# FS

#### 6/27/2022

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 East Hydrologic Determination Request Blount County, Tennessee

Ms. Winburn,

A subsidiary of Silicon Ranch Corporation (SRC), SR Maryville East, LLC intends to develop a site within Blount County, near Maryville, Tennessee as a photovoltaic (PV) solar power generating facility. The SR Maryville East site ("Project Site") includes approximately 127 acres bordered by Sevierville Road on the southeastern border and sits east of Maryville, Tennessee in Blount County (Appendix A, Figures 1 and 2). On behalf of its subsidiary SR Maryville East, 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 Conservation (TDEC) regarding the extent of Wet Weather Conveyance (WWC) features within the Project Site.

	Requestor/Applicant	Consultant/Requestor	Current Property Owners		
Name	Luke Wilkinson	Gracelyn Jones	Waters Family		
Affiliation	SR Maryville East, LLC	HDR	N/A		
Mailing Address	222 2 <sup>nd</sup> Avenue South Suite 1900 Nashville, TN, 37201	120 Brentwood Commons Way Suite 525, Brentwood, TN 37027	3003 Sevierville Rd. Maryville, TN 37804		
Phone Number	615-577-4611	629-228-7558	770-335-4846		
Parcel ID:	n/a	n/a	048-015.00-		

Project Location: Blount County, TN

**Basin:** Crooked Creek Little River (Hydrologic Unit Code [HUC] 060102010106) and Nails Creek Little River (Hydrologic Unit Code [HUC] 060102010107).

Nearest City: Maryville, TN

County: Blount County

Center Decimal Degree Coordinates of Project Area: 35.777590°, -83.915507°

USGS Quadrangle Name: Maryville, TN (1979) (1":24,000'-scale)



# **Project Site Description**

Prior to undertaking fieldwork, HDR scientists conducted a desktop review of the Project Area 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, Aerial Imagery;
- Figure 3, U.S. Geological Survey (USGS) Topographic Map;
- **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), 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 in USGS NHD; and
- Figure 7, Delineated Features.

According to the USDA NRCS Soil Survey of Blount County, thirteen different soil types were identified within the Project Site (Appendix A, Figure 4). Approximately 18% percent of the onsite soils are classified as prime farmland and 28% are of local importance. Depth to the restrictive layer is between approximately 2.0 and greater than 6.6 feet. Depth to the water table is between 2.3 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 (NRCS 2021).

Map Unit Symbol	Map Unit Name	Farmland Classification	Depth to Restrictive Layer (feet)	Depth to Water Table (feet)	Acres	Percent
uDcC	Dewey-College dale complex, 6 to 15 percent slopes, eroded	Not prime farmland	>6.6	>6.6	5.73	4.50%
uEdC	Etowah-Dewey complex, 6 to 12 percent slopes	Not prime farmland	>6.6	>6.6	10.53	3.41%
Dt	Dewey silty clay loam, 6 to 15 percent slopes, eroded	Farmland of local importance	>6.6	>6.6	35.54	27.98%
Dr	Dewey silty clay, severely eroded moderately steep phase	Not prime farmland	>6.6	>6.6	24.61	18.77%
Du	Dewey silty clay loam, 15 to 25 percent slopes, eroded	Not prime farmland	>6.6	>6.6	5.54	4.30%
Dz	Dunmore silty clay, 12 to 25 percent slopes, severely eroded	Not prime farmland	>6.6	>6.6	0.02	0.02%
Eb	Emory silt loam, gently sloping phase	All areas prime farmland	>6.6	5.5	7.27	5.72%
Gb	Gullied land, limestone material	Not prime farmland	>6.6	>6.6	2.61	2.00%
Нс	Hamblen silt loam, drainageway, 0 to 2 percent slopes, occasionally flooded	All areas prime farmland	>6.6	2.5	12.22	9.62%

#### Table 1. Summary of USDA NRCS Soils within the Site.

Le	Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	All areas prime farmland	>6.6	2.3	4.34	3.40%
Lk	Litz silt loam, sloping phase	Not prime farmland	2.0	>6.6	4.55	3.54%
u	Litz silt loam, moderately steep phase	Not prime farmland	2.0	>6.6	4.50	3.54%
Sg	Sequoia silty clay loam, eroded sloping phase	Not prime farmland	3.0	>6.6	9.48	7.46%

A review of NWI and NHD datasets and aerial imagery indicate that Peppermint Branch (Stream 2), a perennial stream, flows though the center of the Site. Based on the field investigation, the Site also contains two unnamed tributaries (Stream 1 and 3) that flow into Peppermint Branch. Five WWCs connect directly to these streams and an additional five WWCs were identified within the Site that do not connect directly to Streams 1 - 3. Two palustrine forested wetlands (PFO), one palustrine emergent wetland (PEM), and one palustrine scrub/shrub wetland (PSS) are also present onsite (Appendix A, Figure 7).

The majority of the Site is classified as FEMA Flood Zone X according to FEMA maps. Zone X is defined as a moderate- to low-risk area of minimal flood hazard due to areas being outside the special flood hazard area and higher than an elevation of the 0.2 percent annual chance flood (Appendix A, Figure 5). Approximately 1.28 acres (less than 1%) of the Site is classified as FEMA Flood Zone A. This is a Special Flood Hazard Area (SFHA) due to its low elevation and proximity to lakes, ponds, and other bodies of water. This is a high-risk area because it there is a 1% chance of annual flooding. The 1-percent annual chance flood is also referred to as the 100-year flood.

The project site consists of hay/pasture with small areas of mixed forest primarily in the center and northern portions of the Site (Appendix A, Figure 2). Dominant woody species consist of common hackberry (*Celtis occidentalis*), oak species (*Quercus* spp.), eastern red cedar (*Juniperus virginiana*), American sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), red maple (*Acer rubum*), American hornbeam (*Carpinus Caroliniana*), Callery pear (*Pyrus calleryana*), and American sycamore (*Platanus occidentalis*). The understory is composed primarily of eastern red cedar, American hornbeam, American sycamore, black raspberry (*Rubus occidentalis*), spicebush (*Lindera benzoin*), Chinese privet (*Ligustrum sinense*), and multiflora rose (*Rosa multiflora*). Common herbaceous and vine species include poison ivy (*Toxicodendron radicans*), sedge species (*Carex* spp.), grass species (*Poaceae* spp.), white clover (*Trifolium repens*), common dandelion (*Taraxacum officinale*), soft rush (*Juncus effusus*), foxtail grass (*Setaria viridis*), wild onion (*Allium oleraceum*), tansy ragwort (*Jacobaea heterophylla*), fescus grass (*Festuca heterophylla*), broad leaf dock (*Rumex obtusifolius*), ragweed (*Ambrosia acanthicarpa*), mock strawberry (*Duchesnea indica*), and Japanese honeysuckle (*Lonicera japonica*).

# Jurisdictional Delineation and Hydrological Determination

On March 8 and 9, 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 Clean Water Act (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 provided in Regulatory Guidance Letter (RGL) 05-05 and the Tennessee Department of Environment and Conservation (TDEC) Division of Water Pollution Control 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.

# Results

The results of the on-site field investigation conducted by HDR indicate that there are four (4) stream channels, four (4) wetlands, and ten (10) WWCs located within the Project Site (Appendix A, Figure 7).

The on-site surface waters drain to Peppermint Branch in the Little River Nails Creek watershed (HUC 060102010107) and Crooked Creek Little River (HUC 060102010106)<sup>1</sup>. The on-site surface waters are classified for Domestic Water Supply, Industrial Water Supply, Fish and Aquatic Life, Recreation, Livestock Watering and Wildlife, Navigation, and Irrigation uses as designated by the TDEC Division of Water Resources Water Pollution Control.<sup>2</sup>

# Wetland Waters

There are four (4) wetlands located within the Project Site, totaling approximately 0.90 acres (Appendix A, Figure 7). A summary of on-site wetland waters in included in Table 1.

Feature Name	Coordinates (decimal degrees)	Cowardin Classification <sup>1</sup>	Estimated Amount of Aquatic Resource in Review Area (acres		
Wetland Waters					
Wetland 1	35.776188, -83.916963	PFO	0.05 a	cre	
Wetland 2	35.774915, -83.913895	PSS	0.45 acre		
Wetland 3	35.774915, -83.913895	PEM	0.18 a	cre	
Wetland 4	35.777172, -83.915736	PFO	0.22 acre		
<b>Total Wetland Waters:</b>				0.90 acres	

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

Crooked Creek Little River is referred to as Little River Middle Creek on the USG NHD Dataset (Figure 6). <u>Division of Water Resources (tn.gov)</u>

<sup>1</sup> Cowardin Classifications: PEM = Palustrine emergent; PFO = Palustrine forested; PSS = Palustrine scrub/shrub

# Streams

There are four (4) streams located within the Project Site totaling approximately 5,068 linear feet (0.32 acre) (Appendix A, Figure 7). A summary of on-site non-wetland waters are summarized in Table 2.

Feature Name	Starting Coordinates (decimal degrees)	Ending Coordinates (decimal degrees)	Cowardin Classification <sup>1</sup>	Estimated Amount of Aquatic Resource in Review Area					
Non-Wetland Wa	ters								
Stream 1	35.78154, -83.914282	35.780300 -83.912157	R4SB5	Length: 849 lf Width: 6in – 2 ft Area: 0.04 ac.					
Stream 2	35.7808889, - 83.909905	35.776245, - 83.917127	R2UB3	Length: 2,923 lf Width: 6-8 ft Area: 0.27 ac.					
Stream 3	35.774486, - 83.913593	35.77482, - 83.915356	R4SB5	Length: 1,296 lf Width: 6in – 1ft Area: 0.01 ac.					
Stream 4	35.779668, -83.913018	35.779709, -83.912868	R2UB3	Length: 47 If Width: 1-2 ft Area: 0.01 ac.					
	Total Non-Wetland Waters: Length: 5,115 linear feet Total acres: 0.33								

1 Cowardin Classifications: R4SB5 = Riverine, Intermittent, Mud Streambed; R2UB3 = Mud, Unconsolidated Bottom, Lower Perennial, Riverine

# Wet Weather Conveyances

There are a total of ten (10) WWCs located within the Project Site totaling approximately 1,970 linear feet (0.12 acres) (Appendix A, Figure 7). A summary of on-site WWCs is included in Table 3.

Table 3. Summar	y of	<sup>i</sup> on-site Wet	Weather	<b>Conveyances</b>
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Feature Name	Start Coordinates (decimal degrees)	End Coordinates (decimal degrees)	Estimated Amount of WWC in Review Area
WWC 1	35.778083, -83.915925	35.777621, -83.916042	Length: 172 ft Width: 2-6 ft Area: 0.02 ac
WWC 2	35.779660, -83.917929	35.779959, -83.918158	Length: 128 ft Width: 1 ft Area: 0.003 ac
WWC 3	35.780009, -83.917287	35.780282, -83.917703	Length: 145 ft Width: 3-4 ft Area: 0.01 ac
WWC 4	35.780172, -83.917557	35.780184, -83.917841	Length: 84 ft Width: 2 ft Area: 0.004 ac

Feature Name	ature Name Start Coordinates End C (decimal degrees) (decin		Estimated Amount of WWC in Review Area
WWC 5	35.780871, -83.914434	35.780965, -83.914291	Length: 55 ft Width: 2-3 ft Area:- 0.004 ac
WWC6	35.778807, -83.913759	35.778335, -83.913178	Length: 248 ft Width: 2 ft Area:- 0.01 ac
WWC7	35.778065, -83.914655	35.777636, -83.913847	Length: 295 ft Width: 2 ft Area: 0.01 ac.
WWC 8	35.777068, -83.916261	35.777010, -83.916136	Length: 43 ft Width: 2 ft Area: 0.002 ac
WWC9	35.775991, -83.915116	35.776074, -83.915079	Length: 34 ft Width: 4 ft Area: 0.003 ac
WWC 10	35.77277, -83.914397	35.774523, -83.913610	Length: 766 ft Width: 2 ft Area:- 0.04 ac
	Length: 1,970 If Total acres: 0.11		

On behalf of SR Maryville East, HDR is hereby requesting HD verification for four (4) wetlands, four (4) streams, and ten (10) WWCs within the Project Site. Should you have any questions or require additional information following your review of the enclosed materials, please contact Lyranda Thiem at (615) 507-9167 or lyranda-thiem@hdrinc.com or Gracelyn Jones at (629) 228-7558 or Gracelyn.Jones@hdrinc.com.

