydric soil rating for this soil.

The surface geology of the Project Area is underlain by the Nashville Group; Bigby-Cannon Limestone and Hermitage Formation (Figure 7). The Bigby-cannon limestone formation is characterized by brownish-gray phosphatic calcarenite and light-gray to brownish-gray, crypto grained to medium-grained, even bedded limestone. The thickness of this formation ranges from 50 to 125 feet. The Hermitage Formation is characterized by thin-bedded to laminated, sandy and argillaceous limestone with shale, nodular shaly limestone, coquina, and phosphatic calcarenite. The thickness ranges from 50 to 100 feet (Greene, 2000).

The Project Area is located in the Outer Nashville Basin of the Interior Plateau Physiographic Section (71h). The Outer Nashville Basin is a more heterogeneous region than the Inner Nashville Basin (71i), with more rolling and hilly topography and slightly higher elevations. The region encompasses most all of the outer areas of the generally non-cherty Ordovician limestone bedrock. The higher hills and knobs are capped by the more cherty Mississippian age formations, and some Devonian-age Chattanooga shale, remnants of the Highland Rim. The region's limestone rocks and soils are high in phosphorus, and commercial phosphate is mined. Deciduous forest with pasture and cropland is the dominant land covers. Streams are low to moderate gradient, with productive, nutrient-rich waters, resulting in algae, rooted vegetation, and occasionally high densities of fish. The Nashville Basin has a distinctive fish fauna, notable for fish that avoid the region, as well as those that are present (Griffith, Glenn E. et. Al).

END OF SECTION

4.0 ASSESSMENT METHODOLOGY

Spectrum personnel performed an HD Evaluation on March 1, 2022, within the Project Area. A follow up site visit was conducted on April 29, 2022. 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 Field Guide for Wetland Delineation, 1987 Corps of Engineers Manual (Manual) as well as the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region: (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).

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 Geologic Service (USGS) Topo: Hermitage, TN 7.5-minute topographic quadrangle;
- LiDAR Imagery;
- Aerial Imagery and Infrared Imagery: World Imagery ArcGIS Online;
- United States Fish and Wildlife Service (USFWS): National Wetland Inventory (NWI) Maps;
- The National Resources Conservation Service (NRCS) Web Soil Project (WSS); and
- USGS Geological Map.

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 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 “Wet A” on data sheets and Figures 8a – 8d.

4.4 *Photographs*

Photographs are the visual documentation of site conditions as they existed during the field survey. The site reconnaissance photographs and photo index map are provided in Appendix C.

END OF SECTION

5.0 RESULTS OF FINDINGS

5.1 Potentially Jurisdictional Waterbodies

Spectrum’s Biologist identified one (1) wetland within the Project Area (Figures 8a – 8d). It is Spectrum’s opinion that this feature meets the jurisdictional requirements under the authority of the TDEC, Tennessee Code Annotated (TCA), Section 69-3-105. Wetland Data Forms are provided in Appendix D. The features are identified in Table 5.1-1 and further discussed below:

Table 5.1-1 – Potentially Jurisdictional Waterbodies

Site ID	Start/End Lat, Long	Total Mapped		Average Width at OHWM	Type of aquatic resource	Jurisdictional Authority
		Linear Feet	Acres			
Wet A	36.246478, -86.558425	-	0.18	-	Forested Wetland	TDEC

Wetland A (Wet A) is an isolated forested wetland measuring approximately 0.18 acres within the northern portion of the Project Area. During the March 1, 2022 site reconnaissance, surface water was observed within the boundary of the wetland. However, it was noted the wetland lacked connection to natural surface water features. Additional hydrology indicators include saturation, drift deposits, algal crust, water-stained leaves, geomorphic position, and FAC-neutral test. The dominant vegetation of Wet A includes Chinese privet (*Ligustrum sinense*), Amur honeysuckle (*Lonicera maackii*), Sugarberry (*Celtis laevigata*), Pin Oak (*Quercus palustris*), and Sweetgum (*liquidambar styraciflua*). Wetland A soils were acutely hydric within the first 0 to 4 inches having a matrix color of 10YR 4/2 with 2% redox concentrations of 7.5YR 4/3. The soil at a depth of 4 to 10 inches had a matrix color of 10YR 5/2 with 85% redox concentrations of 7.5YR 4/4. This soil qualified for the depleted matrix (F3) hydric soil indicator.

5.2 Potentially Non-Jurisdictional Waterbodies

Spectrum’s Biologist identified two (2) artificial ponds 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 and further discussed below:

Table 5.2-1 – Potentially Non-Jurisdictional Waterbodies

Site ID	Start/End Lat, Long	Total Mapped		Average Width at OHWM	Type of aquatic resource	Jurisdictional Authority
		Linear Feet	Acres			
Pond 1	36.244549, -86.558506	-	0.08	-	Artificial Pond	N/A
Pond 2	36.243478, -86.558045	-	0.02	-	Artificial Pond	N/A

Pond 1 is an artificial pond excavated in the upland within the central portion of the Project Area adjacent to the western project boundary. This pond measures approximately 0.08 acres and receives runoff from the adjacent upland to the east. An earthen berm was constructed along the western and north-western perimeter of the pond. During the March 1, 2022 site reconnaissance, water was observed within the confines of the pond. However, it was noted the pond lacked connection to natural surface water features. A follow-up site visit on April 29, 2022, was conducted to determine if artificial Pond 1 had direct connectivity with groundwater. A soil boring, Boring A, was advanced immediately outside of Pond 1 to a depth of 30” below soil surface. No groundwater was observed during the advancement of the boring. After an hour, the boring was reevaluated, and no groundwater was observed. Figure 9 provides a plan view of the location of this soil boring. This data supports the determination that Pond 1 is an artificial pond lacking connectivity to groundwater. Further, Pond 1 was observed to only capture non-point source surface water runoff from the adjacent upland.

Pond 2 is an artificial pond excavated in the upland located within the southern portion of the Project Area. This pond measures approximately 0.02 acres and receives runoff from the adjacent upland to the south. An earthen berm surrounds the perimeter of the pond. During the March 1, 2022 site reconnaissance, water was observed within the confines of the pond, however the pond lacked connection to natural surface water features. A follow-up site visit on April 29, 2022, was conducted to determine if Pond 2 had direct connectivity with groundwater. Spectrum advanced one soil boring, Boring B, in a lower gradient area northwest of Pond 2. This soil boring was terminated in a dense, silty clay at a depth of 25” below surface. No groundwater was observed during the advancement of the boring. After an hour, the boring was reevaluated, and no groundwater was observed. Figure 9 provides a plan view of the location of this soil boring. This data supports the determination that Pond 2 is an artificial pond lacking connectivity to

groundwater. Further, Pond 2 was observed to only capture non-point source surface water runoff from the adjacent upland.

END OF SECTION

6.0 CONCLUSION

The Project Area contains 0.18 acres of wetland which, in Spectrum's opinion, would be considered a jurisdictional Water of the State under the authority of TDEC.

Additionally, the Project Area contains 0.1 acres of pond which, in Spectrum's opinion, would not be considered jurisdictional Waters of the State under the authority of TDEC due to a lack of groundwater table connection.

END OF SECTION

7.0 REFERENCES

Greene, D.C., and Wolfe, W.J., 2000, Superfund GIS - 1:250,000 Geology of Tennessee, USGS, (geo250k).

