March 25, 2022

Ms. Shari Winburn TDEC-Division of Water Resources Knoxville Environmental Field Office 3711 Middlebrook Pike Knoxville, Tennessee 37921 Shari.Winburn@tn.gov

Subject: SR Maryville Blount Hydrologic Determination Request Blount County, Tennessee

Ms. Winburn,

A subsidiary of Silicon Ranch Corporation (SRC), SR Maryville Blount, LLC intends to develop a site within the city limits of Maryville, TN as a photovoltaic (PV) solar power generating facility. The SR Maryville Blount Site (Project Site) includes approximately 24 acres and is located 0.5 miles south of the intersection of Middlesettlements Rd. and Roberts C. Jackson Dr. The Project Site is within the southeastern limits of the Tennessee Denso Manufacturing Site at 1720 Robert C Jackson Dr., Maryville, TN 37801 and borders a substation within that property (Appendix A, Figures 1 and 2). On behalf of its subsidiary SR Maryville Blount, LLC, SRC has authorized HDR Engineering, Inc. (HDR) as its agent to submit the enclosed Hydrologic Determination (HD) request for written approval from the Tennessee Department of Environmental and Conservation (TDEC) regarding the extent of streams, wetlands, and wet weather conveyances (WWCs) within the Project Site.

	Requestor/Applicant	Consultant/Requestor	Current Property Owners
Name	Luke Wikinson	Gracelyn Jones	Denso Manufacturing
Affiliation	SR Maryville Blount	HDR	n/a
Mailing Address	222 2 nd Avenue South Suite 1900 Nashville, TN 37201	120 Brentwood Commons Way Suite 525 Brentwood, TN 37027-2029	1720 Robert C Jackson Dr ATTN Accounting Dept Maryville, TN 37801
Phone Number	615-577-4611	629-228-7500	865-982-7000
Parcel ID:	n/a	n/a	Map: 046 Parcel: 056.00

Project Location: 1720 Robert C Jackson Dr., Maryville, TN 37801 Basin: Pistol Creek Watershed (Hydrologic Unit Code [HUC] 060102010108) Nearest City: Maryville, TN County: Blount County Center Decimal Degree Coordinates of Project Area: 35.760130°, -84.002582° USGS Quadrangle Name: Louisville, TN (1968)

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Project Site Description

Prior to undertaking fieldwork, HDR scientists conducted a desktop review of the Project Site utilizing a number of resources. The assessed data are presented on several figures in Appendix A, as follows:

- Figure 1, Project Vicinity Map
- Figure 2, U.S. Geological Survey (USGS) topographic map;
- Figure 3, Aerial imagery;
- **Figure 4**, USDA Natural Resources Conservation Service (NRCS) soils map (including depth to confining layer and depth to water table);
- **Figure 5**, on-site streams, wetlands, and floodplains as depicted in the USGS National Hydrography Dataset (NHD), the U.S. Fish and Wildlife Service (UWFWS) National Wetland Inventory (NWI), and the Federal Emergency Management ACT (FEMA) National Flood Hazard Layer Viewer;
- Figure 6, the 12-digit HUC watersheds as shown by the USGS NHD; and
- **Figure 7**, Delineated Features.

According to the USDA NRCS Soil Survey of Blount County, six different soil types were identified within the Project Site (Appendix A, Figure 4 and Table 1). Approximately 3.5% percent of the onsite soils are classified as prime farmland. Depth to the restrictive layer is between approximately 2 and greater than 6.6 feet, and depth to the water table is between 0.5 and greater than 6.6 feet. Approximately of 17% of the soils with the Project Site are classified as hydric according to the NRCS National Hydric Soils List for Blount County and occur within the northeastern portion of the Project Site (NRCS 2021).

				•			
Map Unit Symbol	Map Unit Name	Farmland Classification	Hydric	Depth to Restrictive Layer (ft)	Depth to Water Table (ft)	Acres	Percent
Fb	Farragut silty clay loam, eroded gently sloping phase	All areas are prime farmland	No	2	>6.6	0.0	0.0%
Fc	Farragut silty clay loam, eroded sloping phase	Farmland of local importance	No	2	>6.6	0.9	3.5%
Lk	Litz silt loam, sloping phase	Not prime farmland	No	2	>6.6	5.1	20.8%
LI	Litz silt loam, moderately steep phase	Not prime farmland	No	2	>6.6	9.2	38.1%
Pc	Prader silt loam (melvin)	Not prime farmland	Yes	>6.6	0.5	4.1	16.9%
Sf	Sequoia silty clay loam, eroded gently sloping phase	Not prime farmland	No	3	>6.6	5.0	20.6%

Table 1. Summary of USDA NRCS Soils within the Site

A review of desktop NHD and NWI datasets and aerial photography indicate that Laurel Bank Branch, a perennial stream characterized as R2UB3H, runs through the northeastern section of the Site (Appendix A, Figure 5). The stream is bordered by a freshwater forested/shrub wetland identified as a PFCO1C (Appendix A, Figure 5). The stream and mapped wetland features appear to be hydrologically linked. The stream flows to the northwest where it has a hydrologic connection to Little River. Laurel Bank Branch has been assessed under Sections 303(d) and 305(b) of the Clean Water Act (CWA). Laurel Bank

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Branch is not 303(d) listed, but its condition is impaired for fish and aquatic life due to sedimentation/siltation. Total Maximum Daily Loads for siltation have been set in the Pistol Creek Watershed (Hydrologic Unit Code [HUC] 060102010108) which the Site is located within. There are no National Wild and Scenic Rivers, Outstanding Natural Resource Waters, or Exceptional Tennessee Waters within the Site.

According to FEMA maps, approximately 2.6 acres of the Site are within the 100-year floodplain and approximately 2 acres of this floodplain identified as a floodway. The 100-year floodplain, or Zone AE, is defined as areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. These areas of flood hazard border Laurel Bank Branch in the northeastern section of the Site. The rest of the Site is not located within a floodplain (Appendix A, Figure 5).

The Project Site largely contains forested wetlands in the northeast section, mixed deciduous forest in the southern section, evergreen forest in the central-eastern section, and small areas of developed space in the western section.

Tree species in delineated wetlands include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), northern red oak (*Quercus rubra*), American hornbeam (*Carpinus caroliniana*), and common hackberry (*Celtis occidentalis*). Sapling and shrub species in delineated wetlands include black willow (*Salix nigra*), sweetgum, and Chinese privet (*Ligustrum sinense*). Herbaceous and vine species in delineated wetlands include softrush (*Juncus effusus*), sedge (*Carex sp.*), an unknown grass species (*Poaceae sp.*), green bristlegrass (*Setaria viridis*), narrowleaf cattail (*Typha angustifolia*), broad leafed dock (*Rumex obtusifolius*), black raspberry (*Rubus aboriginum*), and poison ivy (*Toxicodendron radicans*).

Tree species in delineated uplands include common hackberry, callery pear (*Pyrus calleryana*), and pignut hickory (*Carya glabra*). Sapling and shrub species in delineated uplands include Chinese privet, red maple, common hackberry, and black cherry (*Prunus serotina*). Herbaceous and vine species in delineated uplands include an unknown grass species, white clover (*Trifolium repens*), mock strawberry (*Duchesnea indica*), Japanese honeysuckle (*Lonicera japonica*), hairy bittercress (*Cardamine hirsuta*), smallspike false nettle (*Boehmeria cylindrica*), goldenrod (*Solidago* sp.), dog-fennel (*Eupatorium capillifolium*), common dandelion (*Taraxacum officinale*), field garlic (*Allium oleraceum*), and a Geranuim species.

Jurisdictional Delineation and Hydrological Determination

On March 7 and 8, 2022, HDR environmental scientists Lyranda Thiem, Tennessee Qualified Hydrologic Professional in Training (TN-QHP-IT), and Caroline Ryciuk reviewed the Project Site for waters of the U.S. under Section 404 of the CWA. Jurisdictional waters of the U.S. were delineated according to the methodology and guidance described in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, USACE 2008 Rapanos Guidance, and the 2012 USACE Eastern Mountains and Piedmont Regional Supplement (Version 2.0). Streams were classified utilizing the methodology and guidance for Making Hydrologic Determinations (Version 1.5). Jurisdictional waters of the U.S., Tennessee State Waters, and WWCs were flagged in the field and mapped using a Trimble® GeoXT GPS unit capable of sub-meter accuracy. GPS points were post-processed utilizing Trimble® GPS Pathfinder Office software.

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Results

The results of the on-site field investigation conducted by HDR indicate that, according to the RGL 05-05 and TDEC Water Pollution Control Guidance for Making Hydrologic Determinations, there are two (2) stream channels, four (4) wetlands, and five (5) WWCs located within the Project Site (Appendix A, Figure 7).

The on-site surface waters drain to the stream Laurel Bank Branch (Stream 2), a relatively permanent water (RPW) located in the eastern portion of the Project Site, and are within Pistol Creek Watershed (Hydrologic Unit Code [HUC] 060102010108). Total Maximum Daily Loads for siltation have been set within this watershed. Laurel Bank Branch is not 303(d) listed, but its condition is considered to be impaired for fish and aquatic life due to sedimentation/siltation.

Wetland Waters

There are four wetlands located within the Project Site totaling 2.29 acres (Appendix A, Figure 7). A summary of on-site wetland waters is included in Table 1.

Feature Name	Coordinates (decimal degrees)	Cowardin Classification ¹	Estimated Amount of Aquatic Resource in Review Area (acres)
Wetland Waters			
Wetland 1	35.761160, -84.000853	PFO	2.11
Wetland 2	35.761639, -84.002697	PEM/PFO	0.08
Wetland 3	35.76039, -84.003023	PFO	0.06
Wetland 4	35.761486, -84.002031	PEM	0.04
	Total V	Vetland Waters:	Area: 2.29 ac.

Table 1. Summary of on-site wetland waters within the Project Site

¹PEM = Palustrine emergent

²PFO = Palustrine forested

Streams

There are two perennial streams located within the Project Site totaling approximately 581 linear feet (0.09 acre) (Appendix A, Figure 7). A summary of on-site non-wetland waters is included in Table 2.

Feature Name	Starting Coordinates (decimal degrees)	Ending Coordinates (decimal degrees)	Cowardin Classification ¹	Estimated Amount of Aquatic Resource in Review Area				
Non-Wetlar	nd Waters							
Stream 1	35.760546, -84.001117	35.760875, -84.001061	R5UB2	Length: 141 ft Width: 2-5 ft Area: 0.01 ac.				
Stream 2	35.760739, -84.000605	35.76167, -84.001131	R2UB2	Length: 440 ft Width: 6-10 ft Area: 0.08 ac.				
	Total Non-Wetland Waters: Length: 581 ft. Area: 0.09 ac.							

Table 2. Summary of on-site non-wetland waters in Project Site

¹R2UB = Riverine, Lower Perennial, Unconsolidated Bottom Sand

²R5UB2= Sand, Unconsolidated Bottom, Unknown Perennial, Riverine

Wet Weather Conveyances

There are five WWCs located within the Project Site totaling approximately 1,136 linear feet (0.06 acre) (Appendix A, Figure 7). A summary of on-site WWCs is included in Table 3.