Sincerely,

Lyranda Thism

Lyranda Thiem (QHP-IT) Environmental Scientist

Gracelyn Jones

Gracelyn Jones Environmental Scientist



#### ppendices: Appendix A: Figures

Figure 1. Project icinity Figure 2. Aerial Imagery Figure 3. USGS Topographic Map Figure 4. NRCS Soils Survey of lount 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 - DP9) Hydrologic Determination Data Sheets Normal Weather Conditions

Appendix C: Site Photographs

cc: Luke Wilkinson, Silicon Ranch Corporation



# Appendix A

Figures









# NRCS SOIL SURVEY OF BLOUNT COUNTY, TN

FIGURE 4

HYDOLOGIC DETERMINATION REQUEST







# Appendix B

Data Forms and Normal Weather Conditions

U.S. Army WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24; t	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)							
Project/Site: SR Maryville East		City/County: Blount County	Sampling Date: 3/8/2022					
Applicant/Owner: SRC			State: TN Sampling Point: DP1-UP1					
Investigator(s): L Thiem and C Rycuik		Section Township Range:						
Londform (hilloide torrese etc.), hilloide	1.							
		ocal relier (concave, convex, none	3): <u>concave</u> Slope (%): <u>2-5</u>					
Subregion (LRR or MLRA): LRR N	Lat: 35.780364	Long: -83.9	10703 Datum: NAD86					
Soil Map Unit Name: Hamblen silt loam, dra	inageway, 0 to 2 percent	slopes, occasionally flooded	NWI classification: None					
Are climatic / hydrologic conditions on the si	te 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 Hydrologynaturally problematic? (If needed, explain any answers in Remarks.)								
SUMMARY OF FINDINGS – Attacl	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 <u>No X</u>	within a Wetland?	Yes No <u>_X</u>					
Remarks: Upland point located within a floodplain are off of Peppermint Branch								
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	s (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)					
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)						
Aigai Mat of Crust (B4)		emarks)	Sounded of Stressed Plants (D1)					
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):						
Saturation Present? Yes	No X Depth (inch	nes): Wetland Hydr	rology Present? Yes <u>No X</u>					
(includes capillary fringe)								
Describe Recorded Data (stream gauge, m	onitoring well, aerial photo	os, previous inspections), if availa	able:					
Remarks <sup>.</sup>								
Wetland Hydrology is not present.								

Sampling Point: DP1-UP1

	Absolute	Dominant	Indicator	<u> </u>
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Celtis occidentalis	20	Yes	FACU	Number of Dominant Species
2. Quercus sp.	5	Yes		That Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant
4.				Species Across All Strata: 7 (B)
5		. <u> </u>		Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
	25	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	13 20%	of total cover:	5	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30	)			FACW species 0 x 2 = 0
1. Ligustrum sinense	15	Yes	FACU	FAC species $0 \times 3 = 0$
2. Rubus occidentalis	5	Yes	FACU	FACU species $90 \times 4 = 360$
3. Rosa multiflora	5	Yes	FACU	UPL species $0 \times 5 = 0$
4				Column Totals 90 (A) 360 (B)
5				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
				Hudrophytic Vegetation Indicators
0				A Desid Test for Undershutis Verstation
/				
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0'
	25	=Total Cover		4 - Morphological Adaptations' (Provide supporting
50% of total cover:	13 20%	of total cover:	5	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Poaceae sp. *	30	Yes	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2. Trifolium repens	10	Yes	FACU	be present, unless disturbed or problematic.
3. Taraxacum officinale	5	No	FACU	Definitions of Four Vegetation Strata:
4.				<b>Tree</b> – Woody plants, excluding vines 3 in (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6.				height.
7				Senling/Shrub Weedy plants evoluting vince loss
8				than 3 in. DBH and greater than or equal to 3.28 ft
0				(1 m) tall.
9				
	·			of size, and woody plants less than 3 28 ft tall
11				
	45	=Total Cover		<b>Woody Vine</b> – All woody vines greater than 3.28 ft in
50% of total cover:	23 20%	of total cover:	9	neight.
Woody Vine Stratum (Plot size: 30 )				
1				
2.				
3				
4.				
5.				
		=Total Cover		Hydrophytic
50% of total cover	20%	of total cover:		Vegetation Present? Yes No X
	2070			
Remarks: (Include photo numbers here or on a sepa	arate sheet.)	<b></b>		
* wetland status ranges from OBL-UPL. Wetland st	atus given FA	CU for this sur	vey.	

Profile Des	cription: (Describe t	o the dept	h needed to docu	ment th	ne indicat	tor or co	firm the absend	ce of indicat	ors.)		
Depth	Matrix		Redo	ox Featu	ires						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Rem	arks	
0-2	10YR 4/2	100					Loamy/Claye	y			
2-20	7.5YR 4/4	100					Loamy/Claye	y			
					·	·					
					·						
		<u> </u>			·						
		<u> </u>	<u> </u>		·						
17.000											
Type: C=C	oncentration, D=Deple	etion, RM=I	Reduced Matrix, M	S=Mask	ked Sand	Grains.	Loc	ation: PL=P	ore Lining, M=	Matrix.	
Hydric Soll	Indicators:		Polyvoluo R		faco (88)		47 149)		or Problemat	C Hyaric S	Solis :
	(AT)			urfaca (S		A 147 14	47, 140) 9)	2 Chi Muo	ok (A10) <b>(IVIL</b> r	<b>(A 147)</b>	
Black Hi	stic (A3)			v Miner	al (F1) <b>(M</b>	A 147, 14	•) \		anie Redox (F	(10)	
Hydroge	en Sulfide (A4)		Loamy Gleve	ed Matri	x (F2)		,	Piedmoni	t Floodplain S	oils (F19)	
Stratified	d Lavers (A5)		Depleted Ma	trix (F3)	)		-	(MLRA	136, 147)	0110 (1 10)	
2 cm Mu	ick (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)			Red Pare	ent Material (F	21)	
Depleted	d Below Dark Surface	(A11)	Depleted Da	rk Surfa	ice (F7)		-	(outsid	de MLRA 127	, 147, 148)	
Thick Da	ark Surface (A12)		Redox Depre	essions	(F8)			Very Sha	llow Dark Sur	face (F22)	
Sandy M	lucky Mineral (S1)		Iron-Mangar	ese Ma	sses (F12	2) (LRR N	, –	Other (Ex	plain in Rema	arks)	
Sandy G	leyed Matrix (S4)		MLRA 130	5)			_				
Sandy R	ledox (S5)		Umbric Surfa	ace (F13	3) <b>(MLRA</b>	122, 136	<sup>3</sup> Indicators of hydrophytic vegetation and				and
Stripped	Matrix (S6)		Piedmont Fle	Piedmont Floodplain Soils (F19) (MLRA 148) wetland hy					nydrology mus	t be prese	nt,
Dark Su	rface (S7)		Red Parent I	Material	(F21) <b>(M</b>	LRA 127,	147, 148)	unless di	sturbed or pro	blematic.	
Restrictive	Layer (if observed):										
Type:											
Depth (ii	nches):						Hydric Soil P	resent?	Yes	No	Х
Remarks:											
Wetland Soi	ls were not present.										

U.S. Army Constrained WETLAND DETERMINATION DATA SHE See ERDC/EL TR-07-24; the	U.S. Army Corps of Engineers ETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Re See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R									
Project/Site: SR Maryville East		City/County: Blount County	Sampling Date: 3/8/2022							
Applicant/Owner: SRC			State: TN Sampling Point: DP2-UP2							
Investigator(s): L. Thiem and C. Rycuik		Section, Township, Range:	· · ·							
Landform (hillside, terrace, etc.): hillside	Lo	cal relief (concave, convex, none	a): concave Slope (%): 2-5							
Subregion (I RR or MI RA): I RR N		L ong: -83.9	16881 Datum: NAD86							
Soil Map Unit Name: Hamblen silt loam draina	neway 0 to 2 percents	slopes, occasionally flooded	NWI classification: NAD86							
Are climatic / hydrologic conditions on the site to	voical for this time of ve	ear? Yes X N	lo (If no explain in Remarks )							
Are Vegetation Soil or Hydrolog	significantly di	sturbed? Are "Normal Circur	nstances" present? Yes X No							
Are Vegetation Soil or Hydrolog	v naturally probl	ematic? (If needed, evolain	any answers in Remarks )							
	ite men ek ewing									
SUMMARY OF FINDINGS – Attach s	ite map snowing	sampling point locations	s, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes	s No X	Is the Sampled Area								
Hydric Soil Present? Yes	s No X	within a Wetland?	Yes NoX							
Wetland Hydrology Present? Yes	sNo_X_									
Remarks: Upland point located uphill from wetland 1.										
HYDROLOGY										
Wetland Hydrology Indicators:		Sec	condary Indicators (minimum of two required)							
Primary Indicators (minimum of one is required	; check all that apply)		Surface Soil Cracks (B6)							
Surface Water (A1)	True Aquatic Plants	(B14)	Sparsely Vegetated Concave Surface (B8)							
High Water Table (A2)	_ Hydrogen Suilide Od Oxidized Rhizospher	res on Living Roots (C3)	Drainage Patterns (B10) Moss Trim Lines (B16)							
Water Marks (B1)	Presence of Reduce	ed Iron (C4)	Drv-Season Water Table (C2)							
Sediment Deposits (B2)	Recent Iron Reduction	on 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 Re	marks)	Stunted or Stressed Plants (D1)							
Iron Deposits (B5)			Geomorphic Position (D2)							
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)							
Aquatic Fauna (B13)			EAC-Neutral Test (D5)							
Field Observations:										
Surface Water Present? Yes No	o X Depth (inch	es):								
Water Table Present? Yes No	o X Depth (inch	es):								
Saturation Present? Yes No	o X Depth (inche	es): Wetland Hydi	rology Present? Yes <u>No X</u>							
(includes capillary fringe)										
Describe Recorded Data (stream gauge, monit	oring well, aerial photo	s, previous inspections), if availa	ble:							
Remarks <sup>.</sup>										
Wetland Hydrology is not present.										

Sampling Point: DP2-UP2

	Absolute	Dominant	Indicator	Т
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus alba	20	Yes	FACU	Number of Dominant Species
2. Quercus rubra	15	Yes	FACU	That Are OBL, FACW, or FAC: 1 (A)
3. Pinus taeda	10	Yes	FAC	Total Number of Dominant
4. Juniperus virginiana	5	No	FACU	Species Across All Strata: 5 (B)
5.				Percent of Dominant Spacing
6				That Are OBL. FACW. or FAC: 20.0% (A/B)
7				Prevalence Index worksheet:
··		-Total Cover		Total % Cover of Multiply by
50% of total cover:	25 20%	of total cover:	10	$OPI \text{ species} \qquad 0 \qquad \text{ y } 1 = 0$
	<u>20</u> 2070		10	
	_)	Vee	FACU	
1. Juniperus virginiana		res	FACU	$\begin{array}{c c} FAC \text{ species} & 10 & x \text{ s} = 30 \\ \hline \end{array}$
2. Rubus occidentalis	5	Yes	FACU	FACU species 50 x 4 = $200$
3				UPL species 0 x 5 = 0
4.				Column Totals: 60 (A) 230 (B)
5				Prevalence Index = B/A = 3.83
6				Hydrophytic Vegetation Indicators:
7.		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
8.				2 - Dominance Test is >50%
9				$3 - Prevalence Index is \leq 3.0^{1}$
· · ·	10	-Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total covor:	5 20%	-ftotol covor:	n	data in Remarks or on a separate sheet)
	5 2070		۷	
Herb Stratum (Plot size:)				
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2.				be present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
3. 4.				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
3. 4. 5.				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
3. 4. 5. 6.	 			Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
3.         4.         5.         6.         7.	 			Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less
3. 4. 5. 6. 7. 8				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft</li> </ul>
3. 4. 5. 6. 7. 8. 9				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> </ul>
3.         4.         5.         6.         7.         8.         9.         10				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> </ul>
3.         4.         5.         6.         7.         8.         9.         10.				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size and woody plants less than 3.28 ft tall.</li> </ul>
3.         4.         5.         6.         7.         8.         9.         10.         11.				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> </ul>
3.         4.         5.         6.         7.         8.         9.         10.         11.				<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in balant.</li> </ul>
3.         4.         5.         6.         7.         8.         9.         10.         11.         50% of total cover:		=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.		=Total Cover of total cover:		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.		=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.		=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.		=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.	20%	=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.	20%	=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> </ul>
3.	20%	=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> <li>Hydrophytic</li> </ul>
3.	20%	=Total Cover		<ul> <li>Definitions of Four Vegetation Strata:</li> <li>Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</li> <li>Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</li> <li>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</li> <li>Woody Vine – All woody vines greater than 3.28 ft in height.</li> <li>Hydrophytic Vegetation</li> </ul>
3.	     	=Total Cover of total cover: =Total Cover of total cover: of total cover		Definitions of Four Vegetation Strata:         Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.         Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.         Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vine – All woody vines greater than 3.28 ft in height.         Hydrophytic         Vegetation         Present?       Yes
3.	20%	=Total Cover of total cover: 		Definitions of Four Vegetation Strata:         Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.         Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.         Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vine – All woody vines greater than 3.28 ft in height.         Hydrophytic         Vegetation         Present?       Yes         No       X
3.	20%	=Total Cover of total cover: =Total Cover of total cover: of total cover:		Definitions of Four Vegetation Strata:         Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.         Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.         Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vine – All woody vines greater than 3.28 ft in height.         Hydrophytic         Vegetation         Present?       Yes NoX
3.		=Total Cover of total cover: =Total Cover of total cover: of total cover:		Definitions of Four Vegetation Strata:         Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.         Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.         Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vine – All woody vines greater than 3.28 ft in height.         Hydrophytic         Vegetation         Present?       Yes         No       X
3.		=Total Cover of total cover: =Total Cover of total cover: of total cover:		Definitions of Four Vegetation Strata:         Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.         Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.         Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vine – All woody vines greater than 3.28 ft in height.         Hydrophytic         Vegetation         Present?       Yes         No       X