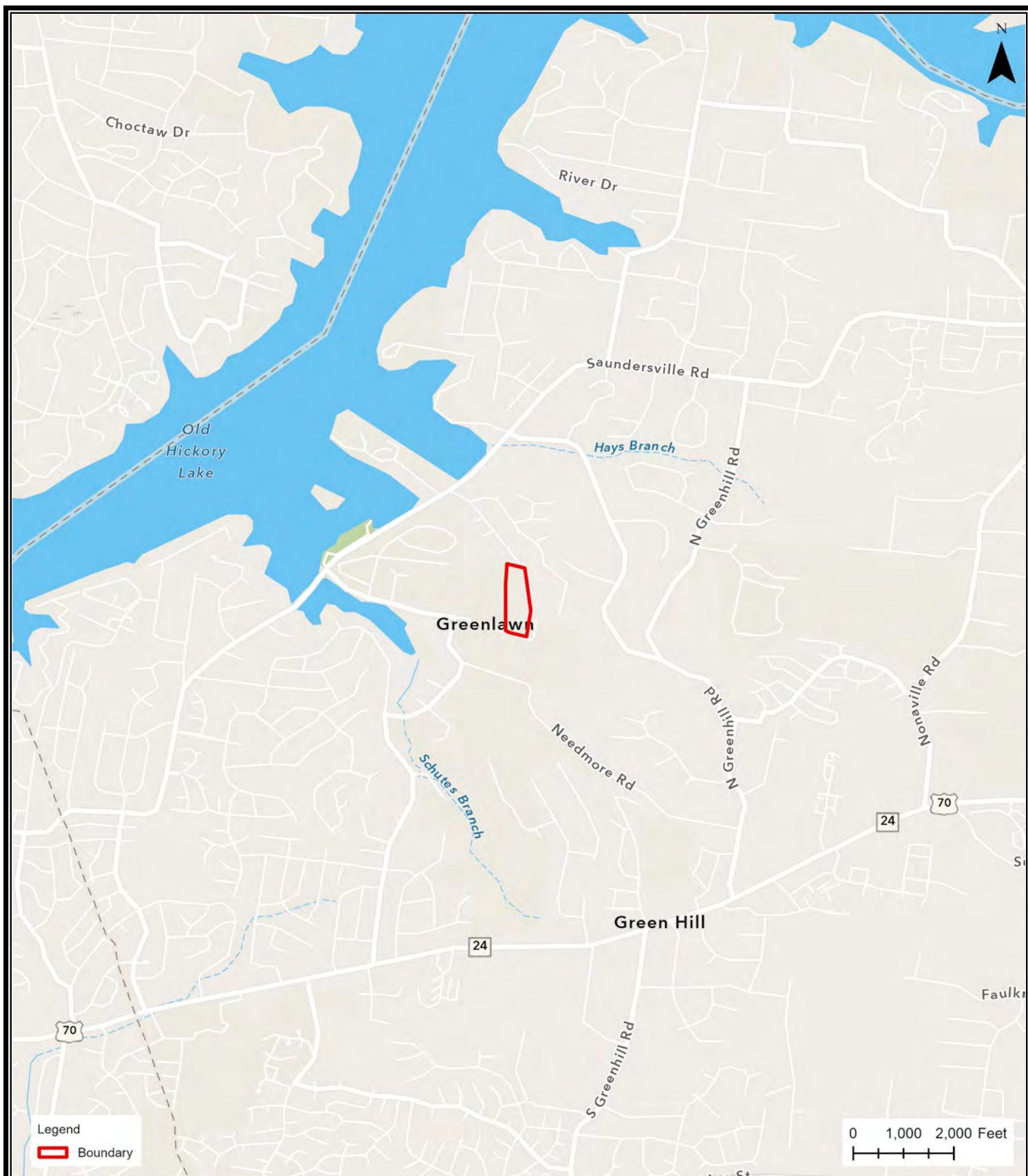
Griffith, G.E., Omernik, J.M., and Azevedo, S., 2001, Ecoregions of Tennessee, (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,700,000).

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 March 2022.

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.

NO.	DATE	REVISION NOTE	BY

Drawn By:	Client #:
KK	3611
Checked By:	Date:
MR	3/8/2022
Project Mgr.:	Project #:
MR	3611-001-31

901 Woodland Street
Suite 104
Nashville, TN 37206
P - 615-469-4941

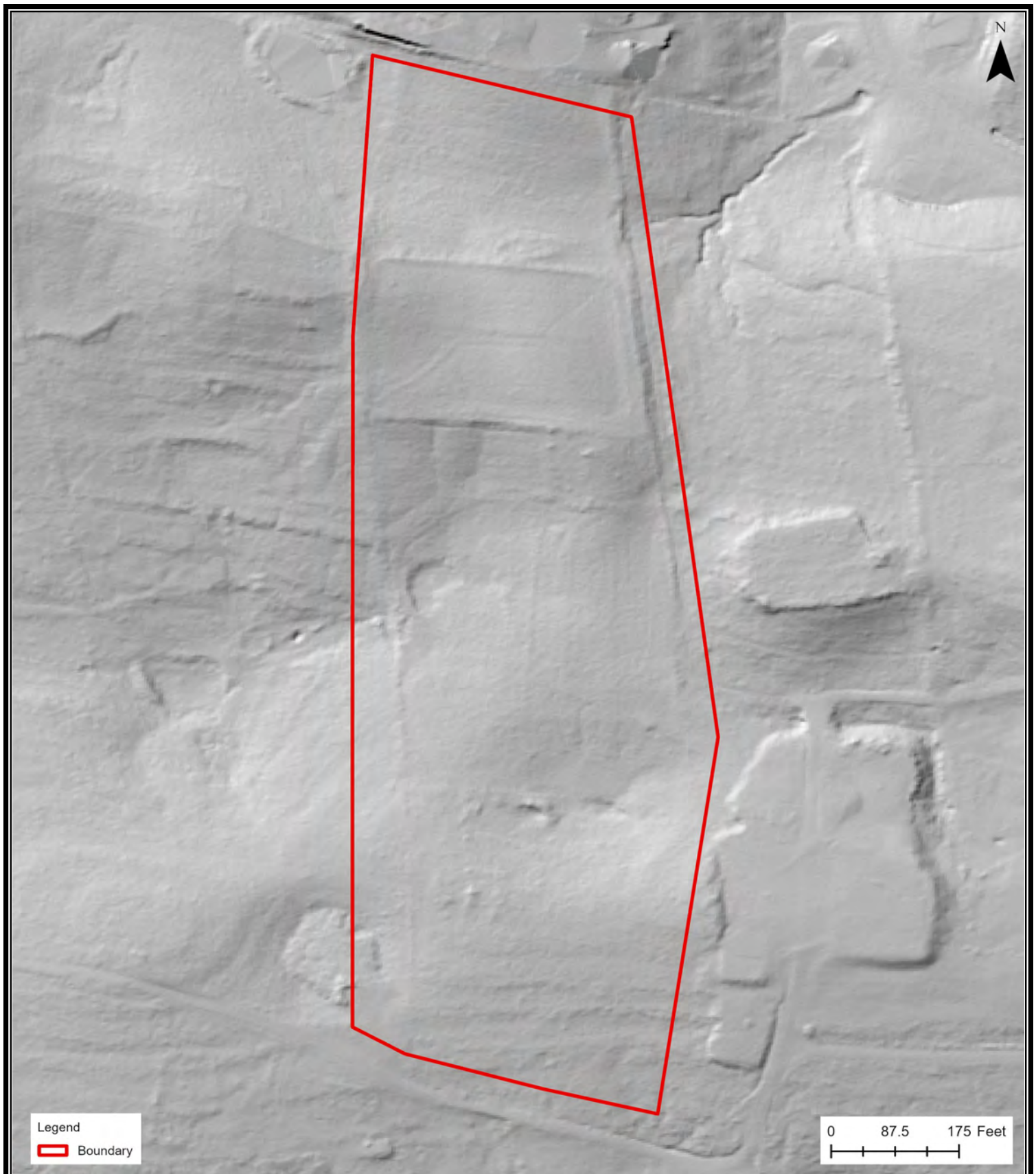
85 Spectrum Cove
Alabaster, AL 35007
O - 205-664-2000
F - 205-664-2142