Feature Name	Starting Coordinates (decimal degrees)	Ending Coordinates (decimal degrees)	Estimated Amount of WWC in Review Area
Wet Weather O	Conveyances		
WWC 1	35.761395, -84.002439	35.760594, -84.001028	Length: 553 ft Width: 1-6 ft Area: 0.04 ac.
WWC 2	35.761199, -84.002180	35.761163, -84.002204	Length: 15 ft Width: 1 ft Area: 0.0003 ac.
WWC 3	35.760758, -84.001901	35.760232, -84.002656	Length: 321 ft Width: 1 ft Area: 0.01 ac.
WWC 4	35.760415, -84.002647	35.760254, -84.002851	Length: 84 ft Width: 1-2 ft Area: 0.003 ac.
WWC 5	35.760434, -88.003648	35.760364, -84.003113	Length: 163 ft Width: 1-3 ft Area: 0.01 ac.
		Total WWCs:	Length: 1,136 ft Area: 0.06 ac.

Table 3. Summary of wet weather conveyances within the Project Site

On behalf of SR Maryville Blount, HDR is hereby requesting HD verification for 2 streams, 4 wetlands, and 5 WWCs within the Project Site. Should you have any questions or require additional information following your review of the enclosed materials, please contact me at (615) 507- 9167 or <u>lyranda-thiem@hdrinc.com</u> or Gracelyn Jones at (629) 228-7558 or <u>Gracelyn.Jones@hdrinc.com</u>.

Sincerely,

Lyranda Thism

Lyranda Thiem TN-QHPIT Environmental Scientist

Gracelyn Jones

Gracelyn Jones Environmental Scientist

Appendices:

Appendix A: Figures

- Figure 1. Project Location
 Figure 2. USGS Topographic Quadrangles
 Figure 3. Aerial Imagery
 Figure 4. NRCS Soils Survey of Blount County
 Figure 5. USGS National Hydrography Dataset, USFWS National
 Wetlands Inventory, and FEMA Floodplains
 Figure 6. HUC 12 Watershed
 Figure 7. Delineated Features
- Appendix B: Data Forms and Normal Weather Conditions USACE Wetland Determination Data Forms (DP1-DP8) Hydrologic Determination Data Sheets Normal Weather Conditions

Appendix C: Site Photographs

cc: Luke Wilkinson, Silicon Ranch Corporation

Appendix A

Figures

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PATH: \\CLTSMAINIGIS_DATAIGISIPROJECTS\10632_SILICONRANCHCORPORATION\10337094_SR_MARYVILLE_BLOUNT7.2_WORK_IN_PROGRESSMAP_DOCSMXDHD_FIGURES01_MARYVILLEBLOUNT_VICINITY.MXD + USER: GMARCHICA + DATE: 3/11/2022







SR MARYVILLE BLOUNT NRCS SOIL SURVEY OF BLOUNT COUNTY, TN FIGURE 4

HYDROLOGIC DETERMINATION REQUEST





NHD, NWI AND FEMA FLOOD ZONES

FIGURE 5





Appendix B

Data Forms and Normal Weather Conditions

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U.S. Army Corps of Engineer WETLAND DETERMINATION DATA SHEET – Eastern Mount See ERDC/EL TR-07-24; the proponent agency	s ains and Piedmont Region / is CECW-CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: SR Marvville Blount	Citv/County: Blount County	Sampling Date: 3/7/2022
Applicant/Owner: SRC	0.0,000.0,0 <u>000.000.000</u>	State: TN Sampling Point: DP1-W1
Investigator(a): L. Thiom and C. Ryouik	Section Township Banga	
	Section, Township, Range.	>
Landform (hillside, terrace, etc.): depression Lo	cal relief (concave, convex, none	e): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRR N Lat: 35.76116	Long: <u>-84.0</u>	D0853 Datum: NAD86
Soil Map Unit Name: Prader silt Ioam		NWI classification: <u>PFO</u>
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes <u>X</u>	lo (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly di	sturbed? Are "Normal Circur	nstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problem	lematic? (If needed, explain	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	s, transects, important features, etc.
3		-, ,, ,
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area	
Hydric Soil Present? Yes X No	within a Wetland?	Yes_X_ No
Wetland Hydrology Present? Yes X No		
Remarks:		
Floodplain wetland surrounding Laurel Bank Branch		
Wetland Hydrology Indicators:	Sec	Condary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that apply)	(P14) V	Surface Soli Cracks (B6)
X High Water Table (A2) Hydrogen Sulfide Og	$\frac{1}{1}$	Drainage Patterns (B10)
X Saturation (A3) Oxidized Rhizosphe	res on Living Roots (C3)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduce	ed Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction	on in Tilled Soils (C6) X	Crayfish Burrows (C8)
Drift Deposits (B3)X Thin Muck Surface ((C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Re	marks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Aquatic Found (B13)		FAC Noutral Tast (D5)
Field Observations:		rac-Neutral Test (D3)
Field Observations.	es): 6	
Water Table Present? Yes X No Depth (inch	es): 0	
Saturation Present? Yes X No Depth (inch	es): 0 Wetland Hydi	ology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if availa	ible:
Remarks: Wetland hydrology present		
restand hydrology procent.		

Sampling Point: DP1-W1

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liquidambar styraciflua	20	Yes	FAC	Number of Dominant Species
2. Acer rubrum	20	Yes	FAC	That Are OBL, FACW, or FAC: 8 (A)
3. Quercus rubra	20	Yes	FACU	Total Number of Dominant
4				Species Across All Strata: 9 (B)
5.	-	·		Percent of Dominant Species
6.		·		That Are OBL, FACW, or FAC: 88.9% (A/B)
7.				Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	30 20%	6 of total cover:	12	OBL species 5 $x 1 = 5$
 Sapling/Shrub Stratum (Plot size: 30)			FACW species $25 \times 2 = 50$
1 Salix niora	-′ 5	Yes	OBI	FAC species $75 \times 3 = 225$
2 Liquidambar sturaciflua	5	 	FAC	$\frac{1}{10000000000000000000000000000000000$
		105	FAU	
3				$\begin{array}{c c} UPL \text{ species} & U & x \text{ 5} = & U \\ \hline \end{array} $
4				Column Totals: 125 (A) 360 (B)
5				Prevalence Index = B/A = 2.88
6		<u> </u>		Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.		·		X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
···	10	-Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total covor:	F 200		n	data in Remarks or on a separate sheet)
	5 207		۷	
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation (Explain)
1. Juncus effusus	10	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
2. Carex sp.*	10	Yes	FACW	be present, unless disturbed or problematic.
3. Poaceae sp.*	5	Yes	FACW	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.	-			more in diameter at breast height (DBH), regardless of
6				height.
7				Carling (Chryth Weady plants evaluding vince loss
·				than 3 in DBH and greater than or equal to 3 28 ft
o				(1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 5.20 it tail.
	25	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	13 20%	6 of total cover:	5	height.
Woody Vine Stratum (Plot size: 30)				
1. Toxicodendron radicans	30	Yes	FAC	
2				
2.				
3				
4				
5				Hvdrophytic
	30	=Total Cover		Vegetation
50% of total cover:	15 20%	6 of total cover:	6	Present? Yes X No
Remarks: (Include photo numbers here or on a sep *Wetland indicator status ranges from OBL-UPL. F	oarate sheet.) [:] AWC status a	isigned for this s	survey.	-

SOIL	
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Profile Desc	ription: (Describe to Matrix	o the dep	th needed to docu Redo	ment the	e indicat	or or cor	nfirm the absence o	of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/2	90	7.5YR 5/8	10	С	М	Loamy/Clayey	Prominent redox concentrations
10-20	10YR 4/2	80	7.5YR 5/8	20	С	M	Loamy/Clayey	Prominent redox concentrations
¹ Type: C=Co	oncentration, D=Deple	etion, RM:	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Locatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil I Histosol Histoc Ep Black His Yudrogen Stratified 2 cm Mu Depleted Thick Da Sandy M Sandy G Sandy R Sandy R Stripped Dark Sur Restrictive I Type: Depth (in Remarks: Hydric soils p	Indicators: (A1) ipedon (A2) stic (A3) In Sulfide (A4) Layers (A5) ck (A10) (LRR N) Below Dark Surface Irk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) Layer (if observed): present.	(A11)	Polyvalue Be Thin Dark Si Loamy Muck Loamy Gleye X Depleted Ma Redox Dark Depleted Da X Redox Depre Iron-Mangar MLRA 130 Umbric Surfa Piedmont Fle Red Parent 1	elow Surf urface (S sy Minera ed Matrix trix (F3) Surface rk Surfac essions (bese Mas 5) ace (F13 bodplain Material (face (S8) (9) (MLR, al (F1) (M (F6) (F6) (F8) (F8) (Ses (F12) (MLRA Soils (F1 (F21) (MI	(MLRA 1 A 147, 14 LRA 136) 2) (LRR N 122, 136) 9) (MLRA LRA 127,	Indi (47, 148) 8) , _	icators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (F21) (outside MLRA 127, 147, 148) Very Shallow Dark Surface (F22) Other (Explain in Remarks) icators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. sent? Yes X No

U.S. Army Corps of Engine WETLAND DETERMINATION DATA SHEET – Eastern Mou See ERDC/EL TR-07-24; the proponent ager	eers untains and Piedmont Region ncy is CECW-CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)
Project/Site: <u>SR Maryville Blount</u> Applicant/Owner: <u>SRC</u>	City/County: Blount County	Sampling Date: <u>3/7/2022</u> State: TN Sampling Point: DP2-W3
Investigator(s): L.Thiem and C. Rycuik	Section, Township, Range:	
Landform (hillside, terrace, etc.): depression	Local relief (concave, convex, none	e): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRR N Lat: 35.76039	Lona: -84.0	03023 Datum: NAD86
Soil Man Linit Name: Litz silt loam moderately steen phase		
Are elimentia / hudralaria conditions on the site trained for this time of		
Are climatic / hydrologic conditions on the site typical for this time of	bi year? Yes \underline{X} in	
Are vegetation, Soli, or Hydrologysignificantly	y disturbed? Are "Normal Circui	mstances present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally pr	roblematic? (If needed, explain	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point location	s, transects, important features, etc.
Hydronhytic Vegetation Present? Voc. V No.	ls the Sampled Area	
Hydric Soil Present? Yes X No	within a Wetland?	Ves X No
Wetland Hydrology Present? Yes X No		
Remarks: Depression wetland located off of trail. HYDROLOGY		
Wetland Hydrology Indicators:	Sec	condary Indicators (minimum of two required)
Primary Indicators (minimum of one is required: check all that app		Surface Soil Cracks (B6)
X Surface Water (A1) True Aquatic Pla	nts (B14) X	Sparsely Vegetated Concave Surface (B8)
X High Water Table (A2) Hydrogen Sulfide	Odor (C1) X	Drainage Patterns (B10)
X Saturation (A3) Oxidized Rhizosp	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 Redu	uction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)Thin Muck Surface	ce (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 Aenal Imagery (B7)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Eigld Observations:		
Surface Water Present? Yes X No Denth (ir	nches): 10	
Water Table Present? Yes X No Depth (in	nches): 0	
Saturation Present? Yes X No Depth (ir	nches): 0 Wetland Hydr	rology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if availa	able:
Remarks:		
Wetland hydrology present.		