Profile Des	cription: (Describe t	o the depth	needed to docu	ment th	e indicat	tor or con	firm the absenc	e of indicate	ors.)	
Depth	Matrix		Redo	x Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Rem	arks
0-20	10YR 5/4	100					I oamv/Clavev			
0.20	1011(0)4	100					Louny, Ouyby			
U										
<sup>1</sup> Type: C=C	oncentration, D=Deple	etion, RM=R	educed Matrix, M	S=Mask	ed Sand	Grains.	<sup>2</sup> Loca	ation: PL=Pc	ore Lining, M	=Matrix.
Hydric Soil	Indicators:						h	ndicators fo	r Problemat	ic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Be	low Sur	face (S8)	(MLRA 1	47, 148)	2 cm Muc	k (A10) <b>(MLI</b>	RA 147)
Histic Ep	oipedon (A2)		Thin Dark Su	urface (S	69) <b>(MLR</b>	A 147, 14	3)	Coast Pra	irie Redox (A	A16)
Black Hi	stic (A3)		Loamy Muck	y Minera	al (F1) <b>(M</b>	ILRA 136)	_	(MLRA	147, 148)	
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matrix	k (F2)		_	Piedmont	Floodplain S	Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3)				(MLRA	136, 147)	
2 cm Mu	ıck (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)		_	Red Pare	nt Material (F	-21)
Depleted	d Below Dark Surface	(A11)	Depleted Da	rk Surfa	ce (F7)			(outsid	e MLRA 127	′, 147, 148)
Thick Da	ark Surface (A12)		Redox Depre	essions	(F8)		_	Very Shal	low Dark Su	rface (F22)
Sandy M	lucky Mineral (S1)		Iron-Mangan	ese Ma	sses (F12	2) (LRR N	_	Other (Ex	plain in Rem	arks)
Sandy G	Bleyed Matrix (S4)		MLRA 136	5)			2			
Sandy R	Redox (S5)		Umbric Surfa	ace (F13	B) (MLRA	122, 136)	3	ndicators of	hydrophytic v	vegetation and
Stripped	Matrix (S6)		Piedmont Flo	podplain	Soils (F1	9) (MLRA	148)	wetland h	ydrology mus	st be present,
Dark Su	rface (S7)		Red Parent I	Material	(F21) <b>(M</b> I	LRA 127,	147, 148)	unless dis	sturbed or pro	oblematic.
Restrictive	Layer (if observed):									
Туре:										
Depth (II	nches):						Hydric Soil Pi	resent?	Yes	NoX
Remarks:	1									
wetland Sol	is were not present.									

U.S. Army Corps of Engineer WETLAND DETERMINATION DATA SHEET – Eastern Mount See ERDC/EL TR-07-24; the proponent agency	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 Maryville East	City/County: Blount County	Sampling Date: 3/8/2022				
Applicant/Owner: SRC		State: TN Sampling Point: DP3-W1				
Investigator(s): L.Thiem and C. Rycuik	Section, Township, Range:					
Landform (billside terrace etc.): depression	cal relief (concave, convex, non	e): concave Slone (%): 2-5				
Subragion (LPD or MLDA): LPD N		17012 Dotum: NAD26				
	LONG05.9					
Soil Map Unit Name: Hamblen silt loam, drainageway, 0 to 2 percent	slopes, occasionally flooded	NWI classification: PFO				
Are climatic / hydrologic conditions on the site typical for this time of y	rear? Yes <u>X</u> I	No (If no, explain in Remarks.)				
Are Vegetation, Soil, or Hydrologysignificantly d	isturbed? Are "Normal Circu	mstances" present? Yes X No				
Are Vegetation, Soil, or Hydrology naturally prob	lematic? (If needed, explain	any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	s, transects, important features, etc.				
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: Depression wetland located off of peppermint branch.						
HYDROLOGY						
Wetland Hydrology Indicators:	Se	condary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil Cracks (B6)				
X Surface Water (A1) True Aquatic Plants	(B14) X	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Hydrogen Sulfide O	dor (C1) $\underline{X}$	Drainage Patterns (B10)				
Water Marks (B1) Presence of Reduce	$\frac{1}{2}$	Dry-Season Water Table (C2)				
Sediment Deposits (B2) Recent Iron Reducti	ion in Tilled Soils (C6)	Cravfish 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	emarks)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)		Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (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 (inch         Water Table Present?       Yes       No       X       Depth (inch         Saturation Present?       Yes       No       X       Depth (inch         (includes capillary fringe)       Image: Comparison of the text of text o	Image: 1         2           mes): 0         0           mes): 0         Wetland Hyd	rology Present? Yes X No				
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if avail	adie:				
Remarks: Wetland hydrology present.						

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Sampling Point: DP3-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	5	No	FAC	That Are OBL, FACW, or FAC: 4 (A)
3. Carpinus caroliniana	5	No	FAC	Total Number of Densis and
л <u></u>				Total Number of Dominant
ч. 				
5.				Percent of Dominant Species
6				
7				Prevalence Index worksheet:
	30	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:1	5 20%	of total cover:	6	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30 )				FACW species 40 x 2 = 80
1. Ligustrum sinense	15	Yes	FACU	FAC species40x 3 =120
2.				FACU species 15 x 4 = 60
3.				UPL species 0 x 5 = 0
4				Column Totals: 95 (A) 260 (B)
5				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
G				
0				Dentit Test for Undershifts Vegetation
7				1 - Rapid Lest for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is $\leq 3.0^{1}$
	15	=Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover: 8	<u>20%</u>	of total cover:	3	data in Remarks or on a separate sheet)
Herb St <u>ratum</u> (Plot size: 5)				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1 Poaeae sp.*	30	Yes	FACW	1. Protocol of bootstand and contained by dealers much
2 Carey sn *	10	Yes	FACW	Indicators of hydric soil and wetland hydrology must
2. <u>Garos op.</u>	10	100	17.01.	Definitions of Eaur Vagatation Strata:
3				Definitions of Four vegetation Strata.
4.				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
5				more in diameter at preast neight (הסט), regardless of
6				hoight.
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.
· · · · · · · · · · · · · · · · · · ·	40	=Total Cover		Woody Vine – All woody vines greater than 3 28 ft in
50% of total cover: 20	<u> </u>	of total cover:	Q	height.
	J 2070		0	
Woody vine Stratum (Plot size: 30 )		.,		
1. <u>Toxicodendron radicans</u>	10	Yes	FAC	
2				
3				
4.				
5.		• <u> </u>		
	10	=Total Cover		Hydrophytic
50% of total cover: 5	20%	of total cover:	2	Present? Yes X No
Remarks: (Include photo numbers here or on a separ Wetland Vegetation is present. * Wetland status rang	ate sheet.) ,es from UPL	OBL. Wetland	l status given	n FACW for this survey.

Profile Desc	ription: (Describe t	o the dept	h needed to docu	ment th	e indicat	tor or cor	firm the absence of i	indicators.)
Depth	Matrix		Redo	ox Featur	res			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 4/2	100					Loamy/Clayey	
6-20	2.5Y 5/2	80	10YR 5/6	20	С	Μ	Loamy/Clayey	Prominent redox concentrations
		·					·	
		<u> </u>						
<sup>1</sup> Type: C=Co	oncentration, D=Depl	etion, RM=	Reduced Matrix, M	IS=Mask	ed Sand	Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indica	ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (	(A1)		Polyvalue Be	elow Surf	face (S8)	(MLRA 1	47, 148) 2	cm Muck (A10) <b>(MLRA 147)</b>
Histic Epi	ipedon (A2)		Thin Dark S	urface (S	9) <b>(MLR</b>	A 147, 14	8) Co	oast Prairie Redox (A16)
Black His	stic (A3)		Loamy Mucł	ky Minera	al (F1) <b>(M</b>	LRA 136	)	(MLRA 147, 148)
Hydroger	n Sulfide (A4)		Loamy Gley	ed Matrix	(F2)		Pi	edmont Floodplain Soils (F19)
Stratified	Layers (A5)		X Depleted Ma	atrix (F3)	( )			(MLRA 136, 147)
2 cm Muo	ck (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)		Re	ed Parent Material (F21)
Depleted	Below Dark Surface	(A11)	Depleted Da	irk Surfa	ce (F7)			(outside MLRA 127, 147, 148)
Thick Da	rk Surface (A12)		X Redox Depr	essions (	(F8)		Ve	ery Shallow Dark Surface (F22)
Sandy M	ucky Mineral (S1)		Iron-Mangar	nese Mas	sses (F12	2) (LRR N	, <u> </u>	ther (Explain in Remarks)
Sandy Gl	leyed Matrix (S4)		MLRA 13	6)				
Sandy Re	edox (S5)		Umbric Surf	ace (F13	) (MLRA	122, 136	) <sup>3</sup> Indica	ators of hydrophytic vegetation and
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F1	9) (MLRA	<b>A 148)</b> we	etland hydrology must be present,
Dark Sur	face (S7)		Red Parent	Material	(F21) <b>(M</b> I	LRA 127,	<b>147, 148)</b> ur	nless disturbed or problematic.
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Preser	nt? Yes <u>X</u> No
Remarks:								
Hydric soils p	present.							

U.S. Arm WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24;	y Corps of E SHEET – Easte the proponer	mont Region O-R	OMB Control #: 07 Requirement Cont (Authority: AR 33	10-xxxx, Exp: F rol Symbol EX 5-15, paragraph	Pending EMPT: n 5-2a)		
Project/Site: SR Maryville East			City/Count	y: Blount County	Sa	mpling Date:	3/9/2022
Applicant/Owner: SRC				<u> </u>	State: TN Sa	mpling Point:	DP3-UP1
Investigator(s): 1 Them and C Rycuik			Section Towns	shin Range			
Landform (billoide torrace ate.) billoide			Section, Towns			Clana (0/)	2.5
		L0	cal relier (conca	ave, convex, none		_ Slope (%):	2-0
Subregion (LRR or MLRA): LRR N	Lat: <u>35.</u>	779479		Long: -83.9	12914	Datum:	NAD86
Soil Map Unit Name: Litz silt loam, modera	tely steep phase	9			NWI classification:	None	
Are climatic / hydrologic conditions on the s	ite typical for thi	is time of y	ear?	Yes <u>X</u> N	lo (If no, expla	ain in Remark	s.)
Are Vegetation, Soil, or Hydr	ology sign	nificantly di	isturbed? A	re "Normal Circur	nstances" present?	Yes X	No
Are Vegetation, Soil, or Hydr	ologynat	urally probl	lematic? (If	needed, explain	any answers in Remar	ks.)	
SUMMARY OF FINDINGS – Attac	h site map s	showing	sampling p	oint location	s, transects, impo	ortant featu	ures, etc.
Hydrophytic Vegetation Present?	Yes N	lo X	Is the Samp	ed Area			
Hydric Soil Present?	Yes N	lo X	within a Wet	land?	Yes No	<u>х</u>	
Wetland Hydrology Present?	Yes N	lo <u>X</u>					
Upland point located within floodplain of Pe	∍ppermint Branc	sh					
HYDROLOGY							
Wetland Hydrology Indicators:				Sec	condary Indicators (min	imum of two	required)
Primary Indicators (minimum of one is requ	uired; check all t	that apply)			Surface Soil Cracks (E	36)	
Surface Water (A1)	True Aqua	atic Plants	(B14)		Sparsely Vegetated C	oncave Surfa	ce (B8)
High Water Table (A2)	Hydrogen	n Sulfide Oo	dor (C1)		Drainage Patterns (B1	0)	
Saturation (A3)	Oxidized	Rhizosphe	res on Living Ro	oots (C3)	Moss Trim Lines (B16	)	
Water Marks (B1)	Presence	of Reduce	ed Iron (C4)	<u> </u>	Dry-Season Water Ta	ble (C2)	
Sediment Deposits (B2)	Recent Ire	on Reduction	on in Tilled Solis	s (C6)	Crayfish Burrows (C8)	Acrial Imagan	((C0)
Algal Mat or Crust (B4)	Other (Ex	nlain in Re	(C7)		Stunted or Stressed P	lants (D1)	/ (09)
Iron Deposits (B5)			inditio)		Geomorphic Position (	(D2)	
Inundation Visible on Aerial Imagery (E	37)				Shallow Aquitard (D3)		
Water-Stained Leaves (B9)	,				Microtopographic Reli	ef (D4)	
Aquatic Fauna (B13)					FAC-Neutral Test (D5)	)	
Field Observations:							
Surface Water Present? Yes	No <u>X</u> E	Depth (inch	es):				
Water Table Present? Yes	No <u>X</u> C	Depth (inch	es):				
Saturation Present? Yes	No <u>X</u> E	Depth (inch	es):	Wetland Hydi	ology Present?	Yes	No <u>X</u>
(includes capillary fringe)							
Describe Recorded Data (stream gauge, m	ionitoring well, a	aerial photo	os, previous insp	pections), if availa	ible:		
Remarks:							
Wetland Hydrology is not present.							