SPECTRUM
Solutions to Your Environmental Challenges

TITLE
Figure 1 — Site Location Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee



				Drawn By:	Client #:	<div> <div> 901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941 </div> <div> 85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142 </div> </div> <div>  SPECTRUM Solutions to Your Environmental Challenges </div>	
				KK	3611		
				Checked By:	Date:		
				MR	3/8/2022		
				Project Mgr.:	Project #:	TITLE Figure 2 — Site Topo Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee	
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31		



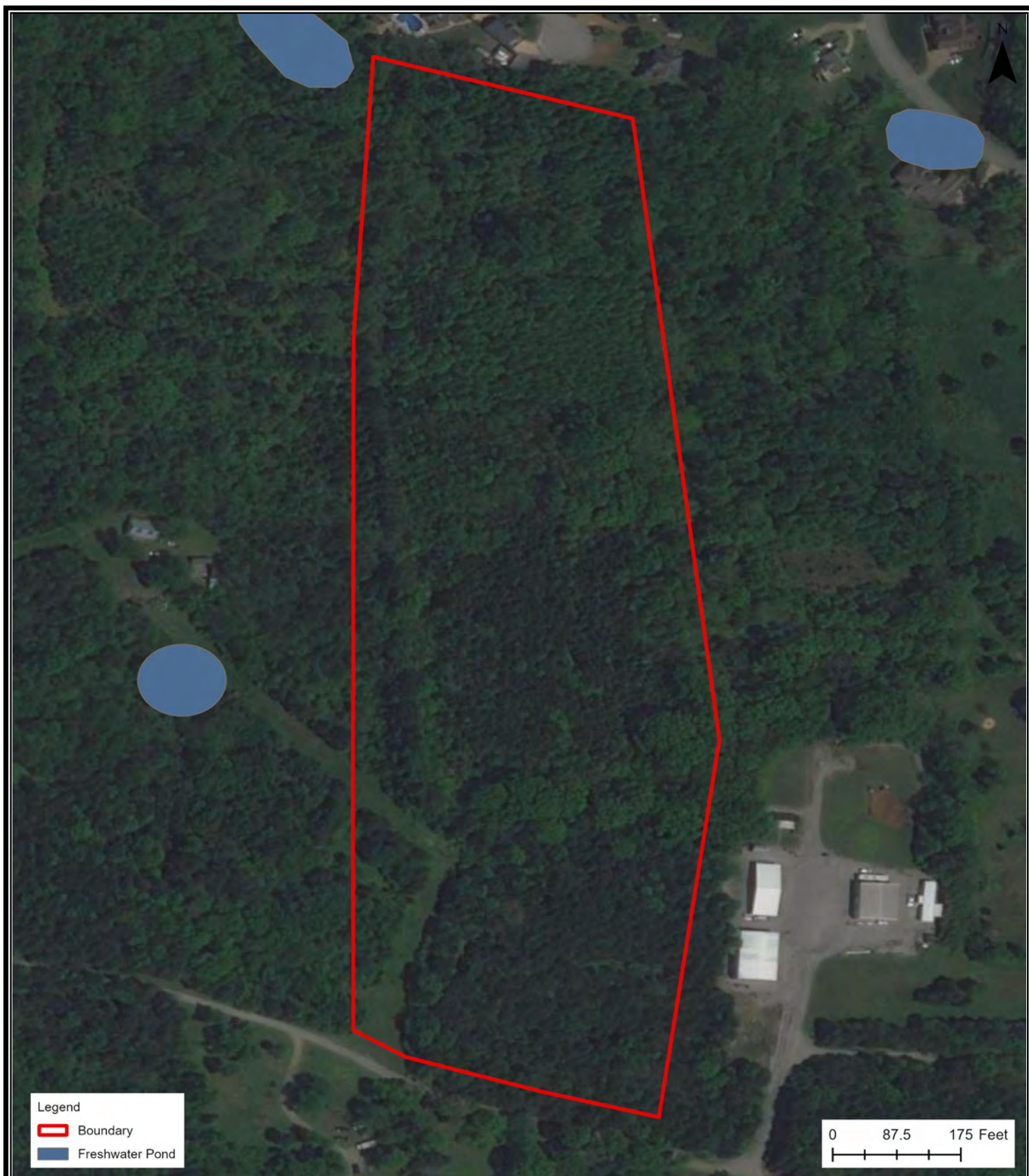
Source: Image courtesy of ESRI and USGS.

				Drawn By:	Client #:	<div><div>901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941</div><div> SPECTRUM Solutions to Your Environmental Challenges</div><div>85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142</div></div>	<table><tr><th colspan="2">TITLE</th></tr><tr><td colspan="2">Figure 3 — Site LiDAR Map</td></tr><tr><td colspan="2">Hydrologic Determination</td></tr><tr><td colspan="2">Doug Myhand Construction</td></tr><tr><td colspan="2">Hidden Harbor Drive</td></tr><tr><td colspan="2">Mt. Juliet, Wilson County, Tennessee</td></tr></table>		TITLE		Figure 3 — Site LiDAR Map		Hydrologic Determination		Doug Myhand Construction		Hidden Harbor Drive		Mt. Juliet, Wilson County, Tennessee	
TITLE																				
Figure 3 — Site LiDAR Map																				
Hydrologic Determination																				
Doug Myhand Construction																				
Hidden Harbor Drive																				
Mt. Juliet, Wilson County, Tennessee																				
				Checked By:	Date:															
				MR	3/8/2022															
				Project Mgr.:	Project #:															
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31															



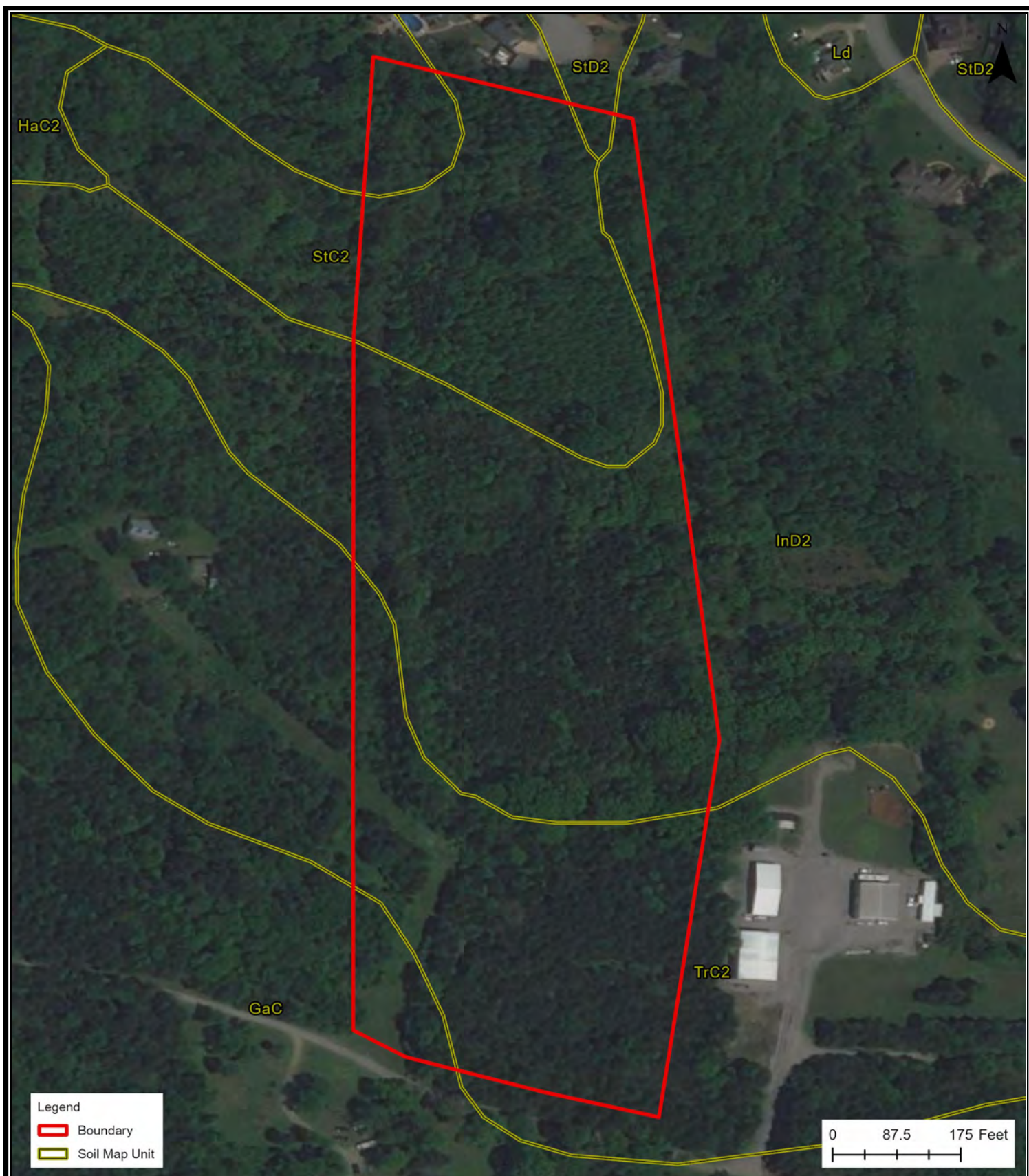
Source: Image courtesy of ESRI.