Sampling Point: DP2-W3

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Liquidambar styraciflua	20	Yes	FAC	Number of Dominant Species
2. Acer rubrum	5	No	FAC	That Are OBL, FACW, or FAC: 3 (A)
3. Carpinus caroliniana	20	Yes	FAC	Total Number of Dominant
4. Celtis occidentalis	10	No	FACU	Species Across All Strata: 4 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 75.0% (A/B)
7.				Prevalence Index worksheet:
	55	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	28 20%	of total cover:	11	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30)			FACW species 0 x 2 = 0
1. Ligustrum sinense		Yes	FACU	FAC species 55 x 3 = 165
2.				FACU species $25 \times 4 = 100$
3				$UPL species \qquad 0 \qquad x 5 = 0$
4				$\begin{array}{c c} \hline c \\ c \\$
4. 				$\frac{1}{200} \frac{1}{100} \frac{1}$
5				
6				Hydropnytic vegetation indicators.
7				1 - Rapid Lest for Hydrophytic vegetation
8				X 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0'
	15	=Total Cover		4 - Morphological Adaptations' (Provide supporting
50% of total cover:	8 20%	of total cover:	3	data in Remarks or on a separate sneet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1				¹ Indicators of hvdric soil and wetland hydrology must
2.			FACW	be present, unless disturbed or problematic.
3.			FACW	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in, (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6				height.
7				Senling/Chrub Woody plants excluding vines less
 8				than 3 in. DBH and greater than or equal to 3.28 ft
a				(1 m) tall.
9				Uset All herbasses (zap woods) planta regardlaga
				of size, and woody plants less than 3.28 ft tall.
11				
		=Total Cover		Woody Vine – All woody vines greater than 3.28 π in beight
50% of total cover:	20%	of total cover:		neight.
Woody Vine Stratum (Plot size: 30)			
1. Toxicodendron radicans	10	Yes	FAC	
2				
3				
4				
5				II. Juanha dia
	10	=Total Cover		Vegetation
50% of total cover:	5 20%	of total cover:	2	Present? Yes X No
Wetland Vegetation is present	parate sneet.)			

SOIL

(inches)	Color (moist)	%	Color (moist)	%	Tvpe ¹	Loc ²	Texture		Remark	s
					.) 0					
0-10	10YR 4/2	100					Loamy/Clayey			
10-20	10YR 4/2	95	10YR 5/6	5	С	М	Loamy/Clayey	Pro	minent redox co	oncentrations
						_				
Type: C=Cc	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Masked	Sand (Grains.	2Locat	ion: PL=Po	re Lining, M=Ma	atrix.
lydric Soil I	ndicators:	,	,			-	In	dicators for	Problematic H	- - - - - - - - - - - - - - - - - - -
Histosol ((A1)		Polyvalue Be	low Surfac	ce (S8)	(MLRA 1	47, 148)	2 cm Muc	k (A10) (MLRA	147)
Histic Epi	ipedon (A2)		Thin Dark Su	irface (S9)) (MLRA	A 147, 14	8) <u> </u>	Coast Pra	irie Redox (A16	5) 5
Black Histic (A3)			Loamy Muck	y Mineral ((F1) (M	LRA 136)		 (MLRA	147, 148)	
Hydrogen Sulfide (A4)			Loamy Gleye	d Matrix (I	F2)			Piedmont	Floodplain Soils	s (F19)
Stratified	Layers (A5)	X Depleted Ma	trix (F3)	,			 (MLRA	MLRA 136, 147)		
2 cm Mu	ck (A10) (LRR N)		Redox Dark	Surface (F	6)			Red Parer	nt Material (F21)
Depleted	Below Dark Surface	(A11)	Depleted Da	Depleted Dark Surface (F7) (outside MLRA 127,						
Thick Da	rk Surface (A12)		X Redox Depre	essions (F8	8)		Very Shallow Dark Surface (F22)			
Sandy M	ucky Mineral (S1)		Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remark						olain in Remark	s)
Sandy G	leyed Matrix (S4)		MLRA 136	5)	,	, .		_		,
Sandv Re	edox (S5)		Umbric Surfa	, ice (F13) (MLRA	122, 136)	³ Ir	dicators of	nvdrophvtic vea	etation and
 Stripped	Matrix (S6)		Piedmont Flo	odplain S	oils (F1	9) (MLRA	A 148)	wetland h	/droloav must b	e present.
 Dark Sur	face (S7)		Red Parent I	/ Aaterial (F:	21) (ML	RA 127.	147, 148)	unless dis	turbed or proble	ematic.
Postrictivo I	aver (if observed):			(/ (,	, ,		•	
Turner	-ayer (il observeu).									
Dopth (in	choc):						Hydric Soil Dr	cont?	Voc V	No
Deptil (III	(cries).						Hydric Soli Pre	sent		NU
Remarks:										
Hydric soils p	present.									

U.S. Arm WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24;	y Corps of Enginee SHEET – Eastern Moun the proponent agenc	rs tains and Piedmont Region y is CECW-CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)					
Project/Site: SR Marvville Blount City/County: Blount County Sampling Date: 3/8/2022								
Applicant/Owner: SBC		Only/ObantyObant Obanty	State: TN Sampling Point: DP3-LIP1					
Investigator(a): L Thism and C Byouik		Section Township Banga:						
Investigator(s). L. Thiem and C. Ryculk		_ Section, Township, Range.	>					
Landform (hillside, terrace, etc.): <u>hillside</u>	L	ocal relief (concave, convex, none	e): concave Slope (%): 2-5					
Subregion (LRR or MLRA): LRR N	Lat: <u>35.760520</u>	Long: <u>-84.00</u>	D2915 Datum: NAD86					
Soil Map Unit Name: Litz silt loam, moderat	tely steep phase		NWI classification: NAD86					
Are climatic / hydrologic conditions on the si	ite typical for this time of	year? Yes <u>X</u> N	lo (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydro	ology significantly of	disturbed? Are "Normal Circur	nstances" present? Yes X No					
Are Vegetation, Soil, or Hydro	ologynaturally prot	olematic? (If needed, explain	any answers in Remarks.)					
SUMMARY OF FINDINGS – Attac	h site map showing	sampling point location	s, transects, important features, etc.					
			· · · ·					
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area						
Hydric Soil Present?	Yes No X	within a Wetland?	Yes No_X					
Wetland Hydrology Present?	Yes <u>No X</u>							
Remarks:								
Upland point located upnill from Wetland 3	(PFO)							
			conden (Indiactore (minimum of two required)					
Primary Indicators (minimum of one is requ	uired: aback all that apply	<u> </u>	Surface Soil Creeks (P6)					
Surface Water (A1)	True Aquatic Plants	(B1/)	Surface Soli Clacks (D0)					
High Water Table (A2)	Hvdrogen Sulfide C)dor (C1)	Drainage Patterns (B10)					
Saturation (A3)	Oxidized Rhizosphe	eres on Living Roots (C3)	Moss Trim Lines (B16)					
Water Marks (B1)	Presence of Reduc	ed Iron (C4)	Dry-Season Water Table (C2)					
Sediment Deposits (B2)	Recent Iron Reduct	tion 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 R	emarks)	Stunted or Stressed Plants (D1)					
Iron Deposits (B5)			Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B	37)		Shallow Aquitard (D3)					
Water-Stained Leaves (B9)			Microtopographic Relief (D4)					
			FAC-Neutral Test (D5)					
Field Observations:	No X Donth (incl	hes).						
Water Table Present? Ves	No X Depth (incl	hes):						
Saturation Present? Yes	No X Depth (incl	hes): Wetland Hvdi	rology Present? Yes No X					
(includes capillary fringe)		, <u> </u>						
Describe Recorded Data (stream gauge, m	nonitoring well, aerial phot	os, previous inspections), if availa	able:					
Remarks:								
weitand hydrology is not present.								

Sampling Point: DP3-UP1

	Ab	solute	Dominant	Indicator	Bandinana Tantanatakat
<u>Iree Stratum</u> (Plot size: <u>30</u>)	%	Cover	Species?	Status	Dominance Test worksheet:
		35	Yes		Number of Dominant Species
2. Pyrus calleryana		15	res	UPL	That Are OBL, FACIV, or FAC.
3				·······	Total Number of Dominant
4					Species Across All Strata: 0 (D)
5.				·······	Percent of Dominant Species
б				·······	
<i>I</i>		50	T-t-l Cover		Tetal % Occurs of Multiply by:
50% of total cover:	25	- 00		10	
00% OF LOTAL COVER.	20	- 20 /0	01 ເບເລາ ບົນອາ.	10	
Sapling/Silub Stratum (Flot Size. 30	_)	15	Voc	EACU	$\begin{bmatrix} FACW \text{ species} & 0 & \mathbf{x} 2 - 0 \\ \\ FAC \text{ species} & 0 & \mathbf{x} 3 - 0 \\ \end{bmatrix}$
		15	165	FACU	FAC species $0 \times 3 = 0$
2					$\frac{110}{100} = \frac{110}{100} = \frac{100}{100} = \frac{100}{100}$
5. 					$\begin{array}{c c} \text{OPL Species} & \underline{20} & \underline{A3} - \underline{100} \\ \text{Column Totals} & \underline{125} & (\underline{A}) & \underline{560} & (\underline{B}) \end{array}$
4					$\begin{array}{c c c c c c c c c c c c c c c c c c c $
5.					
б. 					Hydropnytic Vegetation indicators.
<i>1.</i>					Coming the strong
8					2 - Dominance results > 50%
9		45	-Total Covor		3 - Prevalence index is ≥3.0 4 Morphological Adaptations ¹ (Provide supporting
50% of total cover:	。—	20%		3	data in Remarks or on a separate sheet)
	ð	ZU 70		<u> </u>	Problematic Lydrophytic Magatation ¹ (Evplain)
Herd Stratum (Mot size)		20	Vac	EACU	
1. Poaceae sp. "		30	Vac		¹ Indicators of hydric soil and wetland hydrology must
2. Tritolium repens		10	No		De present, unless disturbed or problematic.
3. Ducheshea mula		5	No		
		Э		UFL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5					height.
0. 7					
ι. ο					Sapling/Shrub – Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3.28 ft
o					(1 m) tall.
9 10					Harb All borbaccous (non-woody) plants, regardless
					of size, and woody plants less than 3.28 ft tall.
11		50	-Total Cover		Weedy Vine All weedy vines greater than 3.28 ft in
50% of total cover:	25	20%	of total cover:	10	height.
Weedy Vine Stratum (Plot size: 30	20 \	- 20 /0		10	
	,	20	Vac	EACU	
		20	105	FAGU	
2.					
5. 					
4. 					
5		20	-Total Cover		Hydrophytic
50% of total cover:	10	20 -	of total cover:	Л	Vegetation Brecont? Ves No X
	10				
Remarks: (Include photo numbers here or on a set	parate s	sheet.)			
* Wetland status ranges from OBL-OPL. Wetland	status g	Iven FA	CU for this surv	/ey.	