Sampling Point: DP3-UP1

Yes No Yes Fotal Cover f total cover: Yes Fotal Cover f total cover f total cover f total cover f total cover	Status           FACU           UPL           FAC           9           FACU           9           FACU           1           9           FACU	Dominance Test worksheet:Number of Dominant SpeciesThat Are OBL, FACW, or FAC:1(A)Total Number of DominantSpecies Across All Strata:6(B)Percent of Dominant SpeciesThat Are OBL, FACW, or FAC:16.7%(A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 =Total % Cover of:Multiply by:OBL species0x 2 =FACW species0x 3 =30FACU species100x 4 =FACU species100x 4 =UPL species5x 5 =Column Totals:115(A)4 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is ≤3.014 - Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation1 (Fxplain)
Yes         No         Yes         Fotal Cover         f total cover:         Yes         Fotal Cover         f total cover:         Yes         Fotal Cover         f total cover:         Yes	9 FACU 9 FACU 4	Number of Dominant SpeciesThat Are OBL, FACW, or FAC:1Total Number of DominantSpecies Across All Strata:6Percent of Dominant SpeciesThat Are OBL, FACW, or FAC:16.7%Total % Cover of:Multiply by:OBL species0x 1 =0FACW species0x 2 =0FAC species10x 3 =30FACU species100x 4 =400UPL species5x 5 =25Column Totals:115(A)455Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation 1 (Explain)
Yes         Fotal Cover         f total cover:         Yes         Grotal Cover         Fotal Cover         Fotal Cover         Fotal Cover         Yes         Yes         Yes         Yes         Yes         Yes	9 FACU 9 FACU 4	Init Ale ObL, FACW, 01 FAC.ITotal Number of Dominant Species Across All Strata:6Percent of Dominant Species That Are OBL, FACW, or FAC:16.7%Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species0 $x 2 = 0$ FAC species10 $x 3 = 30$ FACU species100 $x 4 = 400$ UPL species5 $x 5 = 25$ Column Totals:115(A)4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic VegetationProblematic Hydrophytic Vegetation
Fotal Cover f total cover: Yes Fotal Cover f total cover f total cover: Yes	9 FACU FACU 4	Total Number of Dominant Species Across All Strata:6(B)Percent of Dominant Species That Are OBL, FACW, or FAC:16.7%(A/B)Prevalence Index worksheet:10Total % Cover of:Multiply by:OBL species0x 1 =0FACW species0x 2 =0FAC species10x 3 =30FACU species100x 4 =400UPL species5x 5 =25Column Totals:115(A)455Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation1 (Explain)
Fotal Cover f total cover: Yes Yes Fotal Cover f total cover: Yes	9 FACU	Species Across All Strata.6(B)Percent of Dominant SpeciesThat Are OBL, FACW, or FAC:16.7%(A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0x 1 =0FACW species0x 2 =0FAC species10x 3 =30FACU species100x 4 =400UPL species5x 5 =25Column Totals:115(A)455Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation 1 (Explain)
Total Cover f total cover: Yes Yes Fotal Cover f total cover: Yes	9 FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B) <b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL species <u>0</u> $x 1 = 0$ FACW species <u>0</u> $x 2 = 0$ FAC species <u>10</u> $x 3 = 30$ FACU species <u>100</u> $x 4 = 400$ UPL species <u>5</u> $x 5 = 25$ Column Totals: <u>115</u> (A) <u>455</u> (B) Prevalence Index = B/A = <u>3.96</u> <b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is $\leq 3.0^1$ <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes Yes Fotal Cover f total cover: Yes	9 FACU	That Are OBL, FACW, of FAC: 16.7% (A/B)Prevalence Index worksheet:Total % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species0 $x 2 = 0$ FAC species10 $x 3 = 30$ FACU species100 $x 4 = 400$ UPL species5 $x 5 = 25$ Column Totals:115(A)4 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation 1 (Explain)
Total Cover f total cover: Yes	9 FACU	Prevalence index worksneet:Total % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species0 $x 2 = 0$ FAC species10 $x 3 = 30$ FACU species100 $x 4 = 400$ UPL species5 $x 5 = 25$ Column Totals:115(A)Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation 1 (Explain)
Yes         Yes         Fotal Cover         Fotal Cover         Fotal Cover         f total cover:         Yes	9 FACU	Initial % Cover of:Multiply by:OBL species0 $x 1 = 0$ FACW species0 $x 2 = 0$ FAC species10 $x 3 = 30$ FACU species100 $x 4 = 400$ UPL species5 $x 5 = 25$ Column Totals:115(A)Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Yes Yes Fotal Cover f total cover: Yes		OBL species0 $x + 1 =$ 0FACW species0 $x 2 =$ 0FAC species10 $x 3 =$ 30FACU species100 $x 4 =$ 400UPL species5 $x 5 =$ 25Column Totals:115(A)455Prevalence Index = B/A =3.96Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Yes Yes	FACU	FACW species0 $x 2 =$ 0FAC species10 $x 3 =$ 30FACU species100 $x 4 =$ 400UPL species5 $x 5 =$ 25Column Totals:115(A)455Prevalence Index = B/A =3.96Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Yes Yes		FAC species10 $x 3 = 30$ FACU species100 $x 4 = 400$ UPL species5 $x 5 = 25$ Column Totals:115(A)455Prevalence Index = B/A =3.96Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes		FACU species100 $x 4 =$ 400UPL species5 $x 5 =$ 25Column Totals:115(A)455Prevalence Index = B/A =3.96Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation2 - Dominance Test is >50%3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes	4	UPL species       5 $x 5 =$ 25         Column Totals:       115       (A)       455       (B)         Prevalence Index $= B/A =$ 3.96         Hydrophytic Vegetation Indicators:       1 - Rapid Test for Hydrophytic Vegetation       2 - Dominance Test is >50%         3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes		Column Totals:       115 (A)       455 (B)         Prevalence Index = B/A =       3.96         Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes		Prevalence Index = B/A = 3.96         Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes	4	Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes	4	<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> <li>3 - Prevalence Index is ≤3.0<sup>1</sup></li> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> <li>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</li> </ul>
Fotal Cover f total cover: Yes	4	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Fotal Cover f total cover: Yes	4	3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Total Cover f total cover: Yes	4	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
f total cover: Yes	4	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Yes		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Yes		
	FACU	1
Vec	FACU	Indicators of hydric soil and wetland hydrology must
103	1700	Definitions of Four Vagetation Strata:
		<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or
		height.
		Sapling/Shrub – Woody plants, excluding vines, less
		than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall
		Herb – All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall.
Fotal Cover		Woody Vine - All woody vines greater than 3.28 ft in
f total cover:	8	height.
Yes	FACU	
		Hydrophytic
otal Cover		Vegetation
f total cover:	2	Present? Yes <u>No X</u>
	Total Cover f total cover: Yes	Fotal Cover         f total cover:         8         Yes         FACU         Fotal Cover         f total cover:         2         J for this survey.

Profile Des	cription: (Describe to	o the dep	th needed to docu	ment th	e indicat	or or con	firm the absence of indic	ators.)
Depth	Matrix		Redo	x Featu	res			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
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>			
<sup>1</sup> Type: C=C	concentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix.
Hydric Soil	Indicators:				<b>(</b> (00)		Indicators	for Problematic Hydric Soils':
Histosol	(A1)		Polyvalue Be	elow Sur	face (S8)	(MLRA 1	47, 148)2 cm M	uck (A10) <b>(MLRA 147)</b>
HISTIC E	pipedon (A2)			Inace (S	9) (NILR/	A 147, 140	(MLE	
	Suc(A3)			y winera	ai (Fi) <b>(IVI</b> x (E2)	LKA 130)	(IVILF Diadma	(A 147, 140) nt Eleadalain Saila (E10)
Hydroge Stratified	d Lavers (A5)		Loamy Gleye	triv (E3)	K (FZ)		Pleama	ni Fioodpiain Solis (F 19)
2 cm Mi	uck (A10) (I RR N)		Bedox Dark	Surface	(E6)		Red Pa	rent Material (F21)
Deplete	d Below Dark Surface	(A11)	Depleted Da	rk Surfa	(F7)		(outs	ide MLRA 127, 147, 148)
Thick Da	ark Surface (A12)	( )	Redox Depre	essions	(F8)		Very Sł	nallow Dark Surface (F22)
Sandy M	/ucky Mineral (S1)		Iron-Mangar	ese Ma	, sses (F12	) (LRR N	Other (	Explain in Remarks)
Sandy G	Gleyed Matrix (S4)		MLRA 130	5)				
Sandy F	Redox (S5)		Umbric Surfa	ace (F13	) (MLRA	122, 136)	<sup>3</sup> Indicators	of hydrophytic vegetation and
Stripped	l Matrix (S6)		Piedmont Flo	oodplain	Soils (F1	9) (MLRA	. 148) wetland	hydrology must be present,
Dark Su	rface (S7)		Red Parent I	Material	(F21) <b>(MI</b>	LRA 127,	147, 148) unless	disturbed or problematic.
Restrictive	Layer (if observed):							
Type:								
Depth (i	nches):						Hydric Soil Present?	Yes No X
Remarks:								
Wetland Soi	ils were not present.							
-								

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 East		City/County: Blount C	ounty Sampling Date: 3/8/2022							
Applicant/Owner: SRC			State: TN Sampling Point: DP4-W2							
Investigator(s):   Thiem and C. Rycuik		Section Township Range								
Lendforme (hilleide terrese etc.), derese										
Landform (nillside, terrace, etc.): depress		cal relief (concave, convex	, none): <u>concave</u> Slope (%): <u>2-5</u>							
Subregion (LRR or MLRA): LRR N	Lat: 35.775060	Long:	-83.913902 Datum: NAD86							
Soil Map Unit Name: Emory silt loam, gent	y sloping phase		NWI classification: PSS							
Are climatic / hydrologic conditions on the s	ite typical for this time of y	vear? Yes X	No (If no, explain in Remarks.)							
Are Vegetation, Soil, or Hydr	ology significantly d	listurbed? Are "Normal	Circumstances" present? Yes X No							
Are Vegetation, Soil, or Hyde	ologynaturally prob	lematic? (If needed, ex	xplain any answers in Remarks.)							
SUMMARY OF FINDINGS – Attac	h site map showing	sampling point loca	tions, transects, important features, etc.							
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area								
Hydric Soil Present?	Yes <u>X</u> No									
Wetland Hydrology Present?	Yes X No									
Remarks: Depression wetland located within a fence	d in area within a cattle pa	sture								
HYDROLOGY										
Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)							
Primary Indicators (minimum of one is requ	<u>uired; check all that apply)</u>		Surface Soil Cracks (B6)							
X Surface Water (A1)	True Aquatic Plants	(B14)	Sparsely Vegetated Concave Surface (B8)							
X High Water Table (A2)	Hydrogen Sulfide O	dor (C1)	X Drainage Patterns (B10)							
X 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)							
Sediment Deposits (B2)	Recent Iron Reduct	ION IN TILIED SOIIS (CD)	Crayfish Burrows (C8)							
		11.71								
Algel Mat or Crust (B4)	Other (Evolain in Re	(Or)	Stunted or Stressed Plants (D1)							
Algal Mat or Crust (B4)	Other (Explain in Re	emarks)	Stunted or Stressed Plants (D1) Geomorphic Position (D2)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E	Other (Explain in Re	emarks)	Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aguitard (D3)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E X Water-Stained Leaves (B9)	Other (Explain in Re	emarks)	Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E X Water-Stained Leaves (B9) Aquatic Fauna (B13)	Other (Explain in Re	emarks)	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Shallow Aquitard (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations:	Other (Explain in Re	emarks)	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X	Other (Explain in Re 37) No Depth (inch	nes): <u>6</u>	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X	Other (Explain in Re 37) No Depth (inch No Depth (inch	nes): <u>6</u> nes): <u>0</u>	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D3) Shallow Aquitard (D3) Shallow Aquitard (D3) Shallow Aquitard (D3) Shallow Aquitard (D3)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> <b>Wetland</b>	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Hydrology Present? Yes X No							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe)	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> <b>Wetland</b>	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Shallow Aquitard (D4) Shallow Aquitard (D5) Shallow Aquitard (D5)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch nonitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland	Saturation Visible on Aenal Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch No Depth (inch ionitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland	Saturation Visible on Aenal Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks:	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch ionitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland ps, previous inspections), if	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks: Wetland hydrology present.	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch ionitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland ps, previous inspections), if	Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks: Wetland hydrology present.	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch nonitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland os, previous inspections), if	Saturation visible on Aenal Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Hydrology Present? Yes X No available:							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks: Wetland hydrology present.	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch ionitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland ps, previous inspections), if	Saturation visible on Aerial Imagely (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks: Wetland hydrology present.	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch 1000000000000000000000000000000000000	nes): <u>6</u> nes): <u>0</u> nes): <u>0</u> wetland ps, previous inspections), if	Saturation visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							
Algal Mat or Crust (B4) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (E X Water-Stained Leaves (B9) Aquatic Fauna (B13) Field Observations: Surface Water Present? Yes X Water Table Present? Yes X Saturation Present? Yes X (includes capillary fringe) Describe Recorded Data (stream gauge, n Remarks: Wetland hydrology present.	Other (Explain in Re 37) No Depth (inch No Depth (inch No Depth (inch nonitoring well, aerial photo	nes): <u>6</u> nes): <u>0</u> mes): <u>0</u> wetland os, previous inspections), if	Saturation visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)							