				Drawn By:	Client #:	<div>901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941</div> <div></div> <div>85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142</div> <div>SPECTRUM Solutions to Your Environmental Challenges</div>	TITLE	
				KK	3611		Figure 4 — Site Aerial Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee	
				Checked By:	Date:			
				MR	3/8/2022			
				Project Mgr.:	Project #:			
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31			



Source: Image courtesy of ESRI and National Wetland Survey.

				Drawn By:	Client #:	<div> <div> 901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941 </div> <div> 85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142 </div> </div> <div>  SPECTRUM Solutions to Your Environmental Challenges </div>	
				KK	3611		
				Checked By:	Date:		
				MR	3/8/2022		
				Project Mgr.:	Project #:	TITLE Figure 5 — NWI Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee	
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31		



Source: Image courtesy of ESRI and NRCS Web Soil Survey.

NO.	DATE	REVISION NOTE	BY

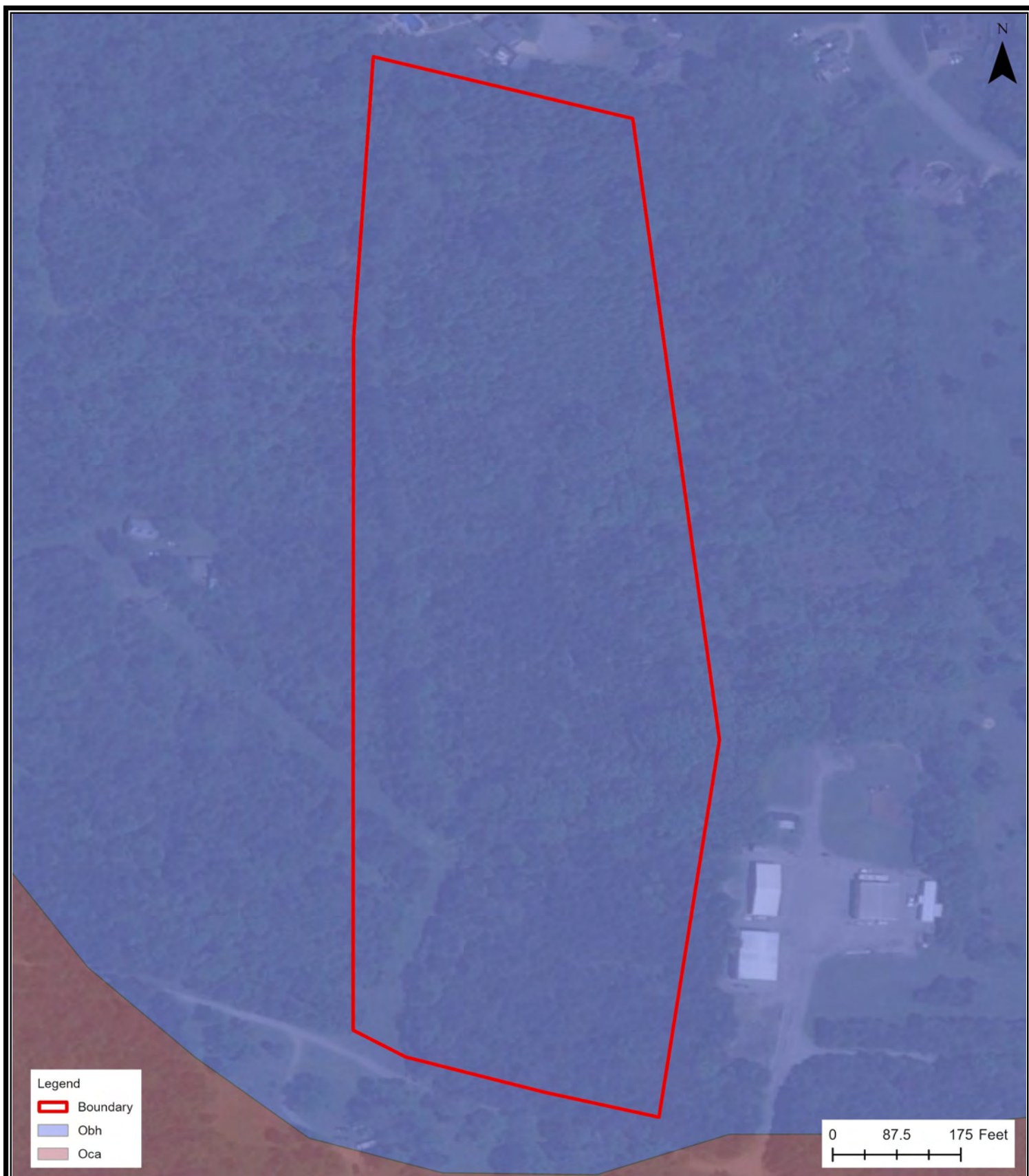
Drawn By:	Client #:
KK	3611
Checked By:	Date:
MR	3/8/2022
Project Mgr.:	Project #:
MR	3611-001-31

901 Woodland Street
Suite 104
Nashville, TN 37206
P - 615-469-4941

85 Spectrum Cove
Alabaster, AL 35007
O - 205-664-2000
F - 205-664-2142

SPECTRUM
Solutions to Your Environmental Challenges

TITLE
Figure 6 — Site Soils Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee



Source: Image courtesy of ESRI.