Profile Des	cription: (Describe to	o the dept	h needed to docu	ment th	e indicat	or or cor	firm the absence of indic	ators.)	
Depth	Matrix		Redo	x Featu	res				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	arks
0-2	10YR 4/4	100					Loamy/Clayey		
2-20	7.5YR 4/4	70	2.5Y 5/4	30	С	М	Loamy/Clayey		
		·							
		<u> </u>							
		<u> </u>					<u> </u>		
¹ Type: C=C	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=	Pore Lining, M=	-Matrix.
Hydric Soil	Indicators:						Indicators	for Problemat	ic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Be	low Sur	face (S8)	(MLRA 1	47, 148) 2 cm M	uck (A10) (MLF	RA 147)
Histic Ep	pipedon (A2)		Thin Dark Su	urface (S	9) (MLR	A 147, 14	8) Coast F	Prairie Redox (A	A16)
Black Hi	stic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136	(MLF	A 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		Piedmo	nt Floodplain S	oils (F19)
Stratilied	Layers (A5)		Depieted Ma	uix (F3) Surface	(E6)		(IVILF Red Pa	rent Material (F	21)
2 cm Mc	Below Dark Surface	(Δ11)	Depleted Da	rk Surfa	(F7)				21) 147 148)
Thick Da	ark Surface (A12)	(,,,,,)	Redox Depre	essions ((F8)		Verv St	allow Dark Sur	face (F22)
Sandy M	lucky Mineral (S1)		Iron-Mangan	ese Mas	sses (F12) (LRR N	, Other (Explain in Rema	arks)
Sandy G	leyed Matrix (S4)			5)		, ,	、	·	,
Sandy R	edox (S5)		Umbric Surfa	ace (F13) (MLRA	122, 136	³ Indicators	of hydrophytic v	egetation and
Stripped	Matrix (S6)		Piedmont Flo	oodplain	Soils (F1	9) (MLR	148) wetland	hydrology mus	st be present,
Dark Su	rface (S7)		Red Parent I	Material	(F21) (M I	_RA 127,	147, 148) unless	disturbed or pro	blematic.
Restrictive	Layer (if observed):								
Type:									
Depth (ii	nches):						Hydric Soil Present?	Yes	NoX
Remarks:	la wara nat propost								
vvetiand Sol	is were not present.								

U.S. Arm WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24;	mont Region CO-R	OMB Control #: 07 Requirement Con (Authority: AR 33	10-xxxx, Exp: F trol Symbol EX 5-15, paragraph	Pending EMPT: h 5-2a)			
Project/Site: SR Maryville Blount			City/Count	ty: Blount County	Sa	ampling Date:	3/8/2022
Applicant/Owner: SRC				, <u> </u>	State: TN Sa	ampling Point:	DP4-UP2
Investigator(s): 1 Thiem and C. Rycuik			Section Town	shin Range		1 5	
Landform (billside terrace etc.): billside			ocal relief (conc	ave convex non	a): concave	Slope (%)	2-5
Subrogion (LPD or MLDA): LPD N	Lat: 3	25 760333			02647		
	Lat. <u>_</u>	55.700555		LONG64.00			NADOU
Soil Map Unit Name: Litz silt loam, modera	tely steep pha	ase			NWI classification	: <u>NAD86</u>	
Are climatic / hydrologic conditions on the s	ite typical for	this time of y	ear?	Yes X	No (If no, expl	ain in Remark	s.)
Are Vegetation, Soil, or Hydr	ology s	significantly d	isturbed? A	re "Normal Circur	mstances" present?	Yes X	No
Are Vegetation, Soil, or Hydr	ologyr	naturally prob	lematic? (l	f needed, explain	any answers in Rema	rks.)	
SUMMARY OF FINDINGS – Attac	h site map	o showing	sampling p	oint location	s, transects, imp	ortant featu	ures, etc.
Hydrophytic Vegetation Present?	Yes	No X	Is the Samp	led Area			
Hydric Soil Present?	Yes	No X	within a We	tland?	Yes N	o_X_	
Wetland Hydrology Present?	Yes	No X					
Remarks: Upland point located within a low lying area	a. Three ephe	emerals pass	through this are	ea.			
HYDROLOGY							
Wetland Hydrology Indicators:				Sec	condary Indicators (mi	nimum of two	reauired)
Primary Indicators (minimum of one is requ	ired; check a	all that apply)			Surface Soil Cracks (B6)	<u>.</u>
Surface Water (A1)	True A	quatic Plants	(B14)		Sparsely Vegetated C	concave Surfa	ce (B8)
High Water Table (A2)	Hydrog	jen Sulfide O	dor (C1)		Drainage Patterns (B	10)	
Saturation (A3)	Oxidize	ed Rhizosphe	res on Living R	oots (C3)	Moss Trim Lines (B16	8)	
Water Marks (B1)	Presen	ice of Reduce	ed Iron (C4)		Dry-Season Water Ta	ble (C2)	
Sediment Deposits (B2)	Recent	uck Surface	ion in Tillea Soli (C7)	s (Co)	Craylish Burrows (Co) Aerial Imagen	((CQ))
Algal Mat or Crust (B4)	Other (Explain in Re	emarks)		Stunted or Stressed F	Plants (D1)	(03)
Iron Deposits (B5)			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Geomorphic Position	(D2)	
Inundation Visible on Aerial Imagery (E	57)				Shallow Aquitard (D3))	
Water-Stained Leaves (B9)					Microtopographic Rel	ief (D4)	
Aquatic Fauna (B13)					FAC-Neutral Test (D5	5)	
Field Observations:							
Surface Water Present? Yes	No <u>X</u>	Depth (inch	ies):				
Water Table Present? Yes	No <u>X</u>	Depth (inch	ies):				
Saturation Present? Yes	No <u>X</u>	Depth (inch	ies):	Wetland Hydi	rology Present?	Yes	No X
(Includes capillary fringe)	onitoring wol	L coriol photo		l	blo		
Describe Recorded Data (Sirearit gauge, in	ionitoning wei	i, aeriai prioto	os, previous iris	pections), il availa	able.		
Remarks: Wetland Hydrology is not present.							

Sampling Point: DP4-UP2

Trop Stratum (Plat size: 20)	Absolute	Dominant	Indicator	Dominance Test workshoot		
<u>Iree Stratum</u> (Piot size. <u>50</u>)	% Cover	Species:		Dominance rest worksheet.		
		No		Number of Dominant Species	2	(•)
2. Pyrus calleryana				That Are UBL, FAUVY, OF FAU.	3	(A)
3. Carya glabra	10	NO No	FACU	Total Number of Dominant	-	(7)
4. <u>Acer rubrum</u>	30	Yes	FAC	Species Across All Strata:	1	_(B)
5				Percent of Dominant Species		
6				That Are OBL, FACW, or FAC:	42.9%	(A/B)
7				Prevalence Index worksheet:		
	60	=Total Cover		Total % Cover of:	Multiply by:	—
50% of total cover:	30 20%	of total cover:	12	OBL species 0 x	1 = 0	—
Sapling/Shrub Stratum (Plot size: 30	_)			FACW species 10 x	2 = 20	—
1. Acer rubrum	5	Yes	FAC	FAC species 35 x	3 = 105	_
2. Celtis occidentalis	5	Yes	FACU	FACU species 70 x	4 =280	_
3				UPL species 10 x	5 = 50	
4				Column Totals: 125 (A)	455	(B)
5				Prevalence Index = B/A	= 3.64	
6				Hydrophytic Vegetation Indicat	tors:	
7				1 - Rapid Test for Hydrophyti	c Vegetation	
8.				2 - Dominance Test is >50%		
9.				3 - Prevalence Index is ≤3.0 ¹		
	10	=Total Cover		4 - Morphological Adaptation	s ¹ (Provide sup	oporting
50% of total cover:	5 20%	of total cover:	2	data in Remarks or on a se	eparate sheet)	
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Veg	etation ¹ (Expla	ain)
1. Cardamine hirsuta	20	Yes	FACU	¹ Indicators of hydric soil and wet	and hydrology	muet
2. Boehmeria cylindrica		Yes	FACW	be present, unless disturbed or p	roblematic.	musi
3. Allium allegheniense	5	No	UPL	Definitions of Four Vegetation	Strata:	
4.				Tree – Woody plants, excluding y	vines 3 in (7 f	s cm) or
5.				more in diameter at breast heigh	t (DBH), regard	dless of
6				height.	. , -	
7				Contine/Church Masslerite		- 1
9		·		than 3 in DBH and greater than	excluding vine or equal to 3.2	s, less 8 ft
0			. <u> </u>	(1 m) tall.	o. oquu to o.=	0.11
9						
10				of size and woody plants less the	dy) plants, rega an 3 28 ft tall	ardiess
11			. <u> </u>			
	35	= I otal Cover	_	Woody Vine – All woody vines g	reater than 3.2	8 ft in
50% of total cover:	18 20%	of total cover:	7			
Woody Vine Stratum (Plot size: 30))					
1. Lonicera japonica	20	Yes	FACU			
2	<u> </u>					
3						
4						
5				Hydrophytic		
	20	=Total Cover		Vegetation		
50% of total cover:	10 20%	of total cover:	4	Present? Yes	No X	
Pomarka: (Include photo numbers here or on a se	parato shoot)					
Wetland vegetation is not present	parate sheet.)					