Sampling Point: DP4-W2

Trac Stratum (Plat size) 20	Absolute	Dominant	Indicator	Dominance Test werkshoot
(Plot size. <u>30</u> )	% Cover	Species?	Status	Dominance Test worksheet:
2.				Number of Dominant Species           That Are OBL, FACW, or FAC:         5         (A)
3				Total Number of Dominant Species Across All Strata: 5 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	20%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30 )				FACW species 35 x 2 = 70
1. Carpinus caroliniana	60	Yes	FAC	FAC species 90 x 3 = 270
2. Platanus occidentalis	10	No	FACW	FACU species 0 x 4 = 0
3. Lindera benzoin	10	No	FAC	UPL species 0 x 5 = 0
4.				Column Totals 125 (A) 340 (B
5.				Prevalence Index = B/A = 2.72
6.				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 <sup>1</sup>	
	80	=Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supportir
50% of total cover: 40	20%	of total cover	16	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5 )				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Juncus effusus	15	Yes	FACW	<sup>1</sup> Indicators of bydric soil and wotland bydrology must
2. Carex sp.	10	Yes	FACW	be present, unless disturbed or problematic.
3. Setaria viridis	10	Yes	FAC	Definitions of Four Vegetation Strata:
4. 5. 6.				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless height.
7.       8.       9.				<b>Sapling/Shrub</b> – Woody plants, excluding vines, les than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.
	35	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft ir
50% of total cover: 18	3 20%	of total cover:	7	height.
Woody Vine Stratum (Plot size: 30 )				
1. Toxicodendron radicans	10	Yes	FAC	
2		. <u></u>		
0				
4		·		
5				Hydrophytic
	10	=Total Cover		Vegetation
50% of total cover: 5	20%	of total cover:	2	Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.) Wetland Vegetation is present

Depth	Matrix		Rede	ox Featur	es						
(inches)	Color (moist)	r (moist) <u>%</u> Color (moist) <u>%</u> Type <sup>1</sup> Loc <sup>2</sup> Textu								Remark	S
0-10	10YR 5/2	100					Loamy/Cla	yey			
10-20	10YR 5/2	90	7.5YR 4/6	10	C	M	Loamy/Cla	yey	Prominer	nt redox co	oncentration
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, N	IS=Mask	ed Sand	Grains.	<sup>2</sup> l	ocation:	PL=Pore Lir	ing, M=Ma	atrix.
Hydric Soil	Indicators:							Indicat	ors for Prol	olematic H	Hydric Soils
Histosol	(A1)		Polyvalue B	elow Sur	face (S8)	(MLRA 1	47, 148)	2 c	m Muck (A1	0) <b>(MLRA</b>	147)
Histic Ep	oipedon (A2)		Thin Dark S	urface (S	9) <b>(MLR</b>	A 147, 14	8)	Coa	ast Prairie R	edox (A16	)
Black Hi	stic (A3)		Loamy Muc	ky Minera	al (F1) <b>(M</b>	LRA 136)	)	(	MLRA 147,	148)	
Hydroge	n Sulfide (A4)		Loamy Gley	ed Matrix	(F2)			Pie	dmont Flood	Iplain Soils	s (F19)
Stratified	d Layers (A5)		X Depleted Ma	atrix (F3)				(I	MLRA 136,	147)	
2 cm Mu	ıck (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)			Red	d Parent Ma	terial (F21	)
Depleted	Below Dark Surface	(A11)	Depleted Da	rk Surfa	ce (F7)				outside ML	RA 127, 14	47, 148)
Thick Da	ark Surface (A12)		X Redox Depr	essions (	F8)			Ver	y Shallow D	ark Surfac	e (F22)
Sandy M	lucky Mineral (S1)		Iron-Mangar	nese Mas	ses (F12	) (LRR N	,	Oth	er (Explain i	n Remark	s)
Sandy G	leyed Matrix (S4)		MLRA 13	6)				—			
Sandy R	edox (S5)		Umbric Surf	ace (F13	) (MLRA	122, 136)		<sup>3</sup> Indicat	ors of hydro	phytic veg	etation and
Stripped	Matrix (S6)		Piedmont Fl	oodplain	Soils (F1	9) (MLRA	A 148)	wet	land hydrold	gy must b	e present,
Dark Su	rface (S7)		Red Parent	Material	(F21) <b>(ML</b>	RA 127,	147, 148)	unle	ess disturbe	d or proble	ematic.
Restrictive	Layer (if observed):										
Type:											
Depth (ir	nches):						Hvdric So	il Present	? Y	es X	No

Remarks:

Hydric soils present.

WETLAND DETERMINA See ERDC/EL	<b>U.S. Arm</b> TION DATA S TR-07-24;	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)							
Project/Site: SR Manwille East									
Applicant/Owner: SRC						State <sup>.</sup> TN	Sampling Point: DP5-UP3		
Applicativowner. State. IN Sampling Point. DP3-0									
Landfarma (hillaida tarmasa at									
Landform (nillside, terrace, et	.c.): <u>Hillside</u>		LC	ocal relief (conca	ave, convex, none	e): Concave	Slope (%): <u>2-5</u>		
Subregion (LRR or MLRA): 1	Subregion (LRR or MLRA):       LRR N       Lat:       35.774821       Long:       -83.913609       Datum:       NAD86								
Soil Map Unit Name: Emory silt loam, gently sloping phase NWI classification: None									
Are climatic / hydrologic cond	litions on the si	ite typical fo	or this time of y	/ear?	Yes X	No (If no, e	xplain in Remarks.)		
Are Vegetation, Soil	, or Hydro	ology	significantly d	isturbed? A	re "Normal Circur	mstances" present?	Yes X No		
Are Vegetation, Soil	, or Hydr	ology	naturally prob	lematic? (It	f needed, explain	any answers in Re	marks.)		
SUMMARY OF FINDIN	GS – Attac	h site ma	ap showing	sampling p	oint location	s, transects, in	nportant features, etc		
Hydrophytic Vegetation Pres	sent?	Yes	No X	Is the Samp	led Area				
Hydric Soil Present?		Yes	No X	within a Wet	land?	Yes No X			
Wetland Hydrology Present?	?	Yes	No X						
Upslope of Wetland 2									
HYDROLOGY									
Wetland Hydrology Indicators:         Secondary Indicators (minimum of two required)									
Primary Indicators (minimum	<u>ı of one is requ</u>	ired; check	all that apply)			Surface Soil Crack	ks (B6)		
Surface Water (A1)		True	Aquatic Plants	(B14)		Sparsely Vegetate	d Concave Surface (B8)		
High Water Table (A2)		Hydro	ogen Sulfide O	dor (C1)		Drainage Patterns	atterns (B10)		
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)					bots (C3)	Moss Trim Lines (BTo) Drv-Season Water Table (C2)			
Sodimont Donosite (B2)	nce of Reduce	on in Tilled Soils (C6) Cravfish Burrows (C8)							
Sediment Deposits (B2)Recent Iron Reducti				(C7) Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)		Other	(Explain in Re	emarks)	marks) Stunted or Stressed Plants (D1)				
Iron Deposits (B5)				Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)						D3)			
Water-Stained Leaves (B9) Microtopographic Re						Relief (D4)			
Aquatic Fauna (B13) FAC-Neutral Test (D5)									
Field Observations:									
Surface Water Present?	Yes	No <u>X</u>	Depth (inch	nes):					
Water Table Present?	Yes	No <u>X</u>	Depth (inch	nes):					
(includes capillary fringe)	res			ies).	wettand Hydr	rology Present?			
(Includes capillary fringe)									
Describe Necorded Data (stream gauge, monitoring weil, aenai priotos, previous inspections), il available.									
Remarks: Wetland hydrology is not pre	esent.								

Sampling Point: DP5-UP3

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant
4				Species Across All Strata: 3 (B)
5				Percent 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%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30 )				FACW species 0 x 2 = 0
1. Rubus occidentalis	25	Yes	FACU	FAC species 0 x 3 = 0
2				FACU species 95 x 4 = 380
3.				UPL species 25 x 5 = 125
4.				Column Totals: 120 (A) 505 (B)
5.				Prevalence Index = $B/A = 4.21$
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
0.				2 = Dominance restricts > 50 %
9.		Tatal Quarter		$\frac{5 - \text{Flevalence index is } \leq 5.0}{4 - \text{Merphological Adoptations}^{1}/(\text{Drovide supporting})}$
	25	= I otal Cover	_	4 - Morphological Adaptations (Provide supporting
50% of total cover: 13	3 20%	of total cover:	5	
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ' (Explain)
1. Poaceae sp.	60	Yes	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2. Allium oleraceum	10	No	FACU	be present, unless disturbed or problematic.
3. Jacobaea vulgaris	20	Yes	UPL	Definitions of Four Vegetation Strata:
4. Festuca heterophylla	5	No	UPL	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.
	95	=Total Cover		Woody Vine – All woody vines greater than 3 28 ft in
50% of total cover: 48	20%	of total cover:	19	height.
Woody Vine Stratum (Plot size: 30 )	2070		10	
2.				
3		·		
4				
5				Hydrophytic
		=Total Cover		Vegetation
50% of total cover:	20%	of total cover:		Present? Yes No X
Remarks: (Include photo numbers here or on a separa	ate sheet.)			
*Wetland status ranges from OBL-UPL. Wetland statu	us assigned	FACU for this s	survey.	

Profile Des	cription: (Describe to	o the depth	needed to docu	ment th	e indicat	or or cor	nfirm the abser	ice of indic	ators.)		
Depth	Matrix		Redo	ox Featu	res						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Rem	arks	
0-20	7.5YR 4/4	100					loamv/clave	v	clav	oam	
								<u> </u>	ciay		
1											
	·	·									
	·										
	. <u> </u>										
<sup>1</sup> Type: C=C	oncentration, D=Deple	tion, RM=Re	educed Matrix, M	S=Mask	ed Sand	Grains.	<sup>2</sup> Lo	cation: PL=	Pore Lining, M	Matrix.	
Hydric Soil	Indicators:							Indicators	for Problemat	ic Hydric S	Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Be	elow Sur	face (S8)	(MLRA 1	47, 148)	2 cm N	luck (A10) <b>(MLI</b>	RA 147)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S	9) <b>(MLR</b>	A 147, 14	8)	Coast	Prairie Redox (A	A16)	
Black Hi	stic (A3)		Loamy Muck	y Minera	al (F1) <b>(M</b>	LRA 136	)	(MLI	RA 147, 148)		
Hydroge	en Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)			Piedmo	ont Floodplain S	oils (F19)	
Stratified	d Layers (A5)		Depleted Ma	trix (F3)				(MLI	RA 136, 147)		
2 cm Mu	ıck (A10) <b>(LRR N)</b>		Redox Dark	Surface	(F6)			Red Pa	arent Material (F	21)	
Deplete	d Below Dark Surface	(A11)	Depleted Da	rk Surfa	ce (F7)			(out	side MLRA 127	, 147, 148	)
Thick Da	ark Surface (A12)		Redox Depre	essions (	(F8)			Very S	hallow Dark Su	face (F22)	
Sandy N	lucky Mineral (S1)		Iron-Mangan	iese Mas	sses (F12	2) (LRR N	,	Other (	Explain in Rem	arks)	
Sandy G	Gleyed Matrix (S4)		MLRA 136	5)				3			
Sandy F	Redox (S5)		Umbric Surfa	ace (F13	) (MLRA	122, 136	)	Indicators	of hydrophytic v	egetation	and
Stripped	Matrix (S6)			odplain	Soils (F1	9) (MLRA	A 148)	wetlan	d hydrology mus	st be prese	ent,
Dark Su	nace (S7)		Red Parent I	viateriai	(F21) <b>(MI</b>	LRA 127,	147, 148)	uniess	disturbed or pro	pplematic.	
Restrictive	Layer (if observed):										
Туре:								_			
Depth (i	nches):						Hydric Soil	Present?	Yes	No	<u>X</u>
Remarks:											
Wetland sol	ls are not present.										