NO.	DATE	REVISION NOTE	BY

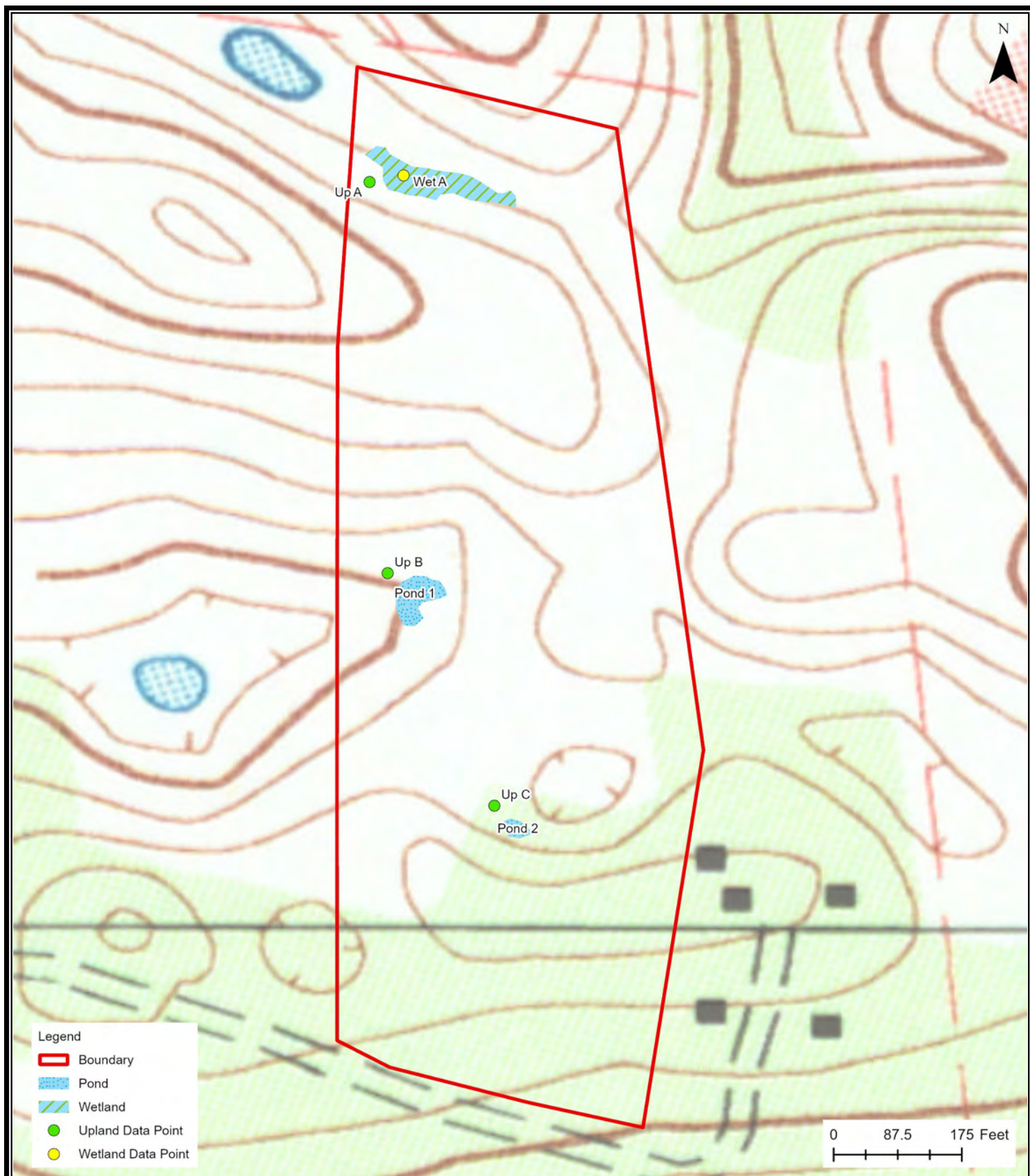
Drawn By:	Client #:
KK	3611
Checked By:	Date:
MR	3/8/2022
Project Mgr.:	Project #:
MR	3611-001-31

901 Woodland Street
Suite 104
Nashville, TN 37206
P - 615-469-4941

85 Spectrum Cove
Alabaster, AL 35007
O - 205-664-2000
F - 205-664-2142

SPECTRUM
Solutions to Your Environmental Challenges

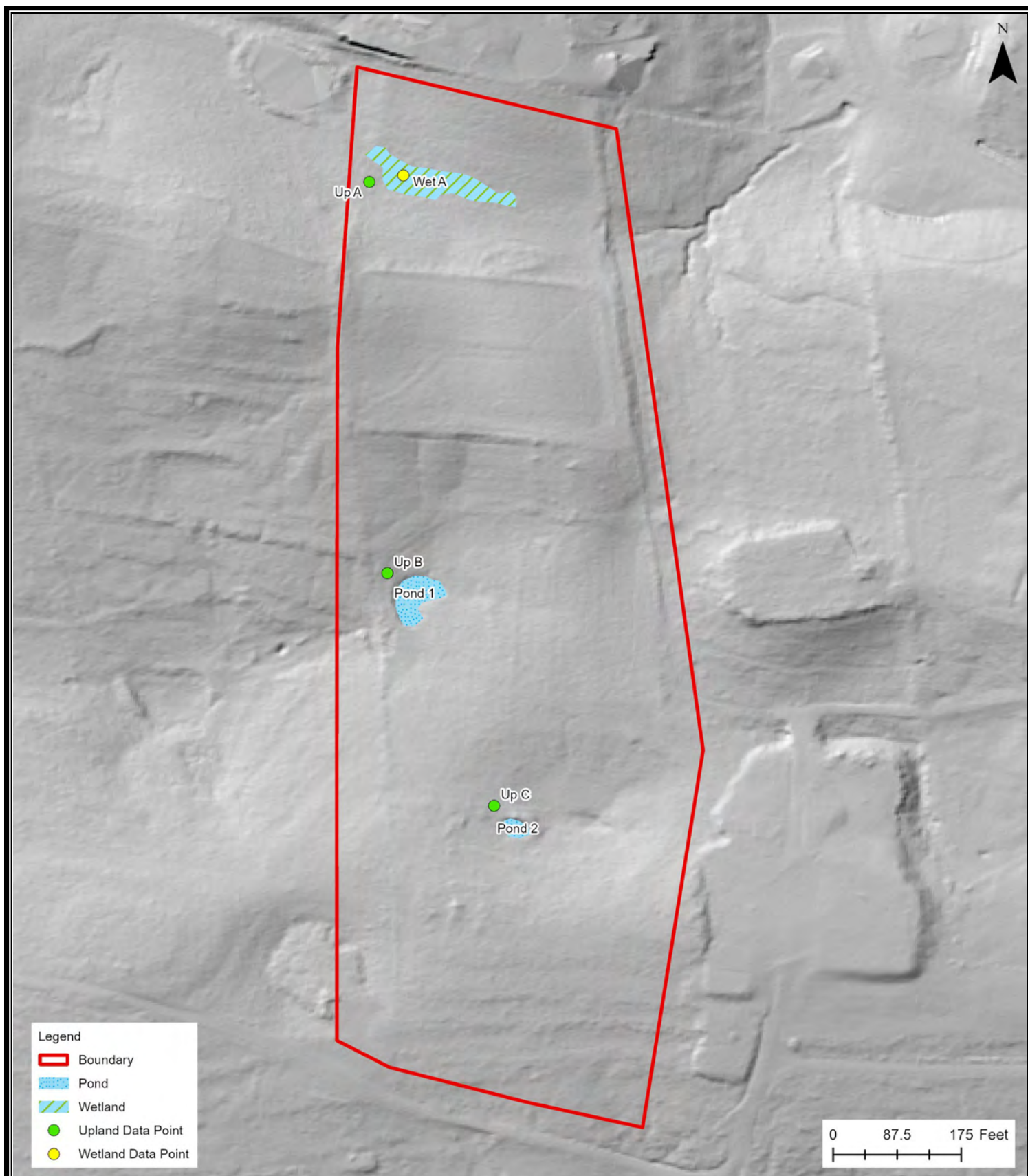
TITLE
Figure 7 — Site Geologic Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee



Source: Image courtesy of ESRI and USGS. USGS Hermitage, TN 7.5 minute quadrangle.

				Drawn By:	Client #:	<div><div>901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941</div><div><div>85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142</div></div></div>
				KK	3611	
				Checked By:	Date:	
				MR	3/8/2022	
				Project Mgr.:	Project #:	<div><div>SPECTRUM</div><div>Solutions to Your Environmental Challenges</div></div>
				MR	3611-001-31	
NO.	DATE	REVISION NOTE	BY			

TITLE
Figure 8a — Site Delineation Overview Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee



Source: Image courtesy of ESRI and USGS.