Profile Des	cription: (Describe to	o the dep	th needed to docu	ment th	e indicat	or or cor	ifirm the absence of	Indicators.)	
Ueptn (inches)	Color (moist)	0/_	Color (moist)		Type ¹		Texture	Ron	aarke
		/0		70	туре			Ken	Idiks
0-2	10YR 4/4	100					Loamy/Clayey		
2-20	7.5YR 4/4	70	2.5Y 5/4	30	С	М	Loamy/Clayey		
¹ Type: C=C	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location:	PL=Pore Lining, M	=Matrix.
Hydric Soll Histosol	Indicators:		Polyvalue Be		face (SB)		Indica 47 148) 2	ators for Problema	tic Hydric Solis":
Histic Er	(AT) pipedon (A2)		Thin Dark Su	urface (S	(30) (MI P	(IVILKA I A 147 14	$(47, 140) = 2^{-1}$	cill Muck (A10) (ML past Prairie Redox (A16)
Black Hi	stic (A3)		Loamy Muck	v Minera	al (F1) (M	I RA 136	b)	(MI RA 147 148)	A10)
Hydroge	n Sulfide (A4)		Loamy Gleve	ed Matrix	(F2)		Pi	edmont Floodplain S	Soils (F19)
Stratified	l Lavers (A5)		Depleted Ma	trix (F3)	(1 _)			(MLRA 136, 147)	
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface	(F6)		R	ed Parent Material (F21)
Deplete	Below Dark Surface	(A11)	Depleted Da	rk Surfa	ce (F7)		—	(outside MLRA 12	7, 147, 148)
Thick Da	ark Surface (A12)	()	Redox Depre	essions	(F8)		Ve	` ery Shallow Dark Su	irface (F22)
Sandy M	lucky Mineral (S1)		Iron-Mangan	ese Mas	sses (F12) (LRR N	, <u> </u>	ther (Explain in Rem	narks)
Sandy G	leyed Matrix (S4)			5)					
Sandy F	edox (S5)		Umbric Surfa	ace (F13) (MLRA	122, 136)	³ Indica	ators of hydrophytic	vegetation and
Stripped	Matrix (S6)		Piedmont Flo	odplain	Soils (F1	9) (MLR 4	148) we	etland hydrology mu	st be present,
Dark Su	rface (S7)		Red Parent I	Material	(F21) (M I	LRA 127,	147, 148) ur	nless disturbed or pr	oblematic.
Restrictive	Layer (if observed):								
Type:									
Depth (i	nches):						Hydric Soil Prese	nt? Yes	<u>No X</u>
Remarks:									
Wetland Soi	ls were not present.								

U. WETLAND DETERMINATION See ERDC/EL TR	S. Army Con N DATA SHEE -07-24; the p	Imont Region CO-R	OMB Control #: 0710-xxxx, Exp: Pendin Requirement Control Symbol EXEMP1 (Authority: AR 335-15, paragraph 5-2a	ng T: a)		
Project/Site: SR Maryville Blount	:		City/Coun	ty: Blount County	Sampling Date: 3/7/2	2022
Applicant/Owner: SRC					State: TN Sampling Point: DP	'5-W2
Investigator(s): L Thiem and C. R	veuik		Section Town	shin Range [.]		
Londform (billoide, torrade, etc.):	depression	1.				2.5
Cubre size (LDD or MLDA): LDD		L at: 05 701701	ocal relier (conc			2-0
Subregion (LRR or MLRA): <u>LRR</u>	<u>IN</u>	Lat: 35.761721		Long: -84.00	Datum: NAL	780
Soil Map Unit Name: Litz silt loan	1, moderately ste	eep phase			NWI classification: <u>PEM</u>	
Are climatic / hydrologic condition	s on the site typ	ical for this time of y	year?	Yes <u>X</u> N	lo (If no, explain in Remarks.)	
Are Vegetation, Soil	, or Hydrology	significantly o	disturbed? A	re "Normal Circur	nstances" present? Yes X No	
Are Vegetation, Soil	, or Hydrology	naturally prob	olematic? (I	f needed, explain	any answers in Remarks.)	
SUMMARY OF FINDINGS	- Attach site	e map showing	g sampling p	oint location	s, transects, important features	s, etc.
Hydrophytic Vegetation Present?	Yes	X No	Is the Samp	led Area		
Hydric Soil Present?	Yes	X No	within a We	tland?	Yes X No	
Wetland Hydrology Present?	Yes	X No				
Depression wetland located at th	e edge of the pro	oject boundary				
HYDROLOGY						
Wetland Hydrology Indicators:				Sec	condary Indicators (minimum of two requi	ired)
Primary Indicators (minimum of c	one is required; o	check all that apply))		Surface Soil Cracks (B6)	
X Surface Water (A1)		True Aquatic Plants	s (B14)		Sparsely Vegetated Concave Surface (B	38)
X High Water Table (A2)		Hydrogen Sulfide C	odor (C1)		Drainage Patterns (B10)	
X Saturation (A3)		Oxidized Rhizosphe	eres on Living R	oots (C3)	Moss Trim Lines (B16)	
Water Marks (B1)		Presence of Reduc	ed Iron (C4)		Dry-Season Water Table (C2)	
Sediment Deposits (B2)		Recent Iron Reduct	tion in Tilled Soil	ls (C6)	Crayfish Burrows (C8)	
Drift Deposits (B3)		Thin Muck Surface	(C7)		Saturation Visible on Aerial Imagery (C9	')
Iron Denosits (B5)			enarks)		Geomorphic Position (D2)	
Inundation Visible on Aerial I	magery (B7)				Shallow Aquitard (D3)	
X Water-Stained Leaves (B9)					Microtopographic Relief (D4)	
Aquatic Fauna (B13)					FAC-Neutral Test (D5)	
Field Observations:						
Surface Water Present? Yes	X No	Depth (incl	hes): 2			
Water Table Present? Yes	X No	Depth (incl	hes): 0			
Saturation Present? Yes	X No	Depth (incl	hes): 0	Wetland Hydi	ology Present? Yes X No	
(includes capillary fringe)						
Describe Recorded Data (stream	gauge, monitor	ing well, aerial phot	os, previous ins	pections), if availa	ble:	
Remarks: Wetland hydrology present.						

Sampling Point: DP5-W2

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1 2				Number of Dominant Species That Are OBL_FACW. or FAC: 3 (A)
3.				T-tal Number of Dominant
4.				Species Across All Strata: <u>3</u> (B)
5.				Percent of Dominant Species
0				Browslance Index worksheet:
1		-Total Cover		Total % Cover of: Multiply by:
50% of total cover	20%	of total cover		ORI species 5 x 1 = 5
Sanling/Shrub Stratum (Plot size: 30)		of total cover.		FACW species $30 \times 2 = 60$
1				FAC species $30 \times 3 = 90$
2				FACU species 5 $x 4 = 20$
2				$\frac{1}{1} \frac{1}{1} \frac{1}$
δ				$\begin{array}{c c c c c c c c c c c c c c c c c c c $
5				$\frac{1}{200} \frac{1}{200} \frac{1}$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
R				X 2 - Dominance Test is >50%
a				X_2 = Dominance reaction of V_3
·		-Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover	20%			data in Remarks or on a separate sheet)
Horh Stratum (Diat size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
	20	Vec		
1. Julicus citusus 2. Sataria viridis	20	Ves	FAC	¹ Indicators of hydric soil and wetland hydrology must
2. Orrey on *	10	No		Definitions of Four Vagetation Strata:
J. Udick sp.	5	No		
4. Typria angustiona	5			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH) regardless of
5. Ruinex obliviolius				height.
·				Sapling/Shrub – Woody plants, excluding vines, less than 3 in DBH and dreater than or equal to 3.28 ft
o				(1 m) tall.
9				
				Herb – All nerbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11	<u>SE</u>	-Total Cover		We add Wine All weads vince greater than 2.29 ft in
50% of total covor: 3	2 20%		12	height.
	3 2070	of total cover.	15	
Woody vine Stratum (Piot size: 30)	40	Ven	540	
	10	Yes	FAC	
2				
3				
4				
5				Hydrophytic
	10	= I otal Cover	0	Vegetation
50% of total cover:	20%	of total cover:	2	Present? Yes <u>×</u> No
Remarks: (Include photo numbers here or on a separ	rate sheet.)			
*Wetland status ranges from OBL-UPL. Species give	n FACW for	this survey		

SOIL

0-10 10YR 4/2 100 Loamy/Clayey 10-20 2.5Y 5/2 80 10YR 5/6 20 C M Loamy/Clayey Prominent redox conc 'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix 'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix 'Hydric Soil Indicators: Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Praine Redox (A16) Histic Epipeon (A2) Thin Dark Surface (S9) (MLRA 147, 148) Coast Praine Redox (A16) Histic Epipeon (A2) Thin Dark Surface (S9) (MLRA 147, 148) Coast Praine Redox (A16) Hydric Soil Urber (A1) Depleted Matrix (F2) Pledmont Floodplain Soils (f Stratified Layers (A5) X Depleted Matrix (F3) Very Shallow Dark Surface (F7) Coustide Matrix (S1) Redox Dark Surface (F7) Ustatide MLRA 127, 147, Untro Surface (F13) Untro Surface (F12) Sandy Redox (S5) Umbric Surface (F13) (MLRA 142, 136) 'Untro Surface (F12) Very Shallow Dark Surface Stratified Layer (If observed): Tron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Redox (S5) Umbric Surface (F13) (MLRA 142, 148)	my/Clayey Prominent redox concentrations
0-10 101K 4/2 100 L04III)/Clayey Prominent redox conc 10-20 2.5Y 5/2 80 10YR 5/6 20 C M Loamy/Clayey Prominent redox conc Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ?Location: PL=Pore Lining, M=Matri Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ?Location: PL=Pore Lining, M=Matri Histosel (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Praine Redox (A10) (MLRA 147, 148) Histosel (A1) Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Praine Redox (A10) (MLRA 147, 148) Hydrogen Suffie (A4) Loamy Gleyed Matrix (F2) Pledmont Floodplain Soils (F10) Pledmont Floodplain Soils (F10) Standy Micky Mineral (S1) X Redox Dark Surface (F13) (MLRA 143, 147) (outside MLRA 127, 147) Sandy Meizey (If Observed): Trype: MLRA 153 Pledmont Floodplain Soils (F12) (MLRA 142, 148) 3 ⁿ diciators of hydrophytic vegeta Sandy Reidex (S5) Pledmont Floodplain Soils (F12) (MLRA 142, 148) ⁿ diciators of hydrophytic vegeta Sandy Reidex (S5) Pledmont Floodplain Soils (F12) (MLRA 147, 148) ⁿ diciators of hydrophytic vegeta Sandy Reidex (S5) Pledmont Floodplain Soils (F12) (MLRA 147, 148)	Prominent redox concentrations Prominent redox (A16) (MLRA 147, 148) (MLRA 136, 147) (MLRA 136, 147) (MLRA 136, 147) (Outside MLRA 127, 147, 148) (Outside MLRA 127, 147, 148) (Prominent redox concentrations (F22) (Other (Explain in Remarks) Prominent redox concentrations Prominent redox concentrations Prominent redox concentration Prominent redox problematic Promi
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Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix Histos (A1) Polyvalue Below Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Histic Epipedon (A2) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16) Stratified Layers (A5) Loamy Gleyed Matrix (F3) (MLRA 136, 147) Stratified Layers (A5) Depleted Dark Surface (F7) (MLRA 137, 147, 148) Depleted Bow Dark Surface (A11) Depleted Dark Surface (F7) (MLRA 136, 147) Sandy Mucky Mineral (S1) Iron-Manganese Masses (F12) (LRR N, Sandy Gleyed Matrix (S4) Very Shallow Dark Surface (F3) (MLRA 122, 136) Sandy Redox (S5) Umbric Surface (F13) (MLRA 127, 147, 148) ³ Indicators of hydrophytic vegeta wetland hydrology must be puncted or problem Type: Dark Surface (F10 beserved): Type: Hydric Soil Present? Yes X Type: Depth (inches): Hydric Soil Present? Yes X Betricture Layer (if observed): Yes Yes Yes Type: </td <td>²Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils 8) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (F21) (outside MLRA 127, 147, 148) Very Shallow Dark Surface (F22) Other (Explain in Remarks) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. 48) unless disturbed or problematic.</td>	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils 8) 2 cm Muck (A10) (MLRA 147) Coast Prairie Redox (A16) (MLRA 147, 148) Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (F21) (outside MLRA 127, 147, 148) Very Shallow Dark Surface (F22) Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. 48) unless disturbed or problematic.
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	48) unless disturbed or problematic. tric Soil Present? Yes X No
Loain Sufface (s/)	dric Soil Present? Yes X No
Kestrictive Layer (if observed):	dric Soil Present? Yes <u>X</u> No <u></u>
Type:	dric Soil Present? Yes <u>X</u> No <u></u>
Deptil (inclies). Tes _ x Remarks:	
Remarks: Hydric soils present.	
lyaric soils present.	