U.S. Army Corps of WETLAND DETERMINATION DATA SHEET – Eas See ERDC/EL TR-07-24; the propone	OMB Control #: 0710 Requirement Contro (Authority: AR 335-	)-xxxx, Exp: Pending ol Symbol EXEMPT: 15, paragraph 5-2a)						
Project/Site: SR Maryville East	City/Cc	unty: Blount County	Sam	pling Date: 3/9/2022				
Applicant/Owner: SRC			State TN Sam	ppling Point <sup>-</sup> DP6-W3				
	Section To	whethin Denge						
	Section, 10	witship, Range.	\ \					
Landform (hillside, terrace, etc.):       depression       Local relief (concave, convex, none): concave       Slope (%):       2-								
Subregion (LRR or MLRA):         LRR N         Lat:         35.776929         Long:         -83.915195         Datum:         NAD86								
Soil Map Unit Name: Litz silt loam, moderately steep pha	se		NWI classification:	PEM				
Are climatic / hydrologic conditions on the site typical for t	Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)							
Are Vegetation, Soil, or Hydrologysi	gnificantly disturbed?	Are "Normal Circu	mstances" present?	Yes X No				
Are Vegetation, Soil, or Hydrology na	aturally problematic?	(If needed, explain	any answers in Remark	s.)				
SUMMARY OF FINDINGS – Attach site map	showing sampling	point location	s. transects. impor	rtant features. etc.				
		, point location						
Hydrophytic Vegetation Present? Yes X	No Is the Sar	npled Area						
Hydric Soil Present? Yes X	No within a W	Vetland?	Yes X No					
Wetland Hydrology Present? Yes X	No							
Remarks: Wetland abutting a UNT to Peppermint Branch								
HYDROLOGY Wetland Hydrology Indicators:		Se	condary Indicators (minir	mum of two reauired)				
Primary Indicators (minimum of one is required: check al	( that apply)		Surface Soil Cracks (Bf	3)				
X Surface Water (A1) True Aq	uatic Plants (B14)		Sparsely Vegetated Co	ncave Surface (B8)				
X High Water Table (A2) Hydroge	en Sulfide Odor (C1)	X	Drainage Patterns (B10	))				
X Saturation (A3) Oxidized	Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)							
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)								
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)								
Drift Deposits (B3)X Thin Mu	Saturation Visible on Aerial Imagery (C9)							
Algal Mat or Crust (B4)Other (Explain in Remarks)Stunted or Stressed Plants (D								
Iron Deposits (B5) Geomorphic Position (D2)								
Inundation visible on Aerial Imagery (B7)     Shallow Aquitard (D3)     Water-Stained Leaves (B9)								
Aquatic Fauna (B13)			FAC-Neutral Test (D5)					
Field Observations:								
Surface Water Present? Yes X No	Depth (inches): 3							
Water Table Present? Yes X No	Depth (inches): 0	-						
Saturation Present? Yes X No	Depth (inches): 0	Wetland Hyd	ology Present?	Yes X No				
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks <sup>.</sup>								
Wetland hydrology present.								

Sampling Point: DP6-W3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant	Indicator	Dominance Test worksheet		
1		Sheries:	อเลเนอ			
2				Number of Dominant Species           That Are OBL, FACW, or FAC:         3         (A)		
3.		<u> </u>		Total Number of Dominant		
4				Species Across All Strata: 3 (B)		
5				Percent of Dominant Species		
6				That Are OBL, FACW, or FAC: 100.0% (A/B)		
7		-Total Cover		Prevalence Index worksheet:		
50% of total cover:	20%	- fotal cover		ORI species 0 x 1 = 0		
Sapling/Shrub Stratum (Plot size; 30 )				FACW species $25 \times 2 = 50$		
1.				FAC species $70 \times 3 = 210$		
2.				FACU species $5 \times 4 = 20$		
3.				UPL species $5 \times 5 = 25$		
4.				Column Totals: 105 (A) 305 (B)		
5.				Prevalence Index = B/A = 2.90		
6.				Hydrophytic Vegetation Indicators:		
7.				1 - Rapid Test for Hydrophytic Vegetation		
8.				X 2 - Dominance Test is >50%		
9				X 3 - Prevalence Index is $\leq 3.0^{1}$		
		=Total Cover		4 - Morphological Adaptations <sup>1</sup> (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 <sup>1</sup> (Explain)		
1. Juncus effusus	15	Yes	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must		
2. Carex sp.*	10	No	FACW	be present, unless disturbed or problematic.		
3. Setaria viridis	<u>40</u>	Yes		Definitions of Four Vegetation Strata:		
4. Rumex obtusitorius	5		FACU	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or		
5. Ambrosia acantnicarpa	5	INU	UPL	height.		
7						
ι. 				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.		
	75	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in		
50% of total cover:3	8 20%	of total cover:	15	height.		
Woody Vine Stratum (Plot size: 30 )						
1. Toxicodendron radicans	30	Yes	FAC			
2.						
3						
4						
5				Hydrophytic		
	30	=Total Cover		Vegetation		
50% of total cover:	520%	of total cover:	6	Present? Yes X No		
Remarks: (Include photo numbers here or on a separ	ate sheet.)					
*Wetland indicator status ranges from OBL-UPL. FAV	NC status as	signed for this s	urvey.			
Profile Description: (Describe to the dep	th needed to docu	ment the indic	ator or con	firm the absence of	indicators.)	
-----------------------------------------------------	--------------------	---------------------------	-------------------------------	-------------------------------------------	------------------------	-------------------------------
Depth Matrix	Redo	x Features				
(inches) Color (moist) %	Color (moist)	% Type	<sup>1</sup> Loc <sup>2</sup>	Texture	Rema	arks
0-20 2.5Y 4/2 90	7.5YR 5/8	10 C	М	Loamv/Clavev	Prominent redox	concentrations
				<u>,                                 </u>		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM	=Reduced Matrix. M	S=Masked San	d Grains.	<sup>2</sup> Location:	PL=Pore Lining. M=	Matrix.
Hydric Soil Indicators:				Indica	ators for Problemation	c Hydric Soils <sup>3</sup> :
Histosol (A1)	Polyvalue Be	low Surface (St	B) (MLRA 1	<b>47, 148)</b> 2	cm Muck (A10) (MLR	A 147)
Histic Epipedon (A2)	Thin Dark Su	rface (S9) (ML	RA 147, 14	B) C	oast Prairie Redox (A	, 16)
Black Histic (A3)	Loamy Muck	y Mineral (F1) (	, MLRA 136)	·	(MLRA 147, 148)	,
Hydrogen Sulfide (A4)	Loamy Gleye	d Matrix (F2)	,	Pi	edmont Floodplain So	oils (F19)
Stratified Layers (A5)	X Depleted Mat	trix (F3)			(MLRA 136, 147)	
2 cm Muck (A10) (LRR N)	Redox Dark	Surface (F6)		R	ed Parent Material (F2	21)
Depleted Below Dark Surface (A11)	Depleted Dar	k Surface (F7)			(outside MLRA 127,	147, 148)
Thick Dark Surface (A12)	X Redox Depre	ssions (F8)		V	ery Shallow Dark Surf	ace (F22)
Sandy Mucky Mineral (S1)	Iron-Mangan	ese Masses (F´	12) <b>(LRR N</b>	,0	ther (Explain in Rema	ırks)
Sandy Gleyed Matrix (S4)	MLRA 136	)				
Sandy Redox (S5)	Umbric Surfa	ce (F13) <b>(MLR</b>	A 122, 136)	<sup>3</sup> Indic	ators of hydrophytic v	egetation and
Stripped Matrix (S6)	Piedmont Flo	odplain Soils (F	-19) <b>(MLRA</b>	<b>148)</b> w	etland hydrology mus	t be present,
Dark Surface (S7)	Red Parent N	/laterial (F21) <b>(I</b>	MLRA 127,	<b>147, 148)</b> ur	nless disturbed or pro	blematic.
Restrictive Layer (if observed):						
Туре:						
Depth (inches):				Hydric Soil Prese	nt? Yes <u>X</u>	No
Remarks:						
Hydric soils present.						

U.S. Army Corps of Engineers WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R					OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)			
Project/Site: SR Maryville East			City/Count	ty: Blount County	Sampling Date: 3/9/2022			
Applicant/Owner: SRC				, <u> </u>	State: TN Sampling Point: DP7-UP4			
Investigator(s):   Thiem and C. Rycuik			Section Town	shin Range				
Landform (billoide, torrage, etc.); billoide								
	Lat	L		ave, convex, none	e). <u>concave</u> Slope (%). <u>2-3</u>			
Subregion (LRR or MLRA): LRR N		35.777013		Long: -83.9	15140 Datum: NAD86			
Soil Map Unit Name: <u>Litz silt loam, moder</u>	ately steep ph	lase			NWI classification: None			
Are climatic / hydrologic conditions on the	site typical for	r this time of y	/ear?	Yes <u>X</u> N	No (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hyd	drology	significantly d	listurbed? A	re "Normal Circur	mstances" present? Yes X No			
Are Vegetation, Soil, or Hyd	drology	naturally prob	lematic? (l	f needed, explain	any answers in Remarks.)			
SUMMARY OF FINDINGS – Atta	ch site ma	p showing	sampling p	oint location	s, transects, important features, etc			
Hydrophytic Vegetation Present?	Yes	No X	Is the Samp	led Area				
Hydric Soil Present?	Yes	No X	within a We	tland?	Yes No_X_			
Wetland Hydrology Present?	Yes	No X						
Upland point located uphill from Wetland	3 and Wetland	d 4						
HYDROLOGY								
Wetland Hydrology Indicators:				Sec	condary Indicators (minimum of two required)			
Primary Indicators (minimum of one is re-	quired; check	all that apply)			Surface Soil Cracks (B6)			
Surface Water (A1)	True A	Aquatic Plants	s (B14)		Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Hydro	gen Sulfide O	dor (C1)		Drainage Patterns (B10)			
Saturation (A3)	Oxidiz	ed Rhizosphe	eres on Living Ro	oots (C3)	Moss Trim Lines (B16)			
Water Marks (B1)	Presei	nce of Reduce	ed Iron (C4)		Dry-Season Water Table (C2)			
Drift Deposits (B2)	Recen	ILIFON Reduct	ION IN TILIED SOID	s (Co)	Crayfish Burrows (C8)			
Algal Mat or Crust (B4)	Other	/Explain in Re	(C7) emarks)		Stunted or Stressed Plants (D1)			
Iron Deposits (B5)			oniunic)		Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery	(B7)				Shallow Aquitard (D3)			
Water-Stained Leaves (B9)					Microtopographic Relief (D4)			
Aquatic Fauna (B13)					FAC-Neutral Test (D5)			
Field Observations:								
Surface Water Present? Yes	No <u>X</u>	Depth (inch	nes):					
Water Table Present? Yes	No <u>X</u>	Depth (inch	nes):					
Saturation Present? Yes	No <u>X</u>	Depth (inch	nes):	Wetland Hydi	rology Present? Yes <u>No X</u>			
(Includes capillary fringe)	monitoring wo	II. ooriol nhot		antiona) if avails	able.			
Describe Recorded Data (stream gauge,	monitoring we	an, aenar priou	os, previous insp	Jections), il availa	adie.			
Remarks: Wetland Hydrology is not present.								

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

Sampling Point: DP7-UP4

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Cover	Species?	Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant
4				Species Across All Strata: 5 (B)
5				Percent 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%	of total cover:		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 30	)			FACW species 0 x 2 = 0
1. Rosa multiflora	15	Yes	FACU	FAC species 0 x 3 = 0
2. Juniperus virginiana	5	Yes	FACU	FACU species 90 x 4 = 360
3.				UPL species 5 x 5 = 25
4.				Column Totals: 95 (A) 385 (B)
5.				Prevalence Index = $B/A = 4.05$
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
·				
o				2 - Dominance rest is >50%
9.				3 - Prevalence index is ≤3.0
	20	= I otal Cover		4 - Morphological Adaptations (Provide supporting
50% of total cover:	10 20%	of total cover:	4	uata in Keniarks of on a separate sheet)
Herb Stratum (Plot size: 5 )				Problematic Hydrophytic Vegetation (Explain)
1. Poaceae sp. *	30	Yes	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2. Trifolium repens	15	Yes	FACU	be present, unless disturbed or problematic.
3. Duchesnea indica	5	No	FACU	Definitions of Four Vegetation Strata:
4. Allium allegheniense	5	No	UPL	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.
	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 )	20/0			
	20	Vaa		
	20	res	FACU	
2.				
3.				
4				
5				Hydrophytic
	20	=Total Cover		Vegetation
50% of total cover:	10 20%	of total cover:	4	Present? Yes No X
Remarks: (Include photo numbers here or on a sepa	arate sheet.)			
* Wetland status ranges from OBL-UPL. Wetland sta	atus given FA	CU for this surv	/ey.	

SOIL

Profile Description: (Describe to the dep	th needed to document the indicator or con	firm the absence of indica	tors.)
Depth Matrix		<b>T</b>	Burnh
(inches) Color (moist) %	Color (moist) % I ype Loc <sup>2</sup>	l exture	Remarks
0-20 10YR 4/4 100		Loamy/Clayey	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=I	Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators	or Problematic Hydric Soils <sup>3</sup> :
- Histosol (A1)	Polyvalue Below Surface (S8) (MLRA 1	<b>47, 148</b> ) 2 cm Mi	uck (A10) <b>(MLRA 147)</b>
Histic Epipedon (A2)	Thin Dark Surface (S9) (MLRA 147. 14	B) Coast P	rairie Redox (A16)
Black Histic (A3)	Loamy Mucky Mineral (F1) (MLRA 136)	(MI R	A 147. 148)
Hydrogen Sulfide (A4)	Loamy Gleved Matrix (F2)	Piedmo	nt Floodolain Soils (F19)
Stratified Lavers (A5)	Depleted Matrix (F3)	(MI R	A 136, 147)
2 cm Muck (A10) (I BB N)	Bedox Dark Surface (E6)	Red Par	ent Material (E21)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)		ide MI RA 127 147 148)
Thick Dark Surface (A12)	Redox Depressions (F8)	Verv Sh	allow Dark Surface (E22)
Sandy Mucky Mineral (S1)	Iron-Manganese Masses (F12) (I RR N	Other (F	Explain in Remarks)
Sandy Gleved Matrix (S4)	MI BA 136)		
Sandy Redox (S5)	Umbric Surface (F13) (MI RA 122 136)	<sup>3</sup> Indicators of	of hydrophytic vegetation and
Stripped Matrix (S6)	Piedmont Floodplain Soils (F19) (MI R4	(148) wetland	hydrology must be present
Dark Surface (S7)	Red Parent Material (E21) (MI RA 127	147 148) unless (	listurbed or problematic
Restrictive Laver (if observed):			
Depth (inches):		Hydric Soil Present?	Yes No X
Remarks: Wetland Soils were not present			
Weiland Solis were not present.			

U.S. Army WETLAND DETERMINATION DATA S See ERDC/EL TR-07-24; t	ont Region )-R	OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)					
Project/Site: SR Maryville East		City/County:	Blount County	Sampling Date: 3/9/2022			
Applicant/Owner: SRC				State: TN Sampling Point: DP9-W4			
Investigator(s): L.Thiem and C. Rvcuik		Section, Townsh	ip. Range:				
Landform (billside terrace etc.): depressio	n lo	cal relief (concav	e convex none	a): concave Slope (%): 2-5			
Subregion (LRR or MLRA): LRR N	Lat: 35 777070		Long: -83.0	15881 Datum: NAD86			
	Lat. <u>55.777075</u>		Long03.9				
Soil Map Unit Name: Liz silt loam, moderate	ely steep phase			NWI classification: PFO			
Are climatic / hydrologic conditions on the sit	e typical for this time of y	ear? Y	es <u>X</u> N	lo (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydro	significantly di	sturbed? Are	"Normal Circur	nstances" present? Yes X No			
Are Vegetation, Soil, or Hydro	logynaturally probl	lematic? (If n	needed, explain	any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach	n site map showing	sampling poi	int locations	s, transects, important features, etc.			
Hydrophytic Vegetation Present?	Ves X No	ls the Sample	d Area				
Hydrophytic Vegetation Tresent:	Yes X No	within a Wetla	und?	Yes X No			
Wetland Hydrology Present?	Yes X No						
Remarks: Depression wetland located abutting Peppe	rmint Branch.						
HYDROLOGY Wetland Hydrology Indicators:			Sec	condary Indicators (minimum of two required)			
Primary Indicators (minimum of one is requi	red; check all that apply)			Surface Soil Cracks (B6)			
X Surface Water (A1)	True Aquatic Plants	(B14)		Sparsely Vegetated Concave Surface (B8)			
X High Water Table (A2)	Hydrogen Sulfide Od	dor (C1)	X	Drainage Patterns (B10)			
X Saturation (A3)	Oxidized Rhizosphe	res on Living Roo	ts (C3)	Moss Trim Lines (B16)			
Water Marks (B1)	Presence of Reduce	ed Iron (C4)	(00)	Dry-Season Water Table (C2)			
Sediment Deposits (B2)	X Thin Muck Surface (	on in Tilled Solis (	(C6)	Crayfish Burrows (C8)			
Algal Mat or Crust (B4)	Other (Explain in Re	marks)		Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		inditio)		Geomorphic Position (D2)			
Inundation Visible on Aerial Imagery (B7	7)			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 (inch	es): <u>2</u>					
Water Table Present? Yes X	No Depth (inch	es): <u>12</u>					
Saturation Present? Yes X	No Depth (inch	es): 0	Wetland Hydr	ology Present? Yes X No			
(Includes capillary fringe)	pritoring wall carial photo		ationa) if availa	blo:			
Describe Recorded Data (Stream gauge, mo	Shiloning well, aenai priolo	is, previous irispe	cuons), ii availa				
Remarks: Wetland hydrology present.							

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

Sampling Point: DP9-W4

	Absol	ute Dominant	Indicator	
Tree Stratum (Plot size: 30 )	% Co	ver Species?	Status	Dominance Test worksheet:
1. Platanus occidentalis	20	Yes	FACW	Number of Dominant Species
2. Acer rubrum	10	Yes	FAC	That Are OBL, FACW, or FAC:6 (A)
3. Carpinus caroliniana	10	Yes	FAC	Total Number of Dominant
4. Pinus taeda	5	No	FAC	Species Across All Strata: 7 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 85.7% (A/B)
7.	_			Prevalence Index worksheet:
	45	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:	23	20% of total cover	9	OBL species $0$ $x 1 = 0$
Sapling/Shrub Stratum (Plot size: 30	)			EACW species $20 \times 2 = 40$
1 Rosa multiflora	_′ 5	Yes	FACU	$FAC \text{ species} \qquad 50 \qquad x 3 = 150$
2		103	1700	$EACU species = 5 \qquad x 4 = -20$
2.				$\frac{1}{100} \frac{1}{100} \frac{1}$
3				$\frac{1}{2} \frac{1}{2} \frac{1}$
4.				Column lotais: $75$ (A) $210$ (B)
5.				Prevalence Index = B/A = 2.80
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
8				X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is $\leq 3.0^1$
	5	=Total Cover		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
50% of total cover:	3	20% of total cover:	1	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. Setaria viridis	10	Yes	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
2. Poaceae sp.	5	Yes	FAC	be present, unless disturbed or problematic.
3.				Definitions of Four Vegetation Strata:
4.				<b>Tree</b> – Woody plants, excluding vines 3 in (7.6 cm) or
5.				more in diameter at breast height (DBH), regardless of
6				height.
7				Sanling/Shrub Weady plants evaluding vince loss
8				than 3 in. DBH and greater than or equal to 3.28 ft
0				(1 m) tall.
10				Harb All berbasseus (non woody) planta, regardloop
				of size, and woody plants less than 3.28 ft tall.
· · · · · · · · · · · · · · · · · · ·				
	15	= I otal Cover	_	Woody Vine – All woody vines greater than 3.28 ft in height
50% of total cover:	8	20% of total cover:	3	licight.
Woody Vine Stratum (Plot size: 30	)			
1. Toxicodendron radicans	10	Yes	FAC	
2				
3.				
4				
5				Undranduatio
	10	=Total Cover		Hydrophytic Vegetation
50% of total cover:	5	20% of total cover:	2	Present? Yes X No
Remarks: (Include photo numbers here or on a se	parate she	et )		
Wetland Vegetation is present	parate she	et.)		
······································				

Profile Desc	ription: (Describe to	the depth ne	eded to docu	nent th	e indicat	or or cor	nfirm the abser	ice of indicat	ors.)	
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	% C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remark	S
0-20	2.5Y 3/2	90	7.5YR 4/6	10	С	М	Loamy/Claye	ey Pro	Prominent redox concentra	
								<u> </u>		
				·						
<sup>1</sup> Type: C=C	oncentration D=Deple	tion RM=Red	uced Matrix MS	S=Maske	ed Sand (	Grains	<sup>2</sup> l o	cation: PI =P	ore Lining M=M	atrix
Hydric Soil	Indicators:			- maona	ou ounu	oranio.		Indicators for	or Problematic I	lydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Be	low Surf	face (S8)	(MLRA 1	47, 148)	2 cm Mu	ck (A10) <b>(MLRA</b>	147)
Histic Ep	vipedon (A2)		 Thin Dark Su	rface (S	9) <b>(MLR</b>	、 A 147, 14	8)	Coast Pr	airie Redox (A16	)
Black Hi	stic (A3)	_	Loamy Mucky	, Minera	al (F1) <b>(M</b>	LRA 136)	)	(MLRA	A 147, 148)	,
Hydroge	n Sulfide (A4)	_	Loamy Gleye	d Matrix	(F2)			Piedmon	t Floodplain Soils	s (F19)
Stratified	Layers (A5)	_	Depleted Mat	rix (F3)				(MLRA	A 136, 147)	
2 cm Mu	ck (A10) <b>(LRR N)</b>	X	Redox Dark S	Surface	(F6)			Red Pare	ent Material (F21	)
Depleted	Below Dark Surface (	(A11)	Depleted Dar	k Surfac	ce (F7)			(outsid	de MLRA 127, 1	47, 148)
Thick Da	rk Surface (A12)	<u>×</u>	Redox Depre	ssions (	(F8)			Very Sha	llow Dark Surfac	e (F22)
Sandy M	lucky Mineral (S1)		Iron-Mangane	ese Mas	ses (F12	) (LRR N	3	Other (E:	xplain in Remark	s)
Sandy G	leyed Matrix (S4)		MLRA 136	)				2		
Sandy R	edox (S5)	_	Umbric Surfa	ce (F13	) (MLRA	122, 136)	)	°Indicators of	hydrophytic veg	etation and
Stripped	Matrix (S6)		Piedmont Flo	odplain	Soils (F1	9) (MLRA	A 148)	wetland I	nydrology must b	e present,
Dark Su	face (S7)		Red Parent N	laterial (	(F21) <b>(MI</b>	_RA 127,	147, 148)	unless di	sturbed or proble	ematic.
Restrictive	Layer (if observed):									
Type:									<b>X</b>	
Depth (ir	iches):						Hydric Soil	Present?	Yes X	NO
Remarks:	araaant									
Hydric solis	bresent.									

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Peppermint Branch	Date/Time: 3/8/2022						
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :						
Site Name/Description: S1	SR Maryville East						
Site Location: Located in the northeastern border and flows into Peppermint 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 0.75 inches	35.780653/-83.913326						
Precipitation this Season vs. Normal : [abnormally wet] elevated average to Source of recent & seasonal precip data : ESRL and AHPS	ow abnormally dry unknown						
Watershed Size : 44, 971 acres   C	county: Blount						
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source:						
Surrounding Land Use : Residential and Agricultural use							
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	one & describe fully in Notes) : Absent						

### Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	$\checkmark$	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	$\checkmark$	WWC
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>	>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	>	WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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		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 perennial stream that flows into Peppermint Branch. Bank Width ranges from 3 to 6 feet and Bank Height ranges from 6 inches to 3 feet. Water depth at the time of the survey ranged from 2 inches to 2 feet. A hybrid

blue gill was found swimming in this stream along with a mud salamander.

A. Geomorphology (Subtotal =11.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	E	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		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	5
12. Natural valley or drainageway	0	0.5	1	1.5
13. At least second order channel on existing USGS			N/s-s	0
or NRCS map	NO :	= 0	Yes	= 3

<b>B. Hydrology</b> (Subtotal = 4)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	۵	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

<b>C. Biology</b> (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	٥	1	2	3
23. Bivalves/mussels	ď	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> 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. One mud salamander

one hybrid blue gill, and several left handed snails were obserbed within this stream. Cattle have crossed this stream.

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

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Peppermint Branch	Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :
Site Name/Description: S2	SR Maryville East
Site Location: Located in the middle of the project boundary	
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 0.75 inches	35.778481/-83.914138
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abnormally dry unknown
Watershed Size : 44, 971 acres	County: Blount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use	
Degree of historical alteration to natural channel morphology & hydrology (circl Severe Moderate Slight	le 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>	>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	~	WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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		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) = 36

#### Justification / Notes :

This stream is Peppermint Branch which starts off property and flows off property.

Bank width ranged from 6 to 8 feet and Bank Height ranged from 2 to 4 feet. Water depth in the channel ranged from 6 inches to 2 feet.

A. Geomorphology (Subtotal =19.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1	2	3
2. Sinuous channel	0	E	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	No = 0			
or			Yes	= 3
NRCS map				

<b>B. Hydrology</b> (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

<b>C. Biology</b> (Subtotal = $10.5$ )	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	٥	1	2	3
23. Bivalves/mussels	σ	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

Total Points =  $\frac{36}{36}$ 

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. Several scuds were found within the stream, cricket frogs were heard coming from the stream

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Peppermint Branch		Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :	
Site Name/Description: S3	SR Maryville East	
Site Location: Located in the middle of the project boundary and flows into peppermint	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 0.75 inches		35.775991/-83.914959
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abno	ormally dry unknown
Watershed Size : 44, 971 acres	County: Bl	ount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey Source
Surrounding Land Use : Residential and Agricultural use		
Degree of historical alteration to natural channel morphology & hydrology (circl Severe Moderate Slight	le one & de Ab	escribe fully in Notes) : esent

### 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>	>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	>	WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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		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) = <sup>3</sup>

#### Justification / Notes :

This stream flows south to north across the project boundary. An ephemeral flows into this stream.

Bank width ranged from 2 to 4 feet and Bank Height ranged from 6 inches to 1 foot. Water depth at the time of

the survey was 6 inches to 1 foot.

A. Geomorphology (Subtotal = 8)	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	9	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		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>B. Hydrology</b> (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		1.5
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

<b>C. Biology</b> (Subtotal = $6.5$ )	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	σ	1	2	3
23. Bivalves/mussels	σ	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	Ο	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> 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 :** Very limited sorting of gravel from silt and sandy substrates. One green frog was observed near the channel.