NO.	DATE	REVISION NOTE	BY

Drawn By:	Client #:
KK	3611
Checked By:	Date:
MR	3/8/2022
Project Mgr.:	Project #:
MR	3611-001-31

901 Woodland Street
Suite 104
Nashville, TN 37206
P - 615-469-4941

85 Spectrum Cove
Alabaster, AL 35007
O - 205-664-2000
F - 205-664-2142

SPECTRUM
Solutions to Your Environmental Challenges

TITLE
Figure 8b — Site Delineation Overview Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee



Source: Image courtesy of ESRI.

NO.	DATE	REVISION NOTE	BY

Drawn By:	Client #:
KK	3611
Checked By:	Date:
MR	3/8/2022
Project Mgr.:	Project #:
MR	3611-001-31

901 Woodland Street
Suite 104
Nashville, TN 37206
P - 615-469-4941

85 Spectrum Cove
Alabaster, AL 35007
O - 205-664-2000
F - 205-664-2142

SPECTRUM
Solutions to Your Environmental Challenges

TITLE
Figure 8c — Site Delineation Overview Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee

Site ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Total Mapped		Average Width at OHWM	Classification	
			LF	Acre		Type	Cowardin
Pond 1	36.244549	-86.558506	-	0.08	-	Open Water Pond	-
Pond 2	36.243478	-86.558045	-	0.02	-	Open Water Pond	-
Wet A	36.246478	-86.558425	-	0.18	-	Forested Wetland	PFO1A

				Drawn By:	Client #:	901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941 85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142  SPECTRUM Solutions to Your Environmental Challenges	TITLE Figure 8d — Site Delineation Table Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee
				KK	3611		
				Checked By:	Date:		
				MR	3/8/2022		
				Project Mgr.:	Project #:		
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31		



Source: Image courtesy of ESRI.

				Drawn By:	Client #:	<div> <div>901 Woodland Street Suite 104 Nashville, TN 37206 P - 615-469-4941</div> <div>  <div> SPECTRUM Solutions to Your Environmental Challenges </div> </div> </div> <div> 85 Spectrum Cove Alabaster, AL 35007 O - 205-664-2000 F - 205-664-2142 </div>	
				Checked By:	Date:		
				Project Mgr.:	Project #:		
NO.	DATE	REVISION NOTE	BY	MR	3611-001-31		
						TITLE Figure 9—Soil Boring Location Map Hydrologic Determination Doug Myhand Construction Hidden Harbor Drive Mt. Juliet, Wilson County, Tennessee	

APPENDIX A

Landowner Access Letter



May 5, 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
Hidden Harbor Drive Property (±18 Acres)
Mt. Juliet, Wilson County, Tennessee
Latitude 36.244700° North and Longitude -86.558100° West
Project No. 3611-001-31

To Whom it May Concern:

I currently own the above-identified property located in Mt. Juliet, Wilson 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).

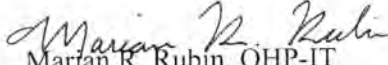
My information is as follows:

Name: Douglas R. Myland
Address: 400 Bull's Rd. Mt. Juliet, TN. 37122
Phone: 615-714-9691
Email: Myland Construction @ comcast.net
Signature: 

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

Sincerely,
SPECTRUM ENVIRONMENTAL, INC.


Kari A. Kennel, QHP-IT
Staff Scientist


Marian R. Rubin, QHP-IT
Nashville Division Manager
Natural Resource Biologist

APPENDIX B

Calculation of Normal Weather Conditions

Table 1. Calculation of Normal Weather Conditions / Hidden Harbour - Mt. Juliet, TN - March 2022

		Long-term Rainfall Records								
	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
1st month prior	Feb-22	1.97	1.83	3.8	5.77	8.69	Wet	3	3	9
2nd Month prior	Jan-22	2.34	1.71	4.05	6.39	5.74	Normal	2	2	4
3rd month prior	Dec-21	2.69	1.56	4.25	6.94	3.41	Normal	2	1	2
									Sum	15

Note:	
If sum is:	
6-9	then prior period has been drier than normal
10-14	then prior period has been normal
15-18	then prior period has been wetter than normal

Condition Value	
Dry =	1
Normal =	2
Wet=	3

Conclusions: Actual rainfall obtained from weather underground station KTNGREEN22

Monthly percipitation standard deviation and mean sourced from NOAA PSL - Nashville NWSCMO AP (1991-2020)

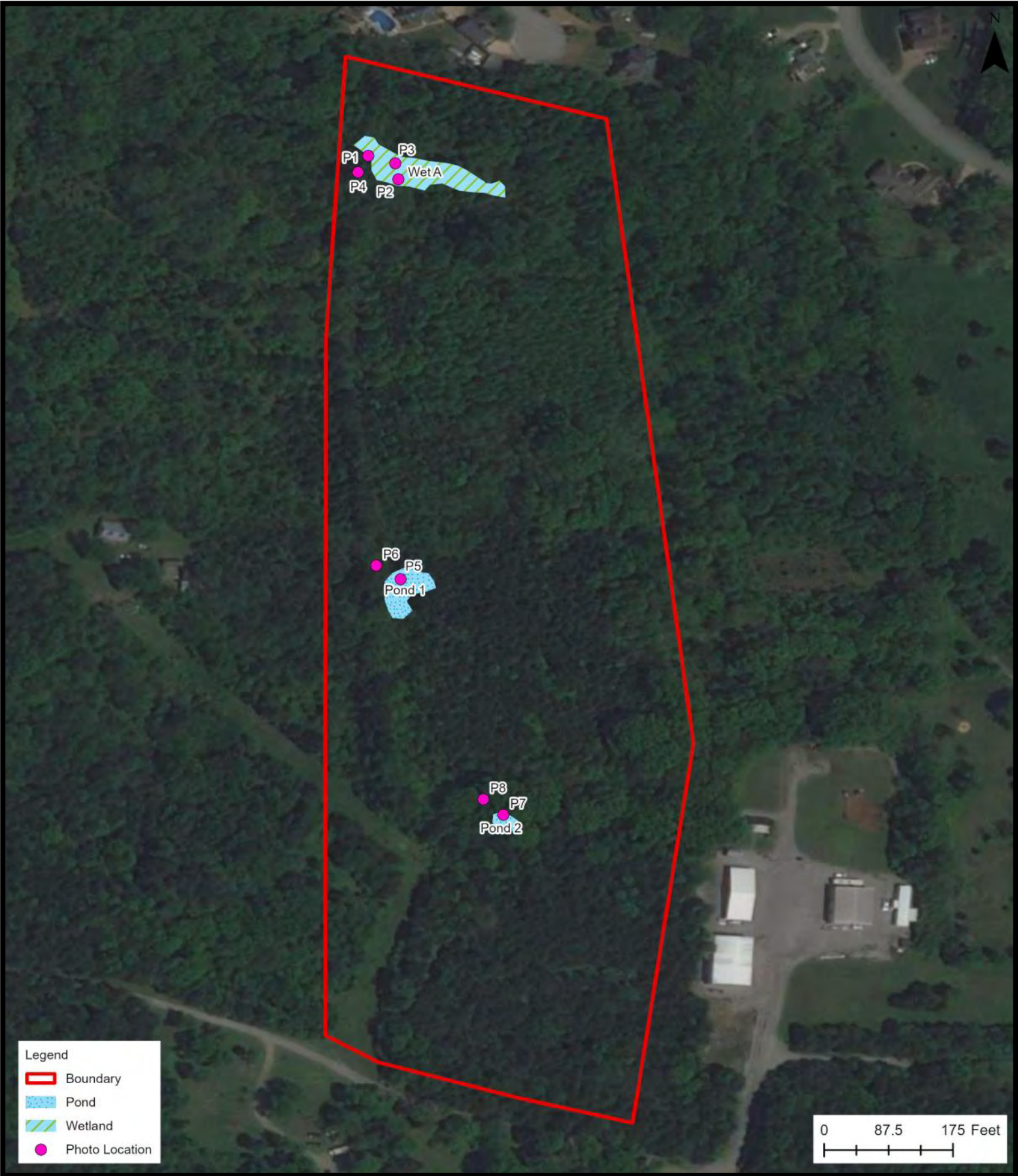
Date of field work 3/1/2022

Weather conditions prior to this period have been wetter normal.