U.S. Arm WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24;	U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Reg See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R								
Project/Site: SR Maryville Blount		City/County: Blount County	Sampling Date: <u>3/8/2022</u>						
Applicant/Owner: SRC			State: TN Sampling Point: DP6-UP3						
Investigator(s): <u>L. Thiem and C. Rycuik</u>		Section, Township, Range:							
Landform (hillside, terrace, etc.): Flat	L	ocal relief (concave, convex, none	e): <u>Flat</u> Slope (%): <u>0-2</u>						
Subregion (LRR or MLRA): LRR N	Lat: 35.761509	Long: -84.00	D2647 Datum: NAD86						
Soil Map Unit Name: Farragut silty clay loa	m, eroded sloping phase		NWI classification: None						
Are climatic / hydrologic conditions on the s	site typical for this time of v	vear? Yes X N	No (If no, explain in Remarks.)						
Are Vegetation , Soil , or Hydr	rology significantly o	listurbed? Are "Normal Circur	mstances" present? Yes X No						
Are Vegetation Soil or Hydr	rology naturally prot	lematic? (If needed explain	any answers in Remarks)						
	haite man abouring								
SUMMARY OF FINDINGS – Attac	ch site map snowing	sampling point locations	s, transects, important features, etc.						
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area							
Hydric Soil Present?	Yes No X	within a Wetland?	Yes NoX						
Wetland Hydrology Present?	Yes No X								
Upslope of Wetland 2									
HYDROLOGY									
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required)						
Primary Indicators (minimum of one is requ	uired; check all that apply)	·	Surface Soil Cracks (B6)						
Surface Water (A1)	True Aquatic Plants	s (B14)	Sparsely Vegetated Concave Surface (B8)						
High Water Table (A2)	Hydrogen Sulfide C	odor (C1)	Drainage Patterns (B10)						
Saturation (A3)	Oxidized Rhizosphe	eres on Living Roots (C3)	Moss Trim Lines (B16)						
Water Marks (B1)	Presence of Reduc	ed Iron (C4)	Dry-Season Water Table (C2)						
Sediment Deposits (B2)	Recent Iron Reduct		Crayfish Burrows (C8)						
Algal Mat or Crust (B4)	Other (Explain in R	emarks)	Stunted or Stressed Plants (D1)						
Iron Deposits (B5)			Geomorphic Position (D2)						
Inundation Visible on Aerial Imagery (B	37)		Shallow Aquitard (D3)						
Water-Stained Leaves (B9)			Microtopographic Relief (D4)						
Aquatic Fauna (B13)			FAC-Neutral Test (D5)						
Field Observations:									
Surface Water Present? Yes	No X Depth (incl	nes):							
Water Table Present? Yes	No X Depth (incl	nes):							
Saturation Present? Yes	No X Depth (incl	nes): Wetland Hydi	rology Present? Yes <u>No X</u>						
(includes capillary ininge)	nonitoring well aerial phot	os previous inspections) if availa	able.						
Describe recorded Data (stream gauge, m	nomoning weil, denai prior								
Remarks:									
Wetland hydrology is not present.									

Sampling Point: DP6-UP3

Tree Stratum (Plot size: 30)	Absolute	Dominant	Indicator	Barriana Taturaka kat
,	% Cover	Species?	Status	Dominance Test worksheet:
2				Number of Dominant Species That Are OBL_FACW_or FAC ⁻ 0(A)
3				
4.				Total Number of Dominant Species Across All Strata: 5 (B)
5.				Dersont of Dominant Species
6.				That Are OBL, FACW, or FAC: 0.0% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	o of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30)			FACW species 0 x 2 = 0
1. Prunus serotina	10	Yes	FACU	FAC species 0 x 3 = 0
2. Ligustrum sinense	5	Yes	FACU	FACU species 85 x 4 = 340
3		<u></u>		UPL species 0 x 5 = 0
4.				Column Totals: 85 (A) 340 (B)
5.				Prevalence Index = B/A = 4.00
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
	15	=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	8 20%	o of total cover:	3	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)			_	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Solidago sp.*	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
2. Grass sp.*	30	Yes	FACU	be present, unless disturbed or problematic.
3. Eupatorium capillifolium	30	Yes	FACU	Definitions of Four Vegetation Strata:
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.		-		height.
7.		-		Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.	_			Herb – All herbaceous (non-woody) plants, regardless
11.		- 		of size, and woody plants less than 3.28 ft tall.
	65	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	33 20%	of total cover:	13	height.
Weiseley (in a Obertaine (Distaine))			
Woody Vine Stratum (Plot size: 30			FAOL	
Woody Vine Stratum (Plot size:30 1. Lonicera japonica	5	Yes	FACU	
1. Lonicera japonica 2.	5	Yes	FACU	
Woody Vine Stratum (Plot size:30	5	Yes	FACU	
Woody Vine Stratum (Plot size:30	5	Yes		
Woody Vine Stratum (Plot size:30	<u>5</u>	Yes		
Woody Vine Stratum (Plot size:	<u>5</u> 5	 =Total Cover		Hydrophytic Vecetation

Profile Desc	cription: (Describe t	o the dep	th needed to docu	ment th	e indicat	or or cor	firm the absence o	findicat	ors.)	
Depth	Matrix		Redo	ox Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rem	narks
0-12	10YR 4/3	60	10YR 4/2	40			loamy/clayey		clay	loam
12-20	10YR 4/4	60	10YR 5/2	30			loamy/clayey		clay loam	dual matrix
			10YR 5/8	10	С	М				
¹ Tvpe: C=C	oncentration. D=Depl	etion. RM:	-Reduced Matrix. M	S=Mask	ed Sand	Grains.	² Locatio	n: PL=Po	ore Linina. M	=Matrix.
Hydric Soil	Indicators:			-			Indi	cators fo	or Problemat	tic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Be	elow Sur	face (S8)	(MLRA 1	47, 148)	2 cm Muc	ck (A10) (ML	RA 147)
Histic Ep	oipedon (A2)		Thin Dark S	urface (S	69) (MLR /	A 147, 14	8)	Coast Pra	airie Redox (/	416)
Black Hi	stic (A3)		Loamy Muck	xy Minera	al (F1) (M	LRA 136)	1	(MLRA	147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix	x (F2)			Piedmont	Floodplain S	Soils (F19)
2 cm Mu	r Layers (AS) ick (A10) (I RR N)		Depleted Ma	Surface	(F6)			Red Pare	nt Material (F	-21)
Depleted	Below Dark Surface	(A11)	Depleted Da	rk Surfa	(F7)			(outsid	le MLRA 127	7, 147, 148)
 Thick Da	ark Surface (A12)	()	 Redox Depr	essions	(F8)			Very Shal	llow Dark Su	rface (F22)
Sandy M	Sandy Mucky Mineral (S1)			iese Ma	sses (F12) (LRR N		Other (Ex	plain in Rem	arks)
Sandy G	ileyed Matrix (S4)		MLRA 13	5)						
Sandy R	edox (S5)		Umbric Surfa	ace (F13	3) (MLRA	122, 136)	³ Indi	cators of	hydrophytic	vegetation and
Stripped	Matrix (S6)		Piedmont Fl	odplain Meterial	Soils (F1	9) (MLRA	148) 147 148)	wetland h	ydrology mu	st be present,
Dark Sul				viateriai	(F21) (IVII	_RA 127,	147, 146)	uniess dis	surbed of pr	
Type	Layer (if observed):									
Depth (ir	nches):						Hvdric Soil Pres	ent?	Yes	No X
Remarks:	,						,			
Wetland soil	s are not present.									
1										

U.S WETLAND DETERMINATION See ERDC/EL TR-	lmont Region CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)			
Project/Site: SR Maryville Blount			City/Count	ty: Blount County	Sampling Date: 3/8/2022
Applicant/Owner: SRC				-	State: TN Sampling Point: DP7-W4
Investigator(s): I Thiem and C Rvg	cuik		Section Town	ship Range	
Landform (hillside, terrace, etc.):	depression		cal relief (conc	ave convex non	a): concave Slope $(\%)$: 2-5
Subragian (LPR or MLPA): LPR N		25 761520			2017 Dotum: NAD26
		35.701526		LONG64.00	
Soil Map Unit Name: <u>Litz silt Ioam,</u>	moderately steep ph	ase			
Are climatic / hydrologic conditions	on the site typical for	this time of y	ear?	Yes <u>X</u> N	lo (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes X No					
Are Vegetation, Soil	, or Hydrology	naturally prob	lematic? (I	f needed, explain	any answers in Remarks.)
SUMMARY OF FINDINGS -	- Attach site ma	p showing	sampling p	oint location	s, transects, important features, etc
Hydrophytic Vegetation Present?	Yes X	No	Is the Samp	led Area	
Hydric Soil Present?	Yes X	No	within a We	tland?	Yes X No
Wetland Hydrology Present?	Yes X	No			
Depression wetland located at the	edge of the project b	oundary			
HYDROLOGY					
Wetland Hydrology Indicators:				Sec	condary Indicators (minimum of two required)
Primary Indicators (minimum of or	ie is required; check	all that apply)			Surface Soil Cracks (B6)
X Surface Water (A1)	True A	quatic Plants	(B14)		Sparsely Vegetated Concave Surface (B8)
X High Water Table (A2)	Hydro	gen Sulfide Oo	dor (C1)		Drainage Patterns (B10)
X Saturation (A3)	Oxidiz	ed Rhizosphe	res on Living R	oots (C3)	Moss Trim Lines (B16)
Water Marks (B1)	Preser	nce of Reduce	ed Iron (C4)		Dry-Season Water Table (C2)
Sediment Deposits (B2)	Recen	t Iron Reducti	on in Tilled Soil	s (C6)	Crayfish Burrows (C8)
Drift Deposits (B3)	X Thin IV	luck Surface ((C7)		Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)			illains)		Geomorphic Position (D2)
Inundation Visible on Aerial Im	agery (B7)				Shallow Aguitard (D3)
X Water-Stained Leaves (B9)	5 7 ()				Microtopographic Relief (D4)
Aquatic Fauna (B13)					FAC-Neutral Test (D5)
Field Observations:					
Surface Water Present? Yes	X No	Depth (inch	es): 6		
Water Table Present? Yes	X No	Depth (inch	es): 0		
Saturation Present? Yes	X No	Depth (inch	es): 0	Wetland Hydi	rology Present? Yes X No
(includes capillary fringe)					
Describe Recorded Data (stream g	jauge, monitoring we	ll, aerial photo	os, previous ins	pections), if availa	able:
Remarks: Wetland hydrology present.					