Total Points =  $\frac{20.5}{20.5}$ 

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Peppermint Branch		Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :	
Site Name/Description: S4	SR Maryville East	
Site Location: Located in the middle of the project boundary and a spring to Peppermin	t 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 0.75 inches		35.779668/-83.9113018
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abn	ormally dry unknown
Watershed Size : 44, 971 acres	County: Bl	ount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey
Surrounding Land Use : Residential and Agricultural use		
Degree of historical alteration to natural channel morphology & hydrology (circl Severe Moderate Slight	le 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	$\checkmark$	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	$\checkmark$	WWC
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>	>	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	~	WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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		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) = <sup>24</sup>

#### Justification / Notes :

This stream is a small spring to Peppermint Branch

Bank width ranged from 1 to 2 feet and Bank Height ranged from 6 inches to 1 foot. Water depth in the channel ranged

from 6 inches to 8 inches

A. Geomorphology (Subtotal =10)	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		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	No :	= 0	Yes	= 3

<b>B. Hydrology</b> (Subtotal = 3.5)	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

<b>C. Biology</b> (Subtotal = $10.5$ )	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	٥	1	2	3
23. Bivalves/mussels	σ	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

Total Points =	24
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Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 1 (Erosional Gully)	Date/Time: 3/8	Date/Time: 3/8/2022	
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :	Project ID :	
Site Name/Description: WWC-1	SR Maryville	e East	
Site Location: Located in the middle of the project boundary			
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 0.75 inches	35.777866/-83.9	15991	
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abnormally dry ur	nknown	
Watershed Size : 44, 971 acres	County: Blount		
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: W Source:	/eb Soil Survey	
Surrounding Land Use : Residential and Agricultural use			
Degree of historical alteration to natural channel morphology & hydrology (circ Severe Moderate Slight	e one & describe fully in N Absent	Notes) :	

### 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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 is an erosional gully located within an agricultural cattle field.

A. Geomorphology (Subtotal = 8)	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>B. Hydrology</b> (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

<b>C. Biology</b> (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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

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

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 2	Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :
Site Name/Description: WWC-2	SR Maryville East
Site Location: Located in the northern portion of the project boundary	
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 0.75 inches	35.779790/-83.917998
Precipitation this Season vs. Normal : abnormally wet elevated average low Source of recent & seasonal precip data : ESRL and AHPS	abnormally dry unknown
Watershed Size : 44, 971 acres   Control	unty: Blount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use	
Degree of historical alteration to natural channel morphology & hydrology (circle of Severe Moderate Slight	ne & describe fully in Notes) : Absent

### Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC.
2. Defined bed and bank absent, vegetation composed of upland and FACU species	$\checkmark$	WWC
3. Watercourse dry anytime during February through April 15th, under normal		WWC
precipitation / groundwater conditions		
4. Daily flow and precipitation records showing feature only flows in direct response		
to rainfall		
5. Presence of multiple populations of obligate lotic organisms with $\geq$ 2 month	/	Stream
aquatic phase	V	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 from agricultural field down through a forested area.

A. Geomorphology (Subtotal = 8)	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>B. Hydrology</b> (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

<b>C. Biology</b> (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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

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

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 3	Dat	e/Time: 3/8/2022	
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Pro	Project ID :	
Site Name/Description: WWC-3	S	R Maryville East	
Site Location: Located in the northern portion of the project boundary. WWC 3	branches	s from WWC 4	
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 0.75 inches	35.7	80164/-83.917546	
Precipitation this Season vs. Normal : abnormally wet elevated average low Source of recent & seasonal precip data : ESRL and AHPS	abnorma	Illy dry unknown	
Watershed Size : 44, 971 acres Court	nty: Blount		
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey	
Surrounding Land Use : Residential and Agricultural use			
Degree of historical alteration to natural channel morphology & hydrology (circle on Severe Moderate Slight	e & descrit Absent	pe fully in Notes) :	

### 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		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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 from agricultural field down through a forested area.

A. Geomorphology (Subtotal = 8)	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>B. Hydrology</b> (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

<b>C. Biology</b> (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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

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

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 4	Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :
Site Name/Description: WWC-4	SR Maryville East
Site Location: Located in the northern portion of the project boundary. WWC 3 bra	inches from WWC 4
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 0.75 inches	35.780172/-83.917557
Precipitation this Season vs. Normal : abnormally wet elevated average low ab Source of recent & seasonal precip data : ESRL and AHPS	normally dry unknown
Watershed Size : 44, 971 acres   County:	Blount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use	
Degree of historical alteration to natural channel morphology & hydrology (circle one & Severe Moderate Slight	describe fully in Notes) : Absent

### Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC.
2. Defined bed and bank absent, vegetation composed of upland and FACU species		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		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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 from agricultural field down through a forested area.

A. Geomorphology (Subtotal = 8)	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>B. Hydrology</b> (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

<b>C. Biology</b> (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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

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

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 5	Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :
Site Name/Description: WWC-5	SR Maryville East
Site Location: Located in the northern portion of the project boundary.	
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 0.75 inches	35.780874/-83.914401
Precipitation this Season vs. Normal : abnormally wet elevated average lov Source of recent & seasonal precip data : ESRL and AHPS	w abnormally dry unknown
Watershed Size : 44, 971 acres Co	ounty: Blount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use	
Degree of historical alteration to natural channel morphology & hydrology (circle of Severe Moderate Slight	one & describe fully in Notes) : Absent

### Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC.
2. Defined bed and bank absent, vegetation composed of upland and FACU species	$\checkmark$	WWC
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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 from agricultural field down through a forested area.

A. Geomorphology (Subtotal = 8)	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>B. Hydrology</b> (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

<b>C. Biology</b> (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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

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

### Notes :

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 6		Date/Time: 3/8/2022	
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :		
Site Name/Description: WWC-6		SR Maryville East	
Site Location: Located centrally within the project site. Flows down into pep	permint	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 0.75 inches	35.778553/-83.913394		
Precipitation this Season vs. Normal : [abnormallv wet] elevated average Ic 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 : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey Source:	
Surrounding Land Use : Residential and Agricultural use			
Degree of historical alteration to natural channel morphology & hydrology (circle           Severe         Moderate         Slight	one & de Ab	escribe fully in Notes) : esent	

### 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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) =** 7.5

#### Justification / Notes :

This WWC flows down from agricultural field down through a forested area. Bank width ranges from 1 to 2 feet and Bank Height ranges from 6 inches to 2 feet. It had rained the day before so water was flowing in this channel

A. Geomorphology (Subtotal = 6)	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		1	2	3
4. Sorting of soil textures or other substrate	G	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel		1	2	3
8. Recent alluvial deposits		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 =🛈		Yes = 3	
NRCS map				

<b>B. Hydrology</b> (Subtotal = 0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	Ο	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	O
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	D	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No =0		Yes =	= 1.5

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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

Total Points =	7.5

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

Notes : One large headcut starts this WWC. Grasses were growing in portions of this WWC.

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 7	Date/Time: 3/8/2022	
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :	
Site Name/Description: WWC-7		SR Maryville East
Site Location: Located centrally within the project site. Flows down into per	opermint	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 0.75 inches	35.777910/-83.914244	
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abn	ormally dry unknown
Watershed Size : 44, 971 acres	County: B	lount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use		
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	e 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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) =** 7.5

#### Justification / Notes :

This WWC flows down from agricultural field down through a forested area. Bank width ranges from 1 to 3 feet and Bank Height ranges from 6 inches to 2 feet. Since it rained the night before water was flowing in the channel.

A. Geomorphology (Subtotal = 6)	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		1	2	3
4. Sorting of soil textures or other substrate	G	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
6. Depositional bars or benches	0	1	2	3
7. Braided channel		1	2	3
8. Recent alluvial deposits		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 =🛈		Yes = 3	
NRCS map				

<b>B. Hydrology</b> (Subtotal = 0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	Ο	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	O
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	ل	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5	

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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> Focus is on the presence of aquatic or wetland plants.

Total Points = $\frac{1}{2}$	7.5	-			
Under Normal Condi	itions, Watercourse	e is a	Wet	Weatl	her

Conveyance if Secondary Indicator Score < 19 points

Notes : Grasses were growing in portions of this WWC.

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 8	Date/Time: 3/8/2022	
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC-8		SR Maryville East
Site Location: Located centrally within the project site. Flows down into pe	ppermint	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 0.75 inches	35.777043/-83.916247	
Precipitation this Season vs. Normal : abnormally wet elevated average Source of recent & seasonal precip data : ESRL and AHPS	low abn	ormally dry unknown
Watershed Size : 44, 971 acres	County: B	lount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use		
Degree of historical alteration to natural channel morphology & hydrology (circle Severe Moderate Slight	e 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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) =** 7.5

#### Justification / Notes :

This WWC flows from an agricultural cattle field down into peppermint branch. Bank width was about 1 foot long and bank height ranges from 6 inches to 1 foot. No water was within the channel during the time of the survey.

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1 🕻	2	3
2. Sinuous channel	Q	1	2	3
3. In-channel structure: riffle-pool sequences		1	2	3
4. Sorting of soil textures or other substrate	G	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		0.5	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	No =			
or			Yes	= 3
NRCS map				

<b>B. Hydrology</b> (Subtotal = 0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	Ο	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	O
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	D	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0		Yes =	= 1.5

<b>C. Biology</b> (Subtotal = 1.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	9
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	٥	0.5	1	1.5
25. Macrobenthos (record type & abundance)	O	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> 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 :** Grasses were growing in portions of this WWC. Flows into Peppermint Branch. Cows have been walking through this WWC.

Total Points =  $\frac{6}{2}$ 

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 9		Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :	
Site Name/Description: WWC-9	SR Maryville East	
Site Location: Located centrally within the project site. Flows down into pepp	ermint	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 0.75 inches		35.776004/-83.915076
Precipitation this Season vs. Normal : abnormally wet elevated average low Source of recent & seasonal precip data : ESRL and AHPS	v abn	ormally dry unknown
Watershed Size : 44, 971 acres   Column 1	ounty: Bl	lount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm		USDA: Web Soil Survey Source:
Surrounding Land Use : Residential and Agricultural use		
Degree of historical alteration to natural channel morphology & hydrology (circle of Severe Moderate Slight	ne & 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
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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) =** 7.5

#### Justification / Notes :

This WWC flows from an agricultural cattle field down into stream 3. Bank width was about 1 to 3 feet long and bank height ranges from 6 inches to 1 foot. Since it rained the night before very little water was flowing in the channel

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1 🕻	2	3
2. Sinuous channel	Q	1	2	3
3. In-channel structure: riffle-pool sequences		1	2	3
4. Sorting of soil textures or other substrate	G	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		0.5	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	9	1.5
13. At least second order channel on existing USGS	No =			
or			Yes	= 3
NRCS map				

<b>B. Hydrology</b> (Subtotal = 0)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	Ο	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	D
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	ل	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No =0		Yes =	= 1.5

<b>C. Biology</b> (Subtotal = 1.5)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	9
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	٥	0.5	1	1.5
25. Macrobenthos (record type & abundance)	O	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> 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 :** This WWC has a small headcut starting it within the cow pasture and some small logs acting as grade controls

Total Points =  $\frac{6}{2}$ 

### Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC 10	Date/Time: 3/8/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik	Project ID :
Site Name/Description: WWC-10	SR Maryville East
Site Location: Located on the southern end of the Site and flows into S3	
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 0.75 inches	35.773757/-83.913441
Precipitation this Season vs. Normal : abnormally wet elevated average lo Source of recent & seasonal precip data : ESRL and AHPS	w abnormally dry unknown
Watershed Size : 44, 971 acres Co	ounty: Blount
Soil Type(s) / Geology : Lindside silt loam, 0 to 3 percent slopes, occasionally flooded, warm	USDA: Web Soil Survey Source
Surrounding Land Use : Residential and Agricultural use	
Degree of historical alteration to natural channel morphology & hydrology (circle of Severe Moderate Slight	one & describe fully in Notes) : Absent

### Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC.
2. Defined bed and bank absent, vegetation composed of upland and FACU species	$\checkmark$	WWC
<ol> <li>Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions</li> </ol>		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
<ol> <li>Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase</li> </ol>	$\checkmark$	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) = 9.5

#### Justification / Notes :

This WWC flows from an agricultural cattle field down into stream 3. Bank width was about 2 to 3 feet long and

bank height ranges from 6 inches to 1 foot. On the first day of the site visit this feature was not flowing, but on the second day it rained causing this feature to flow.

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong
1. Continuous bed and bank	0	1 🕻	2	3
2. Sinuous channel	0	D 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 =🛈		Yes	= 3
NRCS map				

<b>B. Hydrology</b> (Subtotal = 1.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	9	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)	٩	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No =0		Yes =	= 1.5

<b>C. Biology</b> (Subtotal = 2)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2		0
21. Rooted plants in the thalweg 1	3	2	Ð	0
22. Crayfish in stream (exclude in floodplain)	0	1	2	3
23. Bivalves/mussels	0	1	2	3
24. Amphibians	٥	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

<sup>1</sup> Focus is on the presence of terrestrial plants. <sup>2</sup> 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 :** The second half of this channel loses the bed and bank and instead acts as sheet flow over grasses within the pasture.

Total Points =  $\frac{9.5}{1000}$ 

March 2022 Mobilization			
	<u>1<sup>st</sup> Month</u> Prior	2 <sup>nd</sup> Month prior	<u>3<sup>rd</sup> Month</u> Prior
Criteria- values are in inches	February- 22	January- 22	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	8.0	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

Photographs



































Photo 34- Stream 4 (UNT to Peppermint Branch) facing upstream and west.