APPENDIX C

Site Reconnaissance Photographs

Photo Index Map



Site Reconnaissance Photographs — March 1, 2022



Wet A



Wet A

Site Reconnaissance Photographs — March 1, 2022



Wet A



Wet A

Site Reconnaissance Photographs — March 1, 2022



Wet A



Wet A

Site Reconnaissance Photographs — March 1, 2022



Wet Pit A



Wet Pit A

Site Reconnaissance Photographs — March 1, 2022



Wet Pit A



Wet Pit A

Site Reconnaissance Photographs — March 1, 2022



Up Pit A



Up Pit A

Site Reconnaissance Photographs — March 1, 2022



Up Pit A



Pond 1

Site Reconnaissance Photographs — March 1, 2022



Pond 1



Up Pit B

Site Reconnaissance Photographs — March 1, 2022



Up Pit B



Up Pit B

Site Reconnaissance Photographs — March 1, 2022



Pond 2



Up Pit C looking south

Site Reconnaissance Photographs — March 1, 2022



Up Pit C



Up Pit C

Photo Index Map



Site Reconnaissance Photographs — April 29, 2022



Soil Bore A



Soil Bore B

APPENDIX D

Wetland Datasheets

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
--	--

Project/Site: Hidden Harbour City/County: Mt. Juliet/Wilson County Sampling Date: 3/1/2022
 Applicant/Owner: Doug Myhand Construction State: TN Sampling Point: Wet A
 Investigator(s): Brittini Black Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 12-20
 Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.246564 Long: -86.558564 Datum: _____
 Soil Map Unit Name: Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded (InD2) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u>X</u> Surface Water (A1) _____ High Water Table (A2) <u>X</u> Saturation (A3) _____ Water Marks (B1) _____ Sediment Deposits (B2) <u>X</u> Drift Deposits (B3) <u>X</u> Algal Mat or Crust (B4) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <u>X</u> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13) </div> <div style="width: 48%;"> _____ True Aquatic Plants (B14) _____ Hydrogen Sulfide Odor (C1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Presence of Reduced Iron (C4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Thin Muck Surface (C7) _____ Other (Explain in Remarks) </div> </div>	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

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

 Sampling Point: Wet A

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
2. <u>Celtis laevigata</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Quercus palustris</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
4. <u>liquidambar styraciflua</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>35</u> = Total Cover		
50% of total cover: <u>18</u>	20% of total cover: <u>7</u>		

Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ligustrum sinense</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Juniperus virginiana</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
3. <u>Lonicera maackii</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>
4. <u>Fraxinus nigra</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
5. <u>Ulmus americana</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
6. <u>Acer negundo</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	<u>65</u> = Total Cover		
50% of total cover: <u>33</u>	20% of total cover: <u>13</u>		

Herb Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ligustrum sinense</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Allium vineale</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Solidago gigantea</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>25</u> = Total Cover		
50% of total cover: <u>13</u>	20% of total cover: <u>5</u>		

Woody Vine Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Bignonia capreolata</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	<u>5</u> = Total Cover		
50% of total cover: <u>3</u>	20% of total cover: <u>1</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>40</u>	x 4 = <u>160</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>130</u> (A)	<u>410</u> (B)
Prevalence Index = B/A = <u>3.15</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes X No

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

SOIL

Sampling Point: Wet A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/2	98	7.5YR 4/3	2	C	M	Loamy/Clayey	Faint redox concentrations
4-10	10YR 5/2	85	7.5YR 4/4	15	C	M	Loamy/Clayey	Distinct redox concentrations

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> ? Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes X No _____

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp:11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
--	--

Project/Site: Hidden Harbour City/County: Mt. Juliet/Wilson County Sampling Date: 3/1/2022

Applicant/Owner: Doug Myhand Construction State: TN Sampling Point: Up A

Investigator(s): Brittini Black Section, Township, Range: NA

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 12-20

Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.246533 Long: -86.558722 Datum:

Soil Map Unit Name: Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded (InD2) NWI classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u>Surface Water (A1)</u> <u>High Water Table (A2)</u> <u>Saturation (A3)</u> <u>Water Marks (B1)</u> <u>Sediment Deposits (B2)</u> <u>Drift Deposits (B3)</u> <u>Algal Mat or Crust (B4)</u> <u>Iron Deposits (B5)</u> <u>Inundation Visible on Aerial Imagery (B7)</u> <u>Water-Stained Leaves (B9)</u> <u>Aquatic Fauna (B13)</u> </div> <div style="width: 48%;"> <u>True Aquatic Plants (B14)</u> <u>Hydrogen Sulfide Odor (C1)</u> <u>Oxidized Rhizospheres on Living Roots (C3)</u> <u>Presence of Reduced Iron (C4)</u> <u>Recent Iron Reduction in Tilled Soils (C6)</u> <u>Thin Muck Surface (C7)</u> <u>Other (Explain in Remarks)</u> </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u>Surface Soil Cracks (B6)</u> <u>Sparsely Vegetated Concave Surface (B8)</u> <u>Drainage Patterns (B10)</u> <u>Moss Trim Lines (B16)</u> <u>Dry-Season Water Table (C2)</u> <u>Crayfish Burrows (C8)</u> <u>Saturation Visible on Aerial Imagery (C9)</u> <u>Stunted or Stressed Plants (D1)</u> <u>Geomorphic Position (D2)</u> <u>Shallow Aquitard (D3)</u> <u>Microtopographic Relief (D4)</u> <u>FAC-Neutral Test (D5)</u>
Field Observations: Surface Water Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Water Table Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Saturation Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u></u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

Sampling Point: Up A

Tree Stratum (Plot size: 30)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Juglans nigra</i>	15	Yes	FACU
2.	<i>Ostrya virginiana</i>	10	Yes	FACU
3.				
4.				
5.				
6.				
7.				
		25 =Total Cover		
50% of total cover:		13	20% of total cover:	5
Sapling/Shrub Stratum (Plot size: 15)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Ligustrum sinense</i>	25	Yes	FACU
2.	<i>Fraxinus americana</i>	10	No	FACU
3.	<i>Lonicera canadensis</i>	15	Yes	FACU
4.	<i>Geum canadense</i>	5	No	FACU
5.				
6.				
7.				
8.				
9.				
		55 =Total Cover		
50% of total cover:		28	20% of total cover:	11
Herb Stratum (Plot size: 30)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Plagiomnium cuspidatum</i>	5	Yes	UPL
2.	<i>Carex pedunculata</i>	5	Yes	OBL
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		10 =Total Cover		
50% of total cover:		5	20% of total cover:	2
Woody Vine Stratum (Plot size: 5)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
50% of total cover:			20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 5	x 1 = 5
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 80	x 4 = 320
UPL species 5	x 5 = 25
Column Totals: 90 (A)	350 (B)
Prevalence Index = B/A = 3.89	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

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

SOIL

Sampling Point: Up A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 3/4	100					Loamy/Clayey	
7-12	10YR 5/6	100					Loamy/Clayey	
					¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.			
					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)			<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)			<input type="checkbox"/>	(MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Piedmont Floodplain Soils (F19)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/>	(MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)			<input type="checkbox"/> Redox Dark Surface (F6)			<input type="checkbox"/> Red Parent Material (F21)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/>	(outside MLRA 127, 147, 148)	
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Very Shallow Dark Surface (F22)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> MLRA 136)					
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)					
<input type="checkbox"/> Dark Surface (S7)			<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)					
Restrictive Layer (if observed):								
Type: _____						Hydric Soil Present? Yes ____ No <u>X</u>		
Depth (inches): _____								
Remarks: 								