Sampling Point: DP7-W4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet
1.	/0 00.00	000000	Oldida	
2.	·			That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
4.	·			Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
7				Provelence Index worksheet:
1	•			
50% of total cover	20%	of total cover		ORI species 0 x 1 = 0
Sanling/Shrub Stratum (Plot size: 30	1 20.00			FACW species 10 $x_2 = 20$
1	_/			FAC species $50 \times 3 = 150$
2				FACU species $5 \times 4 = 20$
2				$1 \text{ PD species} \qquad 0 \qquad x 5 = 0$
3.				$\begin{array}{c c c c c c c c c c c c c c c c c c c $
4				Column lotals: 05 (A) 190 (D) Provolongo Index = $B/A = -2.02$
o				Prevalence index - D/A - 2.32
0				Hydrophytic Vegetation Indicators.
/				1 - Kapid Test for Hydrophytic vegetation
٥				$\frac{X}{2}$ - Dominance rest is -50%
9	- <u> </u>	T-t-l Covor		$\frac{X}{4}$ 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)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Rumex obtusifolius	5	No	FACU	¹ Indicators of hydric soil and wetland hydrology must
2. Setaria viridis	40	Yes	FAC	be present, unless disturbed or problematic.
3. Carex sp.*	10	No	FACW	Definitions of Four Vegetation Strata:
4.				Tree – Woodv plants, excluding vines, 3 in. (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	55 =	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	28 20%	of total cover:	11	height.
Woody Vine Stratum (Plot size: 30)				
1. Toxicodendron radicans	10	Yes	FAC	
2.				
3.				
4.				
45.				
4 5	10	=Total Cover		Hydrophytic
4550% of total cover:	<u> </u>	=Total Cover of total cover:	2	Hydrophytic Vegetation Present? Yes X No

SOIL

Profile Desc	ription: (Describe t	to the dep	th needed to docu	ment th	e indicat	or or cor	nfirm the absence of	indicators.)
Depth	Matrix		Redo	ox Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/2	100					Loamy/Clayey	
10-20	2.5Y 5/2	80	10YR 5/6	20	c		Loamy/Clayey	Prominent redox concentrations
					·			
¹ Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location	: PL=Pore Lining, M=Matrix.
Hydric Soil I	indicators:						Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue Be	elow Sur	face (S8)	(MLRA 1	47, 148) 2	cm Muck (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Thin Dark S	urface (S	69) (MLR /	A 147, 14	8) C	oast Prairie Redox (A16)
Black His	stic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136		(MLRA 147, 148)
Hydroger	n Sulfide (A4)		Loamy Gleye	ed Matrix	k (F2)		P	iedmont Floodplain Soils (F19)
Stratified	Layers (A5)		X Depleted Ma	itrix (F3)	(50)		_	(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)	()	Redox Dark	Surface	(F6)		R	ed Parent Material (F21)
Depleted	Below Dark Surface	(A11)		rk Surta	Ce (F7)		V	(Outside MLRA 127, 147, 148)
Thick Da	ucky Minoral (S1)				(FO) 2505 (E12		`	ther (Explain in Remarks)
Sandy G	leved Matrix (S4)		IIOII-IMaligai		5565 (F12		,	
Sandy R	edox (S5)		Umbric Surfa	n ace (F13		122, 136	³ Indic	ators of hydrophytic vegetation and
Stripped	Matrix (S6)		Piedmont Fl	odplain	Soils (F1	9) (MLRA	A 148) w	etland hydrology must be present.
Dark Sur	face (S7)		Red Parent	Material	(F21) (MI	LRA 127,	147, 148) ui	nless disturbed or problematic.
Restrictive I	_ayer (if observed):				. ,.			
Type:								
Depth (in	iches):						Hydric Soil Prese	nt? Yes <u>X</u> No
Remarks:								
Hydric soils p	present.							

U.S. Army WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24; 1	rs tains and Piedmont Region y is CECW-CO-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)			
Project/Site: SR Marvville Blount		Citv/County: Blount County	Sampling Date: 3/8/2022		
Applicant/Owner: SRC		=,, =, : <u></u>	State: TN Sampling Point: DP8-UP4		
Investigator(c): I Thiom and C Pycuik		Soction Township Pango			
Landforme (billeide terreses etc.)					
Landform (hillside, terrace, etc.): <u>Hillside</u>	LC	ocal relief (concave, convex, none	Siope (%): 2-5		
Subregion (LRR or MLRA): LRR N	Lat: 35.761524	Long: -84.00	D1794 Datum: NAD86		
Soil Map Unit Name: Prader silt loam (melv	in)		NWI classification:		
Are climatic / hydrologic conditions on the sit	te typical for this time of ye	ear? Yes <u>X</u> N	lo (If no, explain in Remarks.)		
Are Vegetation, Soil, or Hydro	ologysignificantly d	isturbed? Are "Normal Circun	nstances" present? Yes X No		
Are Vegetation, Soil, or Hydro	ology naturally prob	lematic? (If needed, explain	any answers in Remarks.)		
SUMMARY OF FINDINGS – Attack	n site map showing	sampling point locations	, transects, important features, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area			
Hydric Soil Present?	Yes No X	within a Wetland?	Yes No X		
Wetland Hydrology Present?	Yes No X				
Upland point located upslope of Wetland 1	and Wetland 4				
HYDROLOGY					
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required)		
Primary Indicators (minimum of one is requ	ired; check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)	True Aquatic Plants	(B14)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2)	Hydrogen Sulfide O	dor (C1)	Drainage Patterns (B10)		
Saturation (A3)	Oxidized Rhizosphe	eres on Living Roots (C3)	Moss Trim Lines (B16)		
Water Marks (B1)	Presence of Reduce	ed Iron (C4)	Dry-Season Water Table (C2)		
Drift Deposits (B3)	Thin Muck Surface		Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Other (Explain in Re	emarks)	Stunted or Stressed Plants (D1)		
Iron Deposits (B5)			Geomorphic Position (D2)		
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard (D3)		
Water-Stained Leaves (B9)			Microtopographic Relief (D4)		
Aquatic Fauna (B13)			FAC-Neutral Test (D5)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inch	nes):			
Water Table Present? Yes	No X Depth (inch	nes):	alamu Braaant? Vaa Na V		
(includes conillary frings)			ology Present? fes No X		
Describe Recorded Data (stream dauge m	onitoring well aerial photo	s previous inspections) if availab	ole.		
Remarks: Wetland Hydrology is not present					

Sampling Point: DP8-UP4

	Absolute	Dominant	Indicator	<u> </u>
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant Species Across All Strata: 2 (B)
5.				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 0.0% (A/B)
/:		-Total Covar		Total % Cover of:
50% of total cover	20%	of total cover		$\frac{1}{10000000000000000000000000000000000$
Sanling/Shrub Stratum (Plot size: 30)	2070			$\frac{OBE species}{EACW} = 0$
1				FAC species $0 \times 3 = 0$
2				$FACU \text{ species} \qquad 20 \qquad x 4 = -80$
3				$\frac{1}{1} \text{Pl species} = \frac{15}{15} \text{ x} 5 = -75$
о				Column Totals: 35 (A) 155 (B)
4				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
6				Hydrophytic Vegetation Indicators:
7				1 Papid Tast for Hydrophytic Vegetation
/				
o				2 - Dominance restricts > 50%
9		-Total Cover		5 - Prevalence index is > 5.0
		= Total Cover		data in Remarks or on a separate sheet)
50% of total cover:	20%	of total cover:		
Herb Stratum (Plot size: 5)	00	Maria	FAOL	
1. Eupatonum capilinolium 2. Taraxacum laevigatum	10	No	UPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. Grass sp.	20	Yes		Definitions of Four Vegetation Strata:
4. Allium oleraceum	5	No	UPL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
5. <u>Geranium sp.</u> 6.	5	No		more in diameter at breast height (DBH), regardless of height.
7.				Sapling/Shrub – Woody plants, excluding vines, less
8.				than 3 in. DBH and greater than or equal to 3.28 ft
9.				(1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	60	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 30	0 20%	of total cover:	12	height.
Woody Vine Stratum (Plot size: 30)				
/ 1.				
2.				
3				
4				
5				
·		=Total Cover		Hydrophytic
50% of total cover:	20%	of total cover:		Present? Yes No X
Pomarka: (Include photo numbers here or on a separ	rate sheet)			
Wetland vegetation is not present.	ale sheel.)			

FIOTIle Dest	cription: (Describe t	to the dep	oth needed to docu	iment th	e indicat	or or co	nfirm the abs	ence of indicators.)		
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-6	10YR 4/3	100					Loamy/Cla	уеу		
6-20	10YR 4/3	80	10YR 5/8	20			Loamy/Cla	yey		
								· · ·		
¹ Type: C=Co	oncentration, D=Depl	etion, RM	=Reduced Matrix, N	/S=Mask	ed Sand	Grains.	² L	ocation: PL=Pore Lining, M=Matrix.		
Hydric Soil	Indicators:							Indicators for Problematic Hydric Soils ³ :		
Histosol	(A1)		Polyvalue B	elow Sur	face (S8)	(MLRA [·]	147, 148)	2 cm Muck (A10) (MLRA 147)		
Histic Ep	pipedon (A2)		Thin Dark S	urface (S	9) (MLR	A 147, 14	18)	Coast Prairie Redox (A16)		
Black Hi	stic (A3)		Loamy Mucl	ky Minera	al (F1) (M	LRA 136	5)	(MLRA 147, 148)		
Hydroge	en Sulfide (A4)		Loamy Gley	ed Matrix	(F2)			Piedmont Floodplain Soils (F19)		
Stratified	d Layers (A5)		Depleted Ma	atrix (F3)	. ,			(MLRA 136, 147)		
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface	(F6)			Red Parent Material (F21)		
Depleter	d Below Dark Surface	e (A11)	Depleted Da	ark Surfa	ce (F7)			(outside MLRA 127, 147, 148)		
Thick Da	ark Surface (A12)	()	' Redox Depr	essions ((F8)		Very Shallow Dark Surface (F22)			
Sandy M	Aucky Mineral (S1)		Iron-Mangai	iese Mar	sses (F12		Other (Explain in Remarks)			
Sandy G	Reved Matrix (S4)			6)		., (-,			
Sandy R	Redox (S5)		Umbric Surf	-, ace (F13		122, 136	;)	³ Indicators of hydrophytic vegetation and		
	Matrix (S6)		Olimbic Surface (FTS) (WERA 122, 136)				A 148) wetland hydrology must be presen			
Stripped	(00)		Red Parent Material (F21) (MLRA 127, 147, 148)			unless disturbed or problematic.				
Stripped Dark Su	rface (S7)				· / ·					
Stripped Dark Su	rface (S7)									
Stripped Dark Su Restrictive I	rface (S7) Layer (if observed):									

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Laurel Bank Branch		Date/Time: 3/7/2022				
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :				
Site Name/Description: S1		SR Maryville Blount				
Site Location: Located in the northeastern border and runs outside of rock outcropping into Laurel Bank Branch						
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:				
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.761312/-84.001084				
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precipidata : ESRL and AHPS						
Watershed Size : 44, 971 acres	County: Mo	ontgomery				
Soil Type(s) / Geology : Prader silt loam (melvin)		USDA: Web Soil Survey Source:				
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land						
Degree of historical alteration to natural channel morphology & hydrology (circl Severe Moderate Slight	e one & de Ab	scribe fully in Notes) : sent				

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	\checkmark	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	\checkmark	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	>	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 	\checkmark	Stream
6. Presence of fish (except Gambusia)	\checkmark	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	\checkmark	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 = Stream

Secondary Indicator Score (if applicable) = 23

Justification / Notes :

This is a small perennial stream that flows out of a large rock outcropping, passes under a wooden bridge and then flows into Laurel Bank Branch. Bank width ranged from 2-5 feet, bank height ranged from 6 inches to a foot, and water depth in the channel ranged from 6 inches to 2 feet.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	9	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	[.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		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 NRCS map	No	= 0	Yes	= 3

B. Hydrology (Subtotal = 6)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	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 = 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)	٥	1	2	3
23. Bivalves/mussels	9	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants. 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

Notes : Sorting of gravel from sandy substrates occured throughout the stream. Another WWC flows down into this stream.

Total Points = $\frac{23}{23}$

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Laurel Bank Branch	Date/Time: 3/7/2022					
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :					
Site Name/Description: S2	SR Maryville Blount					
Site Location: Located in the northeastern border of the subject property flows through a wetland and floodplain						
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)	Lat/Long:					
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches	35.761312/-84.001084					
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precipidata : ESRL and AHPS						
Watershed Size : 44, 971 acres	County: Montgomery					
Soil Type(s) / Geology: Prader silt loam (melvin)	USDA: Web Soil Survey Source					
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land						
Degree of historical alteration to natural channel morphology & bydrology (circle 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	\checkmark	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	\checkmark	WWC
 Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions 	>	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 		Stream
6. Presence of fish (except Gambusia)	\checkmark	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	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	\checkmark	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 = Stream

Secondary Indicator Score (if applicable) = 23

Justification / Notes :

Known as Laurel Bank Branch this stream has a bank width of 6 to 10 feet and a bank height of 6 inches to 2 feet. Water depth in the channel at the time if the survey ranged from 6 inches to 2 feet. Substrate within the channel consisted of mostly sand with some gravel and silt.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 19)	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	[.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
13. At least second order channel on existing USGS or	No = 0		Yes	= 3
I NRCS map				

B. Hydrology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	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 = 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)	Ο	1	2	3
23. Bivalves/mussels	Ο	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants. 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

Notes : 4). Some sorting of gravel from sandy substrate. 5). This stream flows within a wetland and a floodplain system.

Total Points = $\frac{32.5}{2}$

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Laurel Bank Branch		Date/Time: 3/7/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC1		SR Maryville Blount
Site Location: Located in the northern portion of the subject property and flows down into a	UNT to	Laurel Bank Branch
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.761037 /-84.002111
Precipitation this Season vs. Normal : [abnormallv wet] elevated average low Source of recent & seasonal precip data : ESRL and AHPS	abno	ormally dry unknown
Watershed Size : 44, 971 acres Could	inty: Bl	ount
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land		
Degree of historical alteration to natural channel morphology & hydrology (circle on Severe Moderate Slight	e & de Ab	escribe fully in Notes) : sent

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	\checkmark	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groupdwater conditions		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 	\checkmark	Stream
6. Presence of fish (except Gambusia)	\checkmark	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	\checkmark	Stream
9. Evidence watercourse has been used as a supply of drinking water	\checkmark	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 :

This WWC flows from a foot path and leads down into a rocky outcrop area and finally flowing into a UNT to

Laurel Bank Branch. Bank width ranged from 1 to 6 feet and bank height ranged from 6 inches to 5 feet.

No water was flowing within the channel at the time of the survey.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9)	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		1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits		0.5	1	1.5
9. Natural levees		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	No = 0			
or			Yes	= 3
NRCS map				

B. Hydrology (Subtotal = 0.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris		0.5	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 = 3)	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)	٦	1	2	3
23. Bivalves/mussels	U	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

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

Total Points = $\frac{12.5}{12.5}$

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

Notes : 4) Very little gravel sorting from sand along the length of the stream.

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC		Date/Time: 3/7/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC2		SR Maryville Blount
Site Location: Located in the central portion of the subject property and flows down into V	/WC 2	
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.760297/-84.002657
Precipitation this Season vs. Normal : [abnormallv wet] elevated average lo Source of recent & seasonal precip data : ESRL and AHPS	w abn	ormally dry unknown
Watershed Size : 44, 971 acres C	ounty: Bl	ount
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source:
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land		
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	one & de Ab	escribe fully in Notes) : osent

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
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	\checkmark	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	\checkmark	Stream
6. Presence of fish (except Gambusia)	\checkmark	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	\checkmark	Stream
9. Evidence watercourse has been used as a supply of drinking water	\checkmark	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) =

Justification / Notes :

This WWC flows down into WWC 1 which leads down into a UNT to Laurel Bank Branch.

Laurel Bank Branch. Bank width was 1 foot and bank height

No water was flowing within the channel at the time of the survey.

Secondary Field Indicator Evaluation

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
13. At least second order channel on existing USGS				
or	No = 0		Yes	= 3
NRCS map				

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 NA	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	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus 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 :

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC		Date/Time: 3/7/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC3		SR Maryville Blount
Site Location: Located in the central portion of the subject property and flows down into W	NC 2	
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches	;	35.760297/-84.002657
Precipitation this Season vs. Normal : abnormally wet elevated average lov Source of recent & seasonal precip data : ESRL and AHPS	v abno	rmally dry unknown
Watershed Size : 44, 971 acres Co	unty: Blo	ount
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source:
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land		
Degree of historical alteration to natural channel morphology & hydrology (circle o Severe Moderate Slight	ne & de: Abs	scribe fully in Notes) : sent

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
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	\checkmark	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	\checkmark	Stream
6. Presence of fish (except Gambusia)	\checkmark	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	\checkmark	Stream
9. Evidence watercourse has been used as a supply of drinking water	\checkmark	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) =

Justification / Notes :

This WWC flows down into WWC 2 which leads down into a UNT to Laurel Bank Branch.

Laurel Bank Branch. Bank width was 1 foot and bank height

No water was flowing within the channel at the time of the survey.

Secondary Field Indicator Evaluation

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
13. At least second order channel on existing USGS				
or	No	= 0	Yes	= 3
NRCS map				

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 NA	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	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus 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 :

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC4		Date/Time: 3/7/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC4		SR Maryville Blount
Site Location: Located in the western portion of the subject property and flows down into	PFO wet	land
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.760436/-84.003348
Precipitation this Season vs. Normal : abnormally wet elevated average le Source of recent & seasonal precip data : ESRL and AHPS	ow abn	ormally dry unknown
Watershed Size : 44, 971 acres	County: B	lount
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source:
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land	ł	
Degree of historical alteration to patural channel morphology & hydrology (circle Severe Moderate Slight	one & de At	escribe fully in Notes) : osent

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	\checkmark	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	\checkmark	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	\checkmark	Stream
6. Presence of fish (except Gambusia)	\checkmark	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	\checkmark	Stream
9. Evidence watercourse has been used as a supply of drinking water	\checkmark	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) = 7

Justification / Notes :

This WWC flows from footpath down into a PFO wetland.

Bank width ranged from 1 to 2 feet and bank height ranged from 6 inches to 12 inches

No water was flowing within the channel at the time of the survey.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel		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	G	1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits		0.5	1	1.5
9. Natural levees		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	No :	= 0	Yes	= 3

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

C. Biology (Subtotal = 1)	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)	٦	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

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

Total Points = $\frac{7}{1}$

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

Notes : Substate within this channel is similar to the surrounding upland area.

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Laurel Bank Branch		Date/Time: 3/7/2022		
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :		
Site Name/Description: WWC5		SR Maryville Blount		
Site Location: Located in the northern portion of the subject property and flows down into	WWC1			
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)	Lat/Long:			
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches 35.7604				
Precipitation this Season vs. Normal : [abnormally wet] elevated average to Source of recent & seasonal precip data : ESRL and AHPS	ow abno	ormally dry unknown		
Watershed Size : 44, 971 acres C	ounty: Bl	ount		
Soil Type(s) / Geology : Litz silt loam, moderately steep phase USDA: Web Soil Surv Source:				
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land				
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	one & de Ab	escribe fully in Notes) : osent		

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	\checkmark	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 	\checkmark	Stream
6. Presence of fish (except Gambusia)	 	Stream
7. Presence of naturally occurring ground water table connection	\checkmark	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	\checkmark	Stream
9. Evidence watercourse has been used as a supply of drinking water	\checkmark	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) = 10.5

Justification / Notes :

This WWC flows from a foot path and leads down into a rocky outcrop area and finally flowing into a UNT to

Laurel Bank Branch. Bank width ranged from 1 to 3 feet and bank height ranged from 6 inches to 12 inches

No water was flowing within the channel at the time of the survey.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 7.5)	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		1	2	3
7. Braided channel	0	1	2	3
8. Recent alluvial deposits		0.5	1	1.5
9. Natural levees		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	No :	= 0	Yes	= 3

B. Hydrology (Subtotal = 1)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	(1)	0.5	0
17. Sediment on plants or on debris		0.5	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 = 2)	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)	٦	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	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

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

Total Points = $\frac{10.5}{10.5}$

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

Notes : 4) Very little gravel sorting from sand along the length of the stream.

March 2022 Mobilization					
Criteria- values are in inches	<u>1st Month Prior</u>	2 nd Month prior	<u>3rd Month Prior</u>		
	February-22	January-21	December-21		
Standard Deviation	1.91	2.00	2.25		
Minus 1 Std. Deviation	1.84	2.34	2.15		
Normal Precipitation	4.03	4.34	4.40		
Plus 1 Std. Deviation	5.94	6.34	6.65		
Actual Estimated Rainfall	15.0	10.0	5.0		
Condition (elevated, low, average)	Elevated	Elevated	Average		
Conditional Score	3	3	2		
Weight	3	2	1		
Product	9	6	2		
		Sum=	17		
Overall Wetness*			Elevated		

Appendix C

Site Photographs





Photograph 4- End of Stream 2, perennial, facing west and downstream.





















Photograph 24 - Representative photo of on-site uplands, pine forest, facing west

of the Site, facing northwest