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
--	--

Project/Site: Hidden Harbour City/County: Mt. Juliet/Wilson County Sampling Date: 3/1/2022

Applicant/Owner: Doug Myhand Construction State: TN Sampling Point: Up B

Investigator(s): Brittini Black Section, Township, Range: NA

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 12-20

Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.244720 Long: -86.558639 Datum:

Soil Map Unit Name: Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded (InD2) NWI classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <u>Surface Water (A1)</u> <u>High Water Table (A2)</u> <u>Saturation (A3)</u> <u>Water Marks (B1)</u> <u>Sediment Deposits (B2)</u> <u>Drift Deposits (B3)</u> <u>Algal Mat or Crust (B4)</u> <u>Iron Deposits (B5)</u> <u>Inundation Visible on Aerial Imagery (B7)</u> <u>Water-Stained Leaves (B9)</u> <u>Aquatic Fauna (B13)</u> </div> <div style="width: 50%;"> <u>True Aquatic Plants (B14)</u> <u>Hydrogen Sulfide Odor (C1)</u> <u>Oxidized Rhizospheres on Living Roots (C3)</u> <u>Presence of Reduced Iron (C4)</u> <u>Recent Iron Reduction in Tilled Soils (C6)</u> <u>Thin Muck Surface (C7)</u> <u>Other (Explain in Remarks)</u> </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u>Surface Soil Cracks (B6)</u> <u>Sparsely Vegetated Concave Surface (B8)</u> <u>Drainage Patterns (B10)</u> <u>Moss Trim Lines (B16)</u> <u>Dry-Season Water Table (C2)</u> <u>Crayfish Burrows (C8)</u> <u>Saturation Visible on Aerial Imagery (C9)</u> <u>Stunted or Stressed Plants (D1)</u> <u>Geomorphic Position (D2)</u> <u>Shallow Aquitard (D3)</u> <u>Microtopographic Relief (D4)</u> <u>FAC-Neutral Test (D5)</u>
Field Observations: Surface Water Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Water Table Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Saturation Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u></u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: Up B

<u>Tree Stratum</u> (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Liquidambar styraciflua</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Juniperus virginiana</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>
3.				
4.				
5.				
6.				
7.				
		<u>65</u> = Total Cover		
50% of total cover: <u>33</u>		20% of total cover: <u>13</u>		

<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Lonicera japonica</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
2.	<u>Ostrya virginiana</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
		<u>40</u> = Total Cover		
50% of total cover: <u>20</u>		20% of total cover: <u>8</u>		

<u>Herb Stratum</u> (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Dichanthelium acuminatum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2.	<u>Carex pedunculata</u>	<u>5</u>	<u>Yes</u>	<u>OBL</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		<u>10</u> = Total Cover		
50% of total cover: <u>5</u>		20% of total cover: <u>2</u>		

<u>Woody Vine Stratum</u> (Plot size: <u>5</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
50% of total cover: _____		20% of total cover: _____		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>90</u>	x 4 = <u>360</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>115</u> (A)	<u>425</u> (B)
Prevalence Index = B/A = <u>3.70</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

**Hydrophytic
Vegetation
Present?**

Yes _____ **No** X

SOIL

Sampling Point: Up B**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 4/4	100					Loamy/Clayey	
4-12	7.5YR 6/6	100					Loamy/Clayey	

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)
<input type="checkbox"/> Dark Surface (S7)	

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)
<input type="checkbox"/> Red Parent Material (F21) (outside MLRA 127, 147, 148)
<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____Hydric Soil Present? Yes _____ No X

Remarks:

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-12-9; the proponent agency is CECW-CO-R	OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
--	--

Project/Site: Hidden Harbour City/County: Mt. Juliet/Wilson County Sampling Date: 3/1/2022

Applicant/Owner: Doug Myhand Construction State: TN Sampling Point: Up C

Investigator(s): Brittini Black Section, Township, Range: NA

Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 12-20

Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.243642 Long: -86.558145 Datum:

Soil Map Unit Name: Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded (InD2) NWI classification: None

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

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

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

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

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <u>Surface Water (A1)</u> <u>High Water Table (A2)</u> <u>Saturation (A3)</u> <u>Water Marks (B1)</u> <u>Sediment Deposits (B2)</u> <u>Drift Deposits (B3)</u> <u>Algal Mat or Crust (B4)</u> <u>Iron Deposits (B5)</u> <u>Inundation Visible on Aerial Imagery (B7)</u> <u>Water-Stained Leaves (B9)</u> <u>Aquatic Fauna (B13)</u> </div> <div style="width: 48%;"> <u>True Aquatic Plants (B14)</u> <u>Hydrogen Sulfide Odor (C1)</u> <u>Oxidized Rhizospheres on Living Roots (C3)</u> <u>Presence of Reduced Iron (C4)</u> <u>Recent Iron Reduction in Tilled Soils (C6)</u> <u>Thin Muck Surface (C7)</u> <u>Other (Explain in Remarks)</u> </div> </div>	<u>Secondary Indicators (minimum of two required)</u> <u>Surface Soil Cracks (B6)</u> <u>Sparsely Vegetated Concave Surface (B8)</u> <u>Drainage Patterns (B10)</u> <u>Moss Trim Lines (B16)</u> <u>Dry-Season Water Table (C2)</u> <u>Crayfish Burrows (C8)</u> <u>Saturation Visible on Aerial Imagery (C9)</u> <u>Stunted or Stressed Plants (D1)</u> <u>Geomorphic Position (D2)</u> <u>Shallow Aquitard (D3)</u> <u>Microtopographic Relief (D4)</u> <u>FAC-Neutral Test (D5)</u>
Field Observations: Surface Water Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Water Table Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> Saturation Present? Yes <u></u> No <u>X</u> Depth (inches): <u></u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u></u> No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

 Sampling Point: Up C

Tree Stratum (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Juniperus virginiana</i>	25	Yes	FACU
2.	<i>Quercus palustris</i>	5	No	FACW
3.	<i>Fagus grandifolia</i>	5	No	FACU
4.	<i>Ostrya virginiana</i>	20	Yes	FACU
5.				
6.				
7.				
		55	=Total Cover	
50% of total cover:		28	20% of total cover:	
			11	

Sapling/Shrub Stratum (Plot size: <u>15</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Geum canadense</i>	5	No	FACU
2.	<i>Lonicera japonica</i>	20	Yes	FACU
3.	<i>Ligustrum sinense</i>	20	Yes	FACU
4.	<i>Ostrya virginiana</i>	10	No	FACU
5.				
6.				
7.				
8.				
9.				
		55	=Total Cover	
50% of total cover:		28	20% of total cover:	
			11	

Herb Stratum (Plot size: <u>30</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<i>Allium vineale</i>	10	Yes	FACU
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
		10	=Total Cover	
50% of total cover:		5	20% of total cover:	
			2	

Woody Vine Stratum (Plot size: <u>5</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.				
2.				
3.				
4.				
5.				
			=Total Cover	
50% of total cover:			20% of total cover:	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>115</u>	x 4 = <u>460</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>470</u> (B)
Prevalence Index = B/A = <u>3.92</u>	

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes No X

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

SOIL

Sampling Point: Up C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 4/4	100					Loamy/Clayey	
2-12	7.5YR 5/6	100					Loamy/Clayey	

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

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) (LRR N) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148) <input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148) <input type="checkbox"/> Loamy Mucky Mineral (F1) (MLRA 136) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136) <input type="checkbox"/> Umbric Surface (F13) (MLRA 122, 136) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148) <input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147, 148)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) (MLRA 147) <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148) <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147) <input type="checkbox"/> Red Parent Material (F21) (outside MLRA 127, 147, 148) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
--	--	--

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks: