

March 25, 2022

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

Subject: SR Maryville Blount

Hydrologic Determination Request

Blount County, Tennessee

Ms. Winburn,

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

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

Project Location: 1720 Robert C Jackson Dr., Maryville, TN 37801

Basin: Pistol Creek Watershed (Hydrologic Unit Code [HUC] 060102010108)

Nearest City: Maryville, TN **County:** Blount County

Center Decimal Degree Coordinates of Project Area: 35.760130°, -84.002582°

USGS Quadrangle Name: Louisville, TN (1968)



Project Site Description

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

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

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

Table 1. Summary of USDA NRCS Soils within the Site

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

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



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

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

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

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

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

Jurisdictional Delineation and Hydrological Determination

On March 7 and 8, 2022, HDR environmental scientists Lyranda Thiem, Tennessee Qualified Hydrologic Professional in Training (TN-QHP-IT), and Caroline Ryciuk reviewed the Project Site for waters of the U.S. under Section 404 of the CWA. Jurisdictional waters of the U.S. were delineated according to the methodology and guidance described in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual, USACE 2008 Rapanos Guidance, and the 2012 USACE Eastern Mountains and Piedmont Regional Supplement (Version 2.0). Streams were classified utilizing the methodology and guidance provided in Regulatory Guidance Letter (RGL) 05-05 and the 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, according to the RGL 05-05 and TDEC Water Pollution Control Guidance for Making Hydrologic Determinations, there are two (2) stream channels, four (4) wetlands, and five (5) WWCs located within the Project Site (Appendix A, Figure 7).

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

Wetland Waters

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

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

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

¹PEM = Palustrine emergent

Streams

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

²PFO = Palustrine forested



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

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

¹R2UB = Riverine, Lower Perennial, Unconsolidated Bottom Sand ²R5UB2= Sand, Unconsolidated Bottom, Unknown Perennial, Riverine

Wet Weather Conveyances

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

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

Feature Name	Starting Coordinates (decimal degrees)	Ending Coordinates (decimal degrees)	Estimated Amount of WWC in Review Area						
Wet Weather C	Wet Weather Conveyances								
WWC 1	35.761395, -84.002439	35.760594, -84.001028	Length: 553 ft Width: 1-6 ft Area: 0.04 ac.						
WWC 2	35.761199, -84.002180	35.761163, -84.002204	Length: 15 ft Width: 1 ft Area: 0.0003 ac.						
WWC 3	35.760758, -84.001901	35.760232, -84.002656	Length: 321 ft Width: 1 ft Area: 0.01 ac.						
WWC 4	35.760415, -84.002647	35.760254, -84.002851	Length: 84 ft Width: 1-2 ft Area: 0.003 ac.						
WWC 5	35.760434, -84.003648	35.760364, -84.003113	Length: 163 ft Width: 1-3 ft Area: 0.01 ac.						
		Total WWCs:	Length: 1,136 ft Area: 0.06 ac.						



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

Sincerely,

Lyranda Thiem TN-QHPIT

Environmental Scientist

Lyranda Thism

Gracelyn Jones

Environmental Scientist

Bracelyn Jones

Appendices: Appendix A: Figures

Figure 1. Project Location

Figure 2. USGS Topographic Quadrangles

Figure 3. Aerial Imagery

Figure 4. NRCS Soils Survey of Blount County

Figure 5. USGS National Hydrography Dataset, USFWS National

Wetlands Inventory, and FEMA Floodplains

Figure 6. HUC 12 Watershed Figure 7. Delineated Features

Appendix B: Data Forms and Normal Weather Conditions

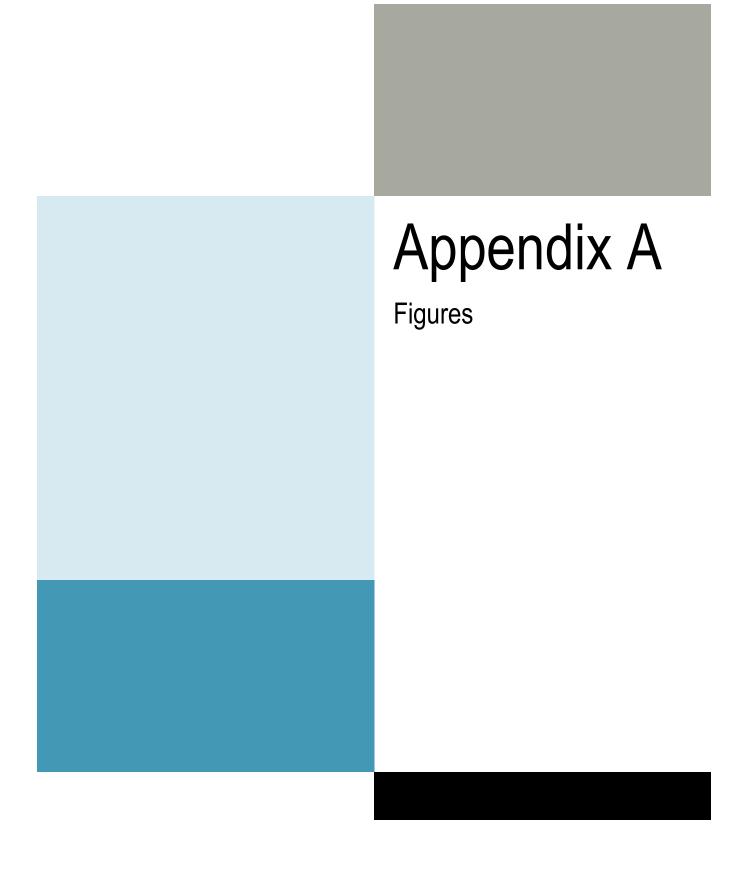
USACE Wetland Determination Data Forms (DP1-DP8)

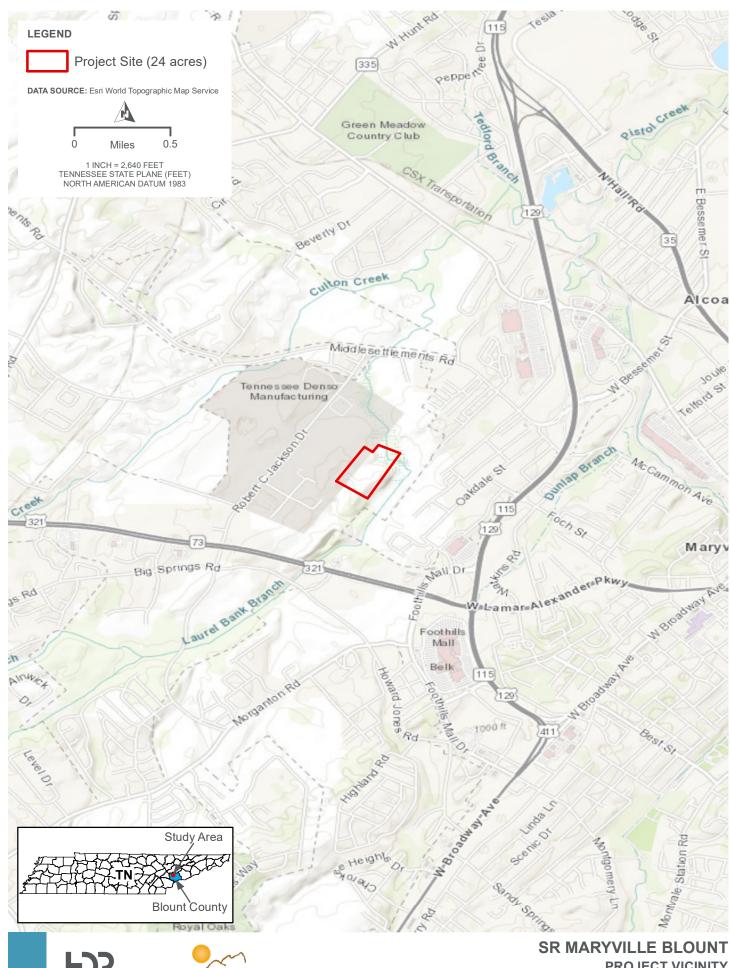
Hydrologic Determination Data Sheets

Normal Weather Conditions

Appendix C: Site Photographs

cc: Luke Wilkinson, Silicon Ranch Corporation





SILICON RANCH

PROJECT VICINITY

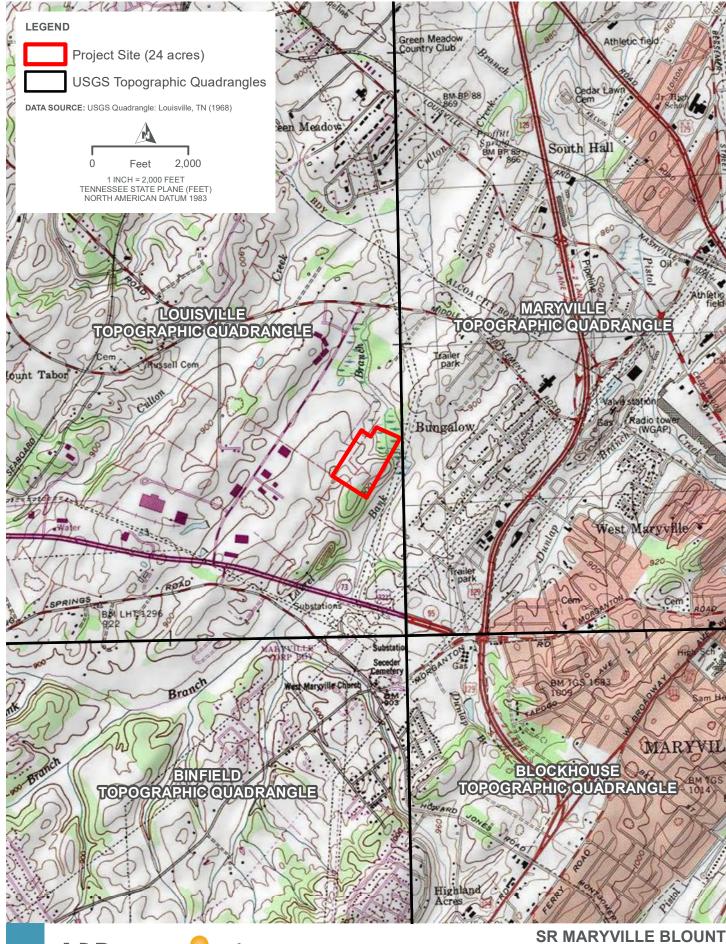
FIGURE 1





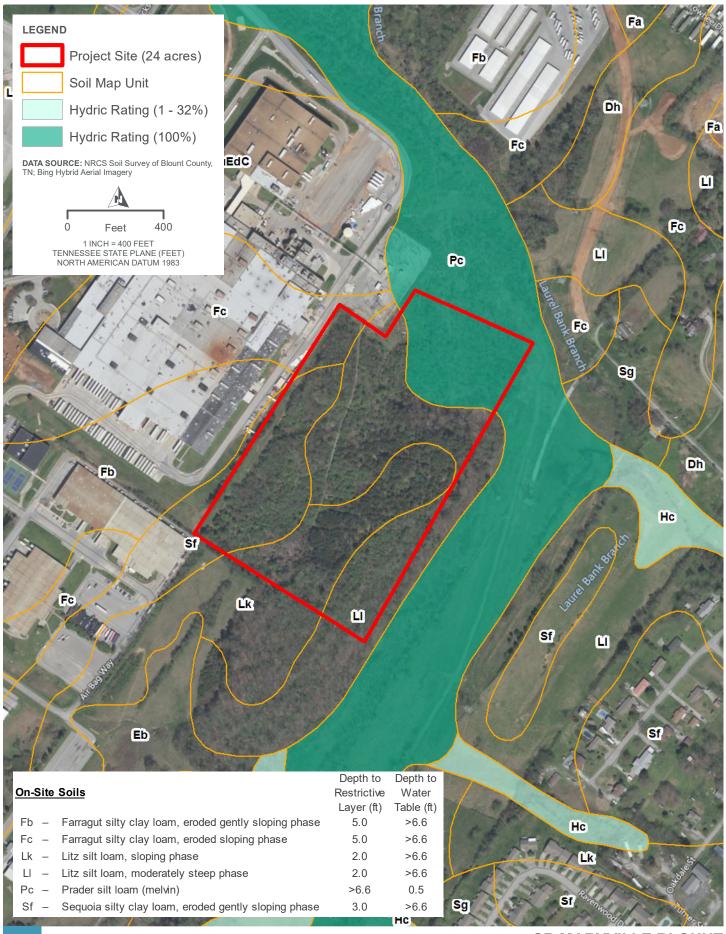
SR MARYVILLE BLOUNT
AERIAL IMAGERY

FIGURE 2



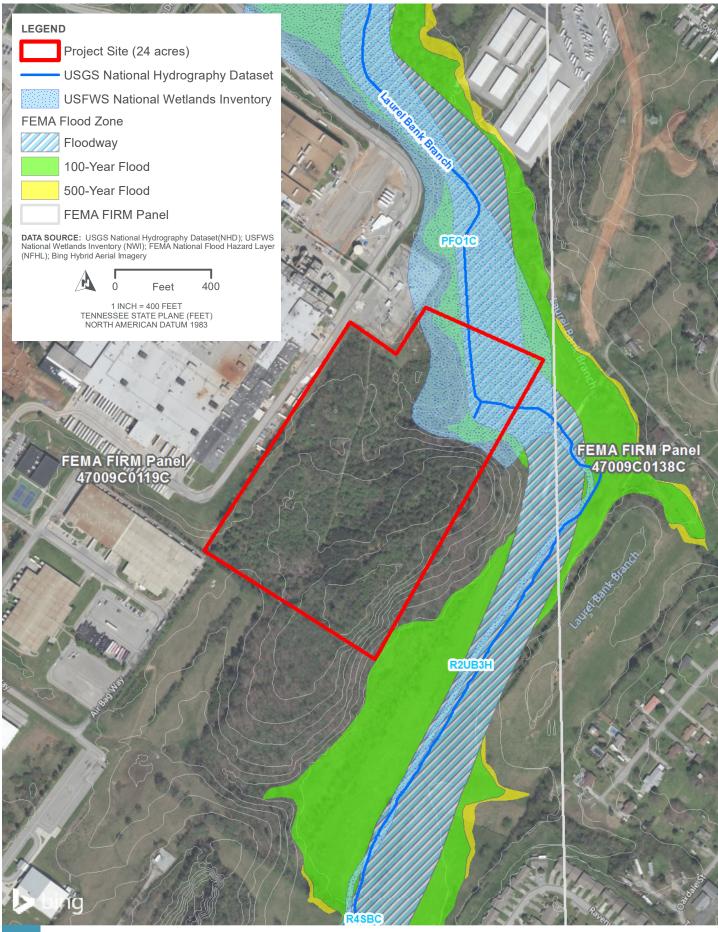
TOPOGRAPHIC MAP

SILICON RANCH





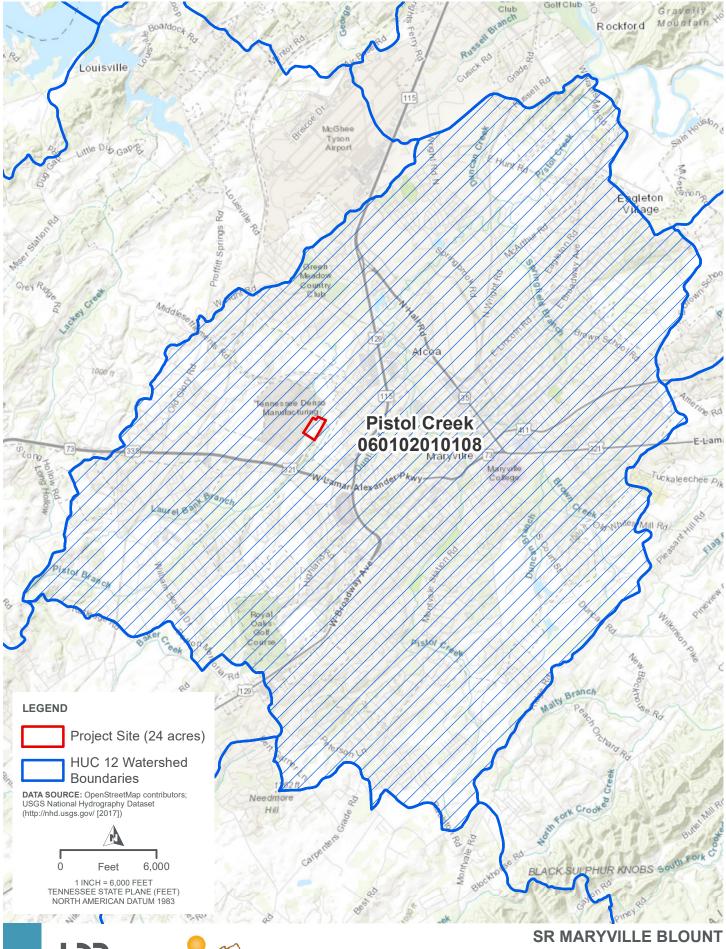
SR MARYVILLE BLOUNT NRCS SOIL SURVEY OF BLOUNT COUNTY, TN



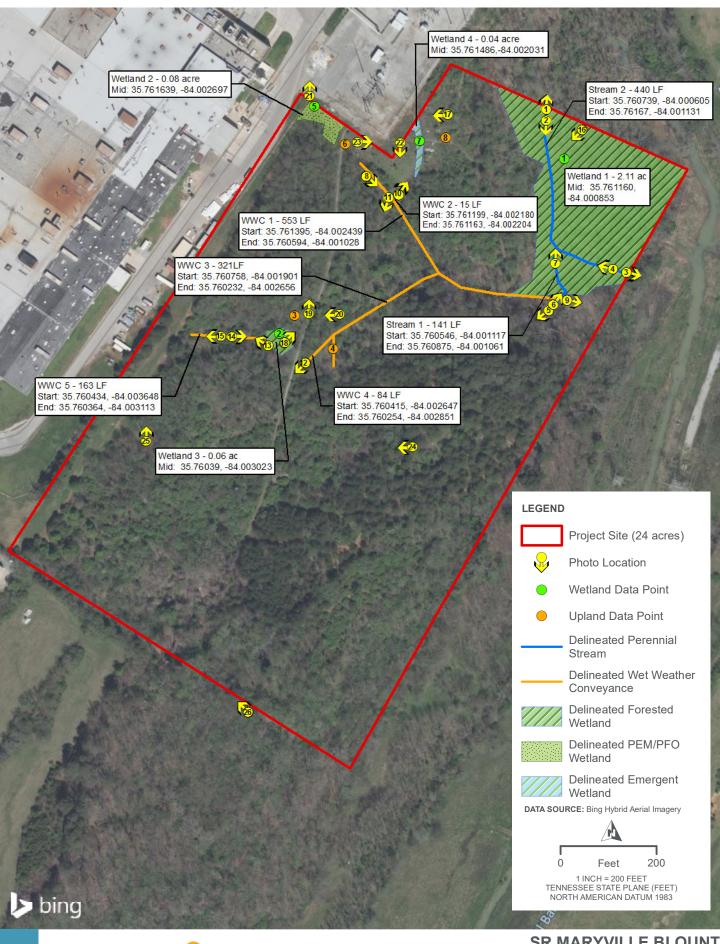


SR MARYVILLE BLOUNT NHD, NWI AND FEMA FLOOD ZONES

FIGURE 5



HUC 12 WATERSHED





SR MARYVILLE BLOUNT DELINEATED FEATURES

FIGURE 7

Appendix B **Data Forms and Normal Weather Conditions**

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)

		ity/County: Blount County	Sampling Date: 3/7/2022
Applicant/Owner: SRC		State: TN	Sampling Point: DP1-W1
Investigator(s): L.Thiem and C. Rycuik Landform (hillside, terrace, etc.): depression Subregion (LRR or MLRA): LRR N Lat: 35.76116 Local relief (concave, convex, none): concave Long: -84.000853 NWI classification:			
Landform (hillside, terrace, etc.): depressi	on Local rel	ief (concave, convex, none): concave	Slope (%): 2-5
Subregion (LRR or MLRA): LRR N		•	Datum: NAD86
Soil Map Unit Name: Prader silt loam			tion: PFO
· · · · · · · · · · · · · · · · · · ·	ite typical for this time of year?		explain in Remarks.)
, ,	,,		
Are Vegetation, Soil, or Hydr	ology naturally problemation	c? (If needed, explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attac	h site map showing sam	pling point locations, transects, ir	nportant features, etc
Hydrophytic Vegetation Present?	Yes X No Is th	ne Sampled Area	
Hydric Soil Present?	Yes X No with	nin a Wetland? Yes X	No
Wetland Hydrology Present?	Yes X No		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is requ	uired; check all that apply)	Surface Soil Crac	ks (B6)
X Surface Water (A1)	True Aquatic Plants (B14)		ed Concave Surface (B8)
X High Water Table (A2)	Hydrogen Sulfide Odor (C1		
X Saturation (A3)	Oxidized Rhizospheres on		:
Water Marks (B1)	Presence of Reduced Iron	· ·	
Sediment Deposits (B2)	Recent Iron Reduction in T		
Drift Deposits (B3)	X Thin Muck Surface (C7) Other (Explain in Remarks		on Aerial Imagery (C9)
Algal Mat or Crust (B4) Iron Deposits (B5)	Other (Explain in Remarks) Stunted or Stress Geomorphic Posit	
Inundation Visible on Aerial Imagery (E	37)	Shallow Aquitard	
X Water-Stained Leaves (B9)	,,,	Microtopographic	
Aquatic Fauna (B13)		FAC-Neutral Test	·
Field Observations:			
Surface Water Present? Yes X	No Depth (inches):	6	
Water Table Present? Yes X	No Depth (inches):	0	
Saturation Present? Yes X	No Depth (inches):	0 Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, m	nonitoring well, aerial photos, prev	vious inspections), if available:	
Remarks: Wetland hydrology present.			

/EGETATION	(Four Strata)	 Use scientific 	names of plants.
------------	---------------	------------------------------------	------------------

/EGETATION (Four Strata) – Use scier	ntific names	of plants.		Sampling Point: DP1-W1
Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Liquidambar styraciflua	20	Yes	FAC	Number of Dominant Species
2. Acer rubrum	20	Yes	FAC	That Are OBL, FACW, or FAC: 8 (A)
3. Quercus rubra	20	Yes	FACU	Total Number of Dominant
4.				Species Across All Strata: 9 (B)
5.				Percent of Dominant Species
5.	_			That Are OBL, FACW, or FAC: 88.9% (A/B)
7.				Prevalence Index worksheet:
	60	=Total Cover		Total % Cover of: Multiply by:
50% of total cover:		of total cover:	12	OBL species 5 x 1 = 5
Sapling/Shrub Stratum (Plot size: 30)	o. 101a. 0070		FACW species 25 x 2 = 50
1. Salix nigra	_' 5	Yes	OBL	FAC species 75 x 3 = 225
<u>*</u>		Yes	FAC	FACU species 20 x 4 = 80
2. <u>Liquidambar styraciflua</u>		res	FAC	
3.				UPL species 0 x 5 = 0
4				Column Totals 125 (A) 360 (B)
5	_			Prevalence Index = B/A = 2.88
5				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
3.	_			X 2 - Dominance Test is >50%
9				X 3 - Prevalence Index is ≤3.0 ¹
	10	=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	5 20%	of total cover:	2	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Juncus effusus	10	Yes	FACW	¹Indicators of hydric soil and wetland hydrology must
2. Carex sp.*	10	Yes	FACW	be present, unless disturbed or problematic.
3. Poaceae sp.*	<u> </u>	Yes	FACW	Definitions of Four Vegetation Strata:
4.				
	_	-		Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
·				height.
7				
	_			Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft
3				(1 m) tall.
9	_			
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
	25	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover:	13 20%	of total cover:	5	height.
Woody Vine Stratum (Plot size: 30	1			
1. Toxicodendron radicans	30	Yes	FAC	
2.				
3.				
4.				
·· 5.	_			
	30	=Total Cover		Hydrophytic
E00/			c	Vegetation
50% of total cover:	<u>15</u> 20%	of total cover:	6	Present? Yes X No

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

^{*}Wetland indicator status ranges from OBL-UPL. FAWC status asigned for this survey.

SOIL Sampling Point: DP1-W1

Profile Desc	ription: (Describe to	the dep	th needed to docu	ment th	e indicat	or or cor	nfirm the absence o	f indicators.)
Depth	Matrix			x Featu				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/2	90	7.5YR 5/8	10	С	М	Loamy/Clayey	Prominent redox concentrations
10-20	10YR 4/2	80	7.5YR 5/8	20			Loamy/Clayey	Prominent redox concentrations
								-
						—		
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indi	cators for Problematic Hydric Soils ³ :
Histosol (A1)		Polyvalue Be	low Sur	face (S8)	(MLRA 1	47, 148)2	2 cm Muck (A10) (MLRA 147)
Histic Epi	pedon (A2)		Thin Dark Su	ırface (S	9) (MLR /	A 147, 14	8)(Coast Prairie Redox (A16)
Black His	tic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136)	(MLRA 147, 148)
	Sulfide (A4)		Loamy Gleye				'	Piedmont Floodplain Soils (F19)
	Layers (A5)		X Depleted Ma	. ,				(MLRA 136, 147)
	ck (A10) (LRR N)		Redox Dark				'	Red Parent Material (F21)
	Below Dark Surface	(A11)	Depleted Dai					(outside MLRA 127, 147, 148)
	k Surface (A12)		X Redox Depre					Very Shallow Dark Surface (F22)
	ucky Mineral (S1)		Iron-Mangan		sses (F12) (LRR N	, <u> </u>	Other (Explain in Remarks)
	eyed Matrix (S4)		MLRA 136	•	\	100 100	31. 19	the second second second second
Sandy Re			Umbric Surfa					cators of hydrophytic vegetation and
	Matrix (S6)		Piedmont Flo					wetland hydrology must be present,
Dark Surf			Red Parent N	viateriai	(F21) (ML	_RA 127,	147, 148)	unless disturbed or problematic.
	ayer (if observed):							
Type:								
Depth (in	cnes):						Hydric Soil Pres	ent? Yes <u>X</u> No
Remarks: Hydric soils p	rocont							
r iyuric solis p	resem.							

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)

Applicant/Owner: SRC Investigator(s): L.Thiem and C. Rycuik Landform (hillside, terrace, etc.): depression Subregion (LRR or MLRA): LRR N Soil Map Unit Name: Litz silt loam, moderately: Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic	Section, Towns Local relief (conca	ship, Range:ave, convex, none): concave	mpling Point: DP2-W3 Slope (%): 2-5
Landform (hillside, terrace, etc.): depression Subregion (LRR or MLRA): LRR N Soil Map Unit Name: Litz silt loam, moderately: Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrologic	Local relief (conca	ave, convex, none): concave	_ Slope (%):2-5
Subregion (LRR or MLRA): LRR N Soil Map Unit Name: Litz silt loam, moderately state climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrolog		, <u> </u>	Slope (%): 2-5
Soil Map Unit Name: Litz silt loam, moderately state climatic / hydrologic conditions on the site to the Vegetation, Soil, or Hydrolog	Lat: 35.76039		-
Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrolog	_	Long: -84.003023	Datum: NAD86
Are climatic / hydrologic conditions on the site ty Are Vegetation, Soil, or Hydrolog	steep phase	NWI classification:	PFO
Are Vegetation, Soil, or Hydrolog	• •		in in Remarks.)
	,	re "Normal Circumstances" present?	Yes X No
Are Vegetation, Soil, or Hydrolog	gynaturally problematic? (I	f needed, explain any answers in Remar	ks.)
SUMMARY OF FINDINGS – Attach s	ite map showing sampling p	oint locations, transects, impo	rtant features, etc
Hydrophytic Vegetation Present? Ye	es X No Is the Samp	led Area	_
Hydric Soil Present? Ye	es X No within a We	tland? Yes_X_ No	,
Wetland Hydrology Present? Ye	es X No		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (min	imum of two required)
Primary Indicators (minimum of one is required	յ; check all that apply)	Surface Soil Cracks (E	36)
X Surface Water (A1)	True Aquatic Plants (B14)	X Sparsely Vegetated Co	oncave Surface (B8)
X High Water Table (A2)	Hydrogen Sulfide Odor (C1)	X Drainage Patterns (B1	0)
X Saturation (A3)	Oxidized Rhizospheres on Living Ro		
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season Water Tal	
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soil		
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visible on A	0 , ,
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stressed P	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)		Geomorphic Position (Shallow Aquitard (D3)	•
X Water-Stained Leaves (B9)		Microtopographic Relie	
Aquatic Fauna (B13)		FAC-Neutral Test (D5)	• •
Field Observations:			
	lo Depth (inches): 10		
<u></u>	lo Depth (inches): 0		
Saturation Present? Yes X No.	lo Depth (inches): 0	Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monit	toring well, aerial photos, previous inst	pections), if available:	
Remarks:			
Wetland hydrology present.			

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP2-W3 Absolute Dominant Indicator 30 Species? **Dominance Test worksheet:** <u>Tree Stratum</u> (Plot size: % Cover Status 1. Liquidambar styraciflua 20 Yes FAC **Number of Dominant Species** 5 FAC 2. Acer rubrum No That Are OBL, FACW, or FAC: (A) 3. Carpinus caroliniana 20 Yes FAC **Total Number of Dominant** 4. Celtis occidentalis 10 No **FACU** Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 75.0% (A/B) Prevalence Index worksheet: 55 =Total Cover Total % Cover of: Multiply by: OBL species 0 50% of total cover: 28 20% of total cover: x 1 =0 Sapling/Shrub Stratum (Plot size: 30) 0 FACW species x 2 = Ligustrum sinense FACU FAC species x 3 = 2. **FACU** species x 4 = 0 x 5 = 0 3. UPL species 4. Column Totals: 80 265 (B) 3.31 5. Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% 8. 9.

15 =Total Cover

20% of total cover:

FACW

FACW

7.					
8.					
9.					
10.					
11.					
				=Total Cover	
	50% of total cover:		20	% of total cover:	
Wo	ody Vine Stratum (Plot size:)				
1.	Toxicodendron radicans		10	Yes	FAC
2.					
3.					
4.					
5.					
			10	=Total Cover	
	50% of total cover:	5	20	% of total cover:	2

50% of total cover:

Herb Stratum (Plot size: 5)

1.

2.

3.

4.

5.

3 - Prevalence Index is ≤3.01

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

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Four Vegetation Strata:

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

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.

Hvdrophvtic Vegetation Present?

Yes X

No

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

SOIL Sampling Point: DP2-W3

Profile Desc	ription: (Describe to	o the dept	h needed to docu	ment th	e indicat	or or cor	nfirm the absence o	findicators.)	
Depth	Matrix			x Featur					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-10	10YR 4/2	100					Loamy/Clayey		
									-
									_
10-20	10YR 4/2	95	10YR 5/6	5	С	M	Loamy/Clayey	Prominent redox concentrat	tions
									-
									_
			_						
¹ Type: C=Co	ncentration, D=Deple	etion. RM=	Reduced Matrix. M	S=Mask	ed Sand (Grains.	² Location	n: PL=Pore Lining, M=Matrix.	-
Hydric Soil II		,						cators for Problematic Hydric S	oils³:
Histosol (Polyvalue Be	low Surf	face (S8)	(MLRA 1		2 cm Muck (A10) (MLRA 147)	
I — `	pedon (A2)		Thin Dark Su		, ,	•	· · · —	Coast Prairie Redox (A16)	
Black His			Loamy Muck					(MLRA 147, 148)	
Hydrogen	Sulfide (A4)		Loamy Gleye	ed Matrix	(F2)		F	Piedmont Floodplain Soils (F19)	
Stratified	Layers (A5)		X Depleted Ma	trix (F3)				(MLRA 136, 147)	
2 cm Muc	ck (A10) (LRR N)		Redox Dark	Surface	(F6)		F	Red Parent Material (F21)	
Depleted	Below Dark Surface	(A11)	Depleted Da	rk Surfac	ce (F7)			(outside MLRA 127, 147, 148)	
Thick Dar	k Surface (A12)		X Redox Depre	essions ((F8)			/ery Shallow Dark Surface (F22)	
	ucky Mineral (S1)		Iron-Mangan		sses (F12) (LRR N	,(Other (Explain in Remarks)	
	eyed Matrix (S4)		MLRA 136	•			. 3		_
Sandy Re			Umbric Surfa					cators of hydrophytic vegetation a	
	Matrix (S6)		Piedmont Flo					vetland hydrology must be presen	nt,
Dark Surf			Red Parent N	Material	(F21) (ML	_RA 127,	147, 148) և	ınless disturbed or problematic.	
	ayer (if observed):								
Type:								.a v v v	
Depth (in	cnes):						Hydric Soil Prese	ent? Yes X No	
Remarks:	rocent								
Hydric soils p	resent.								
I									

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

ENG FORM 6116-4-SG, JUL 2018

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)

Eastern Mountains and Piedmont - Version 2 0

Project/Site: SR Maryville Blount		City/County: Blount County	unty	_Sampling Date:	3/8/2022		
Applicant/Owner: SRC			State: TN	Sampling Point:	DP3-UP1		
Investigator(s): L. Thiem and C. Rycuik		Section, Township, Range:					
Landform (hillside, terrace, etc.): hillside	Lo	ocal relief (concave, convex, i	none): concave	Slope (%):	2-5		
Subregion (LRR or MLRA): LRR N	Lat: 35.760520	·	4.002915		NAD86		
Soil Map Unit Name: Litz silt loam, moderat			NWI classifica				
•	•			-	- \		
Are climatic / hydrologic conditions on the si	-			explain in Remarks			
Are Vegetation , Soil , or Hydro			rcumstances" present	? Yes X	NO		
Are Vegetation, Soil, or Hydro	ologynaturally probl	lematic? (If needed, exp	lain any answers in Re	emarks.)			
SUMMARY OF FINDINGS – Attac	h site map showing	sampling point locati	ons, transects, iı	mportant featu	ıres, etc.		
Lhuduanhutia Vanatatian Duasanto	Van Na V	In the Computed Avec					
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No X Yes No X	Is the Sampled Area within a Wetland?	Yes	No. Y			
Wetland Hydrology Present?	Yes No X	within a Wetland:		No X			
, ,,	163 10 X						
Remarks: Upland point located uphill from Wetland 3	(PEO)						
Opiana point located uprilii from Welland 3	(FFO)						
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators		<u>required)</u>		
Primary Indicators (minimum of one is requ	ired; check all that apply)		Surface Soil Crac	ks (B6)			
Surface Water (A1)	True Aquatic Plants	(B14)		ed Concave Surfa	ce (B8)		
High Water Table (A2)	Hydrogen Sulfide Od	dor (C1)	Drainage Patterns (B10)				
Saturation (A3)	Oxidized Rhizosphe	res on Living Roots (C3)	Moss Trim Lines (B16)				
Water Marks (B1)	Presence of Reduce	ed Iron (C4)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)	Recent Iron Reduction	on in Tilled Soils (C6)	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 Stress	ed Plants (D1)			
Iron Deposits (B5)			Geomorphic Posi	tion (D2)			
Inundation Visible on Aerial Imagery (B	7)		Shallow Aquitard	(D3)			
Water-Stained Leaves (B9)			Microtopographic	Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutral Test	(D5)			
Field Observations:				·			
Surface Water Present? Yes	No X Depth (inch	es):					
	No X Depth (inch						
Saturation Present? Yes	No X Depth (inch		lydrology Present?	Yes	No X		
(includes capillary fringe)			., a. o.		· · · · · · · · ·		
Describe Recorded Data (stream gauge, m	onitoring well, aerial photo	ns previous inspections) if a	vailable:				
	onnorming tron, domai prioto	, e, p. e					
Remarks:							
Wetland Hydrology is not present.							
, 6, 1							

VEGETATION (Four Strata) – Use scientific names of plants.	
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Total Charles (Diet sies)	Absolute	Dominant	Indicator	Daminanaa Taatuusikahaati
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Celtis occidentalis	35	Yes	FACU	Number of Dominant Species
2. Pyrus calleryana	15	Yes	UPL	That Are OBL, FACW, or FAC: 0 (A)
3. 4.				Total Number of Dominant Species Across All Strata:6(B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 0.0% (A/B)
7.				Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
50% of total cover: 25	20%	of total cover:	10	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 30)				FACW species 0 x 2 = 0
1. Ligustrum sinense	15	Yes	FACU	FAC species 0 x 3 = 0
2.				FACU species 115 x 4 = 460
3.				UPL species 20 x 5 = 100
4.				Column Totals: 135 (A) 560 (B)
5.				Prevalence Index = B/A = 4.15
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
8.				2 - Dominance Test is >50%
9.				3 - Prevalence Index is ≤3.0 ¹
· -	15	=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 8	data in Remarks or on a separate sheet)			
Herb Stratum (Plot size: 5)		of total cover:	3	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Poaceae sp. *	30	Yes	FACU	¹ Indicators of hydric soil and wetland hydrology must
2. Trifolium repens	10	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.
	50	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 25	20%	of total cover:	10	height.
Woody Vine Stratum (Plot size: 30)				
1. Lonicera japonica	20	Yes	FACU	
2.				
3.				
4.		-		
5.				
	20	=Total Cover		Hydrophytic
50% of total cover			1	Vegetation Present? Yes No X
50% of total cover:10		of total cover:	4	Present? Yes No X

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

Sampling Point:

DP3-UP1

 $^{^{\}star}$ Wetland status ranges from OBL-UPL. Wetland status given FACU for this survey.

SOIL Sampling Point: DP3-UP1

Profile Desc	ription: (Describe to	o the dep	th needed to docu	ment th	e indicat	or or cor	firm the abse	nce of indicat	ors.)		
Depth	Matrix		Redo	x Featu	res						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rem	arks	
0-2	10YR 4/4	100					Loamy/Clay	/ey			
2-20	7.5YR 4/4	70	2.5Y 5/4	30	С	М	Loamy/Clay	/ev			
	7.011(4)4		2.01 0/4		<u> </u>		Loanly/Ola				
										_	
											
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² L	ocation: PL=P	ore Lining, M=	Matrix.	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :											
Histosol ((A1)		Polyvalue Be	low Sur	face (S8)	(MLRA 1	47, 148)	2 cm Mu	ck (A10) (MLF	RA 147)	
Histic Epi	ipedon (A2)		Thin Dark Sເ	ırface (S	9) (MLR	A 147, 14	8)	Coast Pra	airie Redox (A	\16)	
Black His	stic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136))	(MLRA	147, 148)		
Hydroger	n Sulfide (A4)		Loamy Gleye	d Matrix	(F2)			Piedmon	t Floodplain S	oils (F19)	
	Layers (A5)		Depleted Ma	` '					136, 147)		
	ck (A10) (LRR N)		Redox Dark						ent Material (F	·	
	Below Dark Surface	(A11)	Depleted Da					•	le MLRA 127		
	rk Surface (A12)		Redox Depre)			llow Dark Sur	· ·	
	ucky Mineral (S1) eyed Matrix (S4)		Iron-Mangan MLRA 136		sses (F 12	(LKK N	,	Other (E)	plain in Rema	arks)	
Sandy Re			Umbric Surfa	•) (MI RA	122 136	1	³ Indicators of	hydrophytic y	regetation and	
	Matrix (S6)		Piedmont Flo						ydrology mus	-	
Dark Sur			Red Parent N						sturbed or pro	-	
	.ayer (if observed):						<u>, , , </u>		· ·		
Type:	ayor (ii oboorrou).										
Depth (in	ches):						Hydric Soi	I Present?	Yes	No_X_	
Remarks:	-						•				
	s were not present.										

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

ENG FORM 6116-4-SG, JUL 2018

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)

Eastern Mountains and Piedmont - Version 2 0

Project/Site: SR Maryville Blount		City/County: Bloun	t County	Sampling Date: 3/8/2022			
Applicant/Owner: SRC			State: TN	Sampling Point: DP4-UP2			
Investigator(s): L. Thiem and C. Rycuik		Section, Township, Rar	nge:				
Landform (hillside, terrace, etc.): hillside		Local relief (concave, conv		Slope (%): 2-5			
Subregion (LRR or MLRA): LRR N	Lat: 35.760333	 B Lon	Long: -84.002647 Datum: NAD86				
Soil Map Unit Name: Litz silt loam, moder		_		ation: NAD86			
Are climatic / hydrologic conditions on the	•	of year? Yes X		explain in Remarks.)			
Are Vegetation, Soil, or Hyd	**	<u> </u>	al Circumstances" present				
Are Vegetation , Soil , or Hyd	drology naturally p	problematic? (If needed	, explain any answers in R	emarks.)			
SUMMARY OF FINDINGS – Atta	ch site map showi	ing sampling point lo	cations, transects, i	mportant features, etc.			
Hydrophytic Vegetation Present?	Yes No_X	Is the Sampled Area					
Hydric Soil Present?	Yes No X	within a Wetland?	Yes	No X			
Wetland Hydrology Present?	Yes No X	_					
HYDROLOGY							
Wetland Hydrology Indicators:	·	(minimum of two required)					
Primary Indicators (minimum of one is red			Surface Soil Crac	, ,			
Surface Water (A1)	True Aquatic Pla			ted Concave Surface (B8)			
High Water Table (A2) Saturation (A3)	Hydrogen Sulfide	e Odor (CT) pheres on Living Roots (C3)		Drainage Patterns (B10) Moss Trim Lines (B16)			
Water Marks (B1)	Presence of Red			Dry-Season Water Table (C2)			
Sediment Deposits (B2)		luction in Tilled Soils (C6)		Crayfish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surfa		Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Other (Explain in	n Remarks)	Stunted or Stressed Plants (D1)				
Iron Deposits (B5)			Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery	(B7)		Shallow Aquitard				
Water-Stained Leaves (B9)			Microtopographic	, ,			
Aquatic Fauna (B13)			FAC-Neutral Test	t (D5)			
Field Observations:							
Surface Water Present? Yes		inches):					
		inches): Wetla	and Hydrology Present?	Yes No X			
(includes capillary fringe)	No X Deptil (i	Wetta	na riyarology Fresent:	163 NO_X			
Describe Recorded Data (stream gauge,	monitoring well, aerial p	hotos, previous inspections)	if available:				
· · · · · · · · · · · · · · · · · · ·	3 / 1	,	,				
Remarks:							
Wetland Hydrology is not present.							
,							

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

	entific		•		Sampling Point: DP4-U	
Tree Stratum (Plot size:30)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. Celtis occidentalis		15	Yes	FACU	Number of Dominant Species	
2. Pyrus calleryana		5	No	UPL	That Are OBL, FACW, or FAC: 3	(A)
3. Carya glabra		10	No	FACU	Total Number of Dominant	
4. Acer rubrum		30	Yes	FAC	Species Across All Strata: 7	(B)
5.					Percent of Dominant Species	
3.					That Are OBL, FACW, or FAC: 42.9%	(A/B)
7.					Prevalence Index worksheet:	
		60	=Total Cover		Total % Cover of: Multiply by:	
50% of total cover:	30	20%	of total cover:	12	OBL species 0 $x = 0$	
- Sapling/Shrub Stratum (Plot size: 30		_	•		FACW species 10 x 2 = 20	
1. Acer rubrum	—′	5	Yes	FAC	FAC species 35 x 3 = 105	_
2. Celtis occidentalis		5	Yes	FACU	FACU species 70 x 4 = 280	
3			100	17100	UPL species 10 x 5 = 50	
1					Column Totals: 125 (A) 455	(R)
·					Prevalence Index = B/A = 3.64	(B)
D						
o	— –				Hydrophytic Vegetation Indicators:	
·	— –				1 - Rapid Test for Hydrophytic Vegetation	
3	— –				2 - Dominance Test is >50%	
9					3 - Prevalence Index is ≤3.0¹	
50% of total cover:	 5		=Total Cover of total cover:	2	4 - Morphological Adaptations ¹ (Provide state in Remarks or on a separate sheet	
Herb Stratum (Plot size: 5)		_			Problematic Hydrophytic Vegetation ¹ (Exp	lain)
1. Cardamine hirsuta		20	Yes	FACU	¹ Indicators of hydric soil and wetland hydrolog	v must
2. Boehmeria cylindrica		10	Yes	FACW	be present, unless disturbed or problematic.	y must
3. Allium allegheniense		5	No	UPL	Definitions of Four Vegetation Strata:	
4.					Tree – Woody plants, excluding vines, 3 in. (7	6 cm) cr
···					, , , , , , , , , , , , , , , , , , , ,	.0 (111) 01
					I more in diameter at breast height (DBH), rega	,
3					more in diameter at breast height (DBH), rega height.	,
5.					height.	rdless of
5. 7.	 				height. Sapling/Shrub – Woody plants, excluding vin	rdless of es, less
5	 				height.	rdless of es, less
					height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall.	rdless of es, less 28 ft
10.	 				height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re	rdless of es, less 28 ft gardless
10.	 				height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall.	rdless of es, less 28 ft gardless
5			=Total Cover		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
10.	18		=Total Cover	7	height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall.	rdless of es, less 28 ft gardless
10				7	height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
10	18			7 FACU	height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
10. 11. 50% of total cover: Noody Vine Stratum (Plot size: 30 1. Lonicera japonica	18	20%	of total cover:		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
50% of total cover: Noody Vine Stratum (Plot size: 30 Lonicera japonica	18	20%	of total cover:		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
50% of total cover: Noody Vine Stratum (Plot size: 30 Lonicera japonica 2.	18	20%	of total cover:		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless
10. 11. 50% of total cover: Noody Vine Stratum (Plot size: 30	18	20%	of total cover:		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3 height.	rdless of es, less 28 ft gardless
50% of total cover: Noody Vine Stratum (Plot size: 30 Lonicera japonica 2. 3.	18	20%	of total cover:		height. Sapling/Shrub – Woody plants, excluding vin than 3 in. DBH and greater than or equal to 3. (1 m) tall. Herb – All herbaceous (non-woody) plants, re of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.	rdless of es, less 28 ft gardless

Wetland vegetation is not present.

SOIL Sampling Point: DP4-UP2

Profile Desc	ription: (Describe to	the dept	h needed to docu	ment th	e indicat	or or cor	firm the absence of in	dicators.)		
Depth	Matrix		Redo	x Featu	res					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	narks	
0-2	10YR 4/4	100					Loamy/Clayey			
2-20	7.5YR 4/4	70	2.5Y 5/4	30	С	M	Loamy/Clayey			
2-20	7.511(4/4	70	2.51 5/4	30		101	Loanly/Clayey			
			_						_	
¹ Type: C=Co	oncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location:	PL=Pore Lining, M	=Matrix.	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :										
Histosol (Polyvalue Be	low Sur	face (S8)	(MLRA 1		m Muck (A10) (ML	-	
Histic Epipedon (A2) Thin Dark Surface (S9) (MLRA 147							8)Coa	ast Prairie Redox (/	A16)	
Black His	tic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136) <u> </u>	MLRA 147, 148)		
Hydroger	n Sulfide (A4)		Loamy Gleye	ed Matrix	k (F2)		Pie	dmont Floodplain S	Soils (F19)	
	Layers (A5)		Depleted Ma	` '				MLRA 136, 147)		
	ck (A10) (LRR N)		Redox Dark					d Parent Material (F	-	
	Below Dark Surface	(A11)	Depleted Da					outside MLRA 127	-	
	rk Surface (A12)		Redox Depre			\		y Shallow Dark Su		
	ucky Mineral (S1) eyed Matrix (S4)		Iron-Mangan		sses (F12) (LKK N	,Oin	er (Explain in Rem	arks)	
Sandy Re			Umbric Surfa	•	(MIRA	122 136	3Indicat	ors of hydrophytic	vegetation and	
	Matrix (S6)		Piedmont Flo					land hydrology mu	-	
Dark Sur			Red Parent N					ess disturbed or pro	·	
	.ayer (if observed):						, , 	<u>.</u>		
Type:	ayor (ii oboorrou).									
Depth (in	ches):						Hydric Soil Present	? Yes	No X	
Remarks:	-									
	s were not present.									
Ī										

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

ENG FORM 6116-4-SG, JUL 2018

OMB Control #: 0710-xxxx, Exp: Pending Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Eastern Mountains and Piedmont – Version 2 0

Project/Site: SR Maryville	3lount			City/Coun	ty: Blount Coun	nty	_Sampling Date:	3/7/2022		
Applicant/Owner: SRC						State: TN	Sampling Point:	DP5-W2		
Investigator(s): L.Thiem and	l C. Rycuik			Section, Town	ship, Range:					
Landform (hillside, terrace,	etc.): <u>depressi</u> c	on	Lo	cal relief (conc	ave, convex, no	one): concave	Slope (%):	2-5		
Subregion (LRR or MLRA):	LRR N	Lat: 35.7	761721		Long: -84.	.002746	 Datum:	NAD86		
Soil Map Unit Name: Litz si	It loam, moderat					NWI classifica	ation: PEM			
Are climatic / hydrologic cor		•		ear?	Yes X		explain in Remark	s)		
Are Vegetation, Soil			-			cumstances" present				
	<u> </u>									
Are Vegetation, Soil SUMMARY OF FINDI		<u> </u>				in any answers in R ns. transects. i	•	ures. etc.		
Hydrophytic Vegetation Pre	esent?	Yes X No		Is the Samp						
Hydric Soil Present?		Yes X No		within a We	tland?	Yes X	No			
Wetland Hydrology Presen	t?	Yes X No	°							
Depression wetland located	at the eage of t	ne project boun	idary							
HYDROLOGY										
Wetland Hydrology Indica	ators:				<u>S</u>	Secondary Indicators	(minimum of two	required)		
Primary Indicators (minimu	m of one is requ	ired; check all tl	hat apply)			Surface Soil Crac	ks (B6)			
X Surface Water (A1)		True Aqua	atic Plants	(B14)		Sparsely Vegetat	ed Concave Surfa	ce (B8)		
X High Water Table (A2)		Hydrogen	Sulfide Od	dor (C1)		Drainage Patterns (B10)				
X Saturation (A3)				res on Living R	oots (C3)	Moss Trim Lines (B16)				
Water Marks (B1)				d Iron (C4)	n (C4) Dry-Season Water Table (C2)					
Sediment Deposits (B2	.)				on in Tilled Soils (C6) Crayfish Burrows (C8)					
Drift Deposits (B3)			k Surface (-	_		on Aerial Imagery	y (C9)		
Algal Mat or Crust (B4)		Other (Ex	plain in Re	marks)	_	Stunted or Stress				
Iron Deposits (B5)					_	Geomorphic Posi				
Inundation Visible on A		7)				Shallow Aquitard				
X Water-Stained Leaves	(B9)				_	Microtopographic	` ,			
Aquatic Fauna (B13)					<u> </u>	FAC-Neutral Tes	(D5)			
Field Observations:										
Surface Water Present?	Yes X		Depth (inche	-						
Water Table Present?	Yes X		Depth (inche	-	Wedler dille		Waa V	N.		
Saturation Present?	Yes X	No D	Depth (inche	es): 0	vvetland Hy	drology Present?	Yes X	No		
(includes capillary fringe)						:labla.				
Describe Recorded Data (s	tream gauge, m	onitoring well, a	eriai pnoto	s, previous ins	pections), if ava	allable:				
Remarks: Wetland hydrology present										

, ,	Absolute	Dominant	Indicator	
<u>Free Stratum</u> (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
l 2				Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
3 · I				Total Number of Dominant Species Across All Strata: 3 (B)
5. 6.				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 5 x 1 = 5
Sapling/Shrub Stratum (Plot size:)				FACW species 30 x 2 = 60
l				FAC species 30 x 3 = 90
2				FACU species 5 x 4 = 20
i				UPL species 5 x 5 = 25
l				Column Totals: 75 (A) 200 (B)
5				Prevalence Index = B/A = 2.67
)				Hydrophytic Vegetation Indicators:
·				1 - Rapid Test for Hydrophytic Vegetation
B				X 2 - Dominance Test is >50%
)				X 3 - Prevalence Index is ≤3.0 ¹
	=	=Total Cover		4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20%	of total cover:		data in Remarks or on a separate sheet)
Herb Stratum (Plot size:5				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Juncus effusus	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
2. Setaria viridis	20	Yes	FAC	be present, unless disturbed or problematic.
3. Carex sp.*	10	No	FACW	Definitions of Four Vegetation Strata:
1. Typha angustifolia	5	No	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o
5. Rumex obtusifolius	5	No	FACU	more in diameter at breast height (DBH), regardless o
6. Rubus aboriginum	5	No	UPL	height.
7				Sapling/Shrub – Woody plants, excluding vines, less
3				than 3 in. DBH and greater than or equal to 3.28 ft
9				(1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
	65	=Total Cover		Woody Vine – All woody vines greater than 3.28 ft in
50% of total cover: 33	20%	of total cover:	13	height.
Noody Vine Stratum (Plot size:30)				
Toxicodendron radicans	10	Yes	FAC	
2.				
3.				
4.				
5.				Hadan bada
	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 separate sheet.)

^{*}Wetland status ranges from OBL-UPL. Species given FACW for this survey

SOIL Sampling Point: DP5-W2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Redo	x Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	3
0-10	10YR 4/2	100					Loamy/Clayey			
10-20	2.5Y 5/2	80	10YR 5/6	20	С	M	Loamy/Clayey	Pro	minent redox co	ncentrations
							-	_		
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand (Grains.	² Locat	tion: PL=Po	re Lining, M=Ma	trix.
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :										
Histosol ((A1)		Polyvalue Be	low Surf	face (S8)	(MLRA 1	47, 148)	2 cm Mucl	(A10) (MLRA	147)
Histic Epipedon (A2) Thin Dark Surface (S9) (MLRA 14)							8)	Coast Pra	irie Redox (A16))
Black His	tic (A3)		Loamy Muck	y Minera	al (F1) (M	LRA 136		(MLRA	147, 148)	
Hydroger	n Sulfide (A4)		Loamy Gleye	d Matrix	(F2)			Piedmont	Floodplain Soils	(F19)
Stratified	Layers (A5)		X Depleted Ma	trix (F3)			_	(MLRA	136, 147)	
2 cm Mud	ck (A10) (LRR N)		Redox Dark	Surface	(F6)			Red Parer	nt Material (F21)	
Depleted	Below Dark Surface	(A11)	Depleted Da	k Surfac	ce (F7)			outside	e MLRA 127, 14	7, 148)
Thick Dar	rk Surface (A12)		X Redox Depre	ssions (F8)			Very Shall	ow Dark Surfac	e (F22)
Sandy Mu	ucky Mineral (S1)		Iron-Mangan	ese Mas	ses (F12) (LRR N	, <u> </u>	Other (Exp	olain in Remarks	s)
Sandy Gl	eyed Matrix (S4)		MLRA 136	i)			_			
Sandy Re	edox (S5)		Umbric Surfa	ce (F13) (MLRA	122, 136) ³ lr	ndicators of I	nydrophytic vege	etation and
Stripped I	Matrix (S6)		Piedmont Flo	odplain	Soils (F1	9) (MLR	A 148)	wetland hy	drology must be	e present,
Dark Surf	face (S7)		Red Parent N	/laterial ((F21) (M L	RA 127,	147, 148)	unless dis	turbed or proble	matic.
Restrictive L	.ayer (if observed):									
Туре:										
Depth (in	ches):						Hydric Soil Pro	esent?	Yes X	No
Remarks:	' <u>'</u>						•			
Hydric soils p	resent.									

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

ENG FORM 6116-4-SG, JUL 2018

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)

Eastern Mountains and Piedmont - Version 2 0

Project/Site: SR Maryville Blount		City/County: Blount Co	unty	Sampling Date: 3/8/2022	2		
Applicant/Owner: SRC			State: TN	Sampling Point: DP6-UF	-3		
Investigator(s): L. Thiem and C. Rycuik		Section, Township, Range:					
Landform (hillside, terrace, etc.): Flat	Lo	ocal relief (concave, convex,	none): Flat	Slope (%): 0-2			
Subregion (LRR or MLRA): LRR N	Lat: 35.761509	,	84.002647	Datum: NAD86			
· · · · · · · · · · · · · · · · · · ·		Long			_		
Soil Map Unit Name: Farragut silty clay loa			NWI classifica				
Are climatic / hydrologic conditions on the s				explain in Remarks.)			
Are Vegetation, Soil, or Hydr	rologysignificantly di	sturbed? Are "Normal C	ircumstances" present	t? Yes X No			
Are Vegetation, Soil, or Hyde	rologynaturally prob	lematic? (If needed, exp	olain any answers in R	emarks.)			
SUMMARY OF FINDINGS - Attac	h site map showing	sampling point locat	ions, transects, i	mportant features, e	tc.		
Lludronhutia Vagatatian Dracont?	Voc. No. V	In the Complet Area					
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No X Yes No X	Is the Sampled Area within a Wetland?	Yes	No. Y			
Wetland Hydrology Present?	Yes No X	within a Welland:		No X			
	162 NO X						
Remarks: Upslope of Wetland 2							
Opsiope of Welland 2							
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators	(minimum of two required)			
Primary Indicators (minimum of one is req	uirad: abaak all that annly)		Surface Soil Crac		•		
Surface Water (A1)	True Aquatic Plants	(R14)					
High Water Table (A2)	Hydrogen Sulfide O		Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)				
l 							
Saturation (A3)		res on Living Roots (C3)	Moss Trim Lines (B16)				
Water Marks (B1)	Presence of Reduce		Dry-Season Water Table (C2)				
Sediment Deposits (B2)		on in Tilled Soils (C6)	Crayfish Burrows				
Drift Deposits (B3) Algal Mat or Crust (B4)	Thin Muck Surface (Other (Explain in Re	: •	Stunted or Stress	e on Aerial Imagery (C9)			
Iron Deposits (B5)	Other (Explain in Ne	iliaiks)	Geomorphic Posi				
Inundation Visible on Aerial Imagery (E	27\		Shallow Aquitard				
Water-Stained Leaves (B9)	יוס		Microtopographic				
Aquatic Fauna (B13)			FAC-Neutral Test	,			
		T	TAC-Neutial Tes	1 (00)			
Field Observations:	No V Donth (inch	00/1					
Surface Water Present? Yes							
l _	No X Depth (inch		Hydrology Present?	Yes No X	,		
Saturation Present? Yes (includes capillary fringe)	No A Deptil (Illicii	es)	nyurology Fresent:	Yes No_X	_		
Describe Recorded Data (stream gauge, n	appitaring wall, agrial photo	e provious inspections) if a	wailabla:		_		
Describe Necolded Data (Stream gadge, II	nomioning wen, aenai photo	os, previous irispections), ir e	valiable.				
Remarks:					_		
Wetland hydrology is not present.							
, , ,							

EGETATION (Four Strata) – Use scier	Absolute	Dominant	Indicator	T		ng Point:		
ree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test	workshe	et:		
l				Number of Domir That Are OBL, FA			0	(A)
3. 				Total Number of I Species Across A			5	(B)
5.				Percent of Domin That Are OBL, FA			0.0%	(A/B)
7				Prevalence Inde	x worksh	eet:		
		=Total Cover		Total % Cov	er of:	Mu	Itiply 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	
Prunus serotina	10	Yes	FACU	FAC species	0	x 3 =	0	
Ligustrum sinense	5	Yes	FACU	FACU species	85	x 4 =	340	
·				UPL species	0	x 5 =	0	
·				Column Totals:	85	_(A)	340	(B)
				Prevalen	ice Index	= B/A =	4.00	
·				Hydrophytic Veg	etation Ir	ndicators:		
·				1 - Rapid Tes	t for Hydr	ophytic Ve	getation	
				2 - Dominano	e Test is	>50%		
				3 - Prevalenc				
	15	=Total Cover		4 - Morpholog				
50% of total cover:	8 20%	of total cover:	3	data in Rer	marks or c	n a separa	ite sheet)	
lerb Stratum (Plot size:5				Problematic H	Hydrophyt	ic Vegetatio	on¹ (Expla	ain)
. Solidago sp.*	5	No	FACU	¹ Indicators of hyd	ric soil an	d wetland h	nydrology	must
. Grass sp.*	30	Yes	FACU	be present, unles	s disturbe	d or proble	matic.	
Eupatorium capillifolium	30	Yes	FACU	Definitions of Fo	ur Veget	ation Strat	a:	
·				Tree – Woody pla				
	_			more in diameter height.	at breast	height (DB	H), regar	dless of
<u> </u>				Tieigiii.				
·				Sapling/Shrub –			•	
B				than 3 in. DBH ar (1 m) tall.	nd greater	than or eq	ual to 3.2	8 ft
)				(1 III) tall.				
0				Herb – All herbad				ardless
1				of size, and wood	ly plants le	ess than 3.2	28 ft tall.	
	65	=Total Cover		Woody Vine – Al	l woody vi	nes greate	r than 3.2	8 ft in
50% of total cover:	33 20%	of total cover:	13	height.				
Voody Vine Stratum (Plot size:)								
. Lonicera japonica	5	Yes	FACU					
	_							
3.								
ı	_							
5.				Hydrophytic				
	5	=Total Cover	_	Vegetation				
50% of total cover:	3 20%	of total cover:	1	-	Yes	No	Χ	

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

^{*}Wetland status ranges from OBL-UPL. Wetland status assigned FACU for this survey.

SOIL Sampling Point: DP6-UP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth Matrix Redox Features											
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rem	arks	
0-12	10YR 4/3	60	10YR 4/2	40			loamy/clayey	clay loam		oam	
12-20	10YR 4/4	60	10YR 5/2	30			loamy/clayey		clay loam c	lual matrix	
			10YR 5/8	10	С	М				_	
										_	
¹ Type: C=Co	oncentration, D=Deple	etion, RM=l	Reduced Matrix, MS	S=Mask	ed Sand	Grains.	² Location	n: PL=Por	e Lining, M=	:Matrix.	
Hydric Soil I	ndicators:									c Hydric Soils³:	
Histosol (Polyvalue Be							ck (A10) (MLRA 147)	
	ipedon (A2)		Thin Dark Su						rie Redox (A	-	
Black His			Loamy Muck	•	, ,		· · · · · · · · · · · · · · · · · · ·				
— Hydroger	n Sulfide (A4)		Loamy Gleye	•		ĺ	Piedmont Floodplain Soils (F19)				
Stratified	Layers (A5)		Depleted Ma	trix (F3)				(MLRA	136, 147)		
2 cm Mud	ck (A10) (LRR N)		Redox Dark	Surface	(F6)		Red Parent Material (F21)				
Depleted	Below Dark Surface	(A11)	Depleted Dar	Depleted Dark Surface (F7) (outside MLRA						, 147, 148)	
Thick Da	rk Surface (A12)		Redox Depressions (F8) Very Shallow Dark Surface (F22)								
	ucky Mineral (S1)			Iron-Manganese Masses (F12) (LRR N,Other (Explain in Remarks)							
	eyed Matrix (S4)			MLRA 136)							
Sandy Re				Umbric Surface (F13) (MLRA 122, 136) ³ Indicators of hydrophytic vegetation and							
	Matrix (S6)		Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be pres						-		
Dark Surf	face (S7)		Red Parent N	/laterial ((F21) (MI	_RA 127,	147, 148) ւ	unless dist	urbed or pro	blematic.	
Restrictive L	.ayer (if observed):										
Type:											
Depth (in	ches):							Hydric Soil Present?			
Remarks:											
Wetland soils	s are not present.										

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 Blount		City/County: Blount County Sampling Date: 3/8/202					
Applicant/Owner: SRC			Sampling Point: DP7-W4				
Investigator(s): L.Thiem and C. Rycuik		Section, Township, Rang	 je:	_			
Landform (hillside, terrace, etc.): depres	sion Lo	- ocal relief (concave, conve		Slope (%): 2-5			
Subregion (LRR or MLRA): LRR N	Lat: 35.761528		: -84.002017	Datum: NAD86			
,							
Soil Map Unit Name: Litz silt loam, model				cation: PEM			
Are climatic / hydrologic conditions on the Are Vegetation , Soil , or Hydrologic conditions on the			No(If no I Circumstances" prese	o, explain in Remarks.) nt? Yes X No			
Are Vegetation, Soil, or Hy	drology naturally prob	olematic? (If needed.	explain any answers in	Remarks.)			
SUMMARY OF FINDINGS – Atta			•	,			
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			<u> </u>			
HYDROLOGY							
Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is re			Surface Soil Cracks (B6)				
X Surface Water (A1)	True Aquatic Plants		Sparsely Vegetated Concave Surface (B8)				
X High Water Table (A2)	Hydrogen Sulfide O			Drainage Patterns (B10) Moss Trim Lines (B16)			
X Saturation (A3)	Presence of Reduc	eres on Living Roots (C3)					
Water Marks (B1) Sediment Deposits (B2)		ion in Tilled Soils (C6)	Dry-Season Water Table (C2) Crayfish Burrows (C8)				
Drift Deposits (B3)	X Thin Muck Surface		Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	Other (Explain in Re			Stunted or Stressed Plants (D1)			
Iron Deposits (B5)		,	sition (D2)				
Inundation Visible on Aerial Imagery	(B7)		Shallow Aquitar	·			
X Water-Stained Leaves (B9)			Microtopograph	ic Relief (D4)			
Aquatic Fauna (B13)			FAC-Neutral Te	st (D5)			
Field Observations:							
Surface Water Present? Yes X	No Depth (inch	nes):6					
Water Table Present? Yes X	No Depth (inch						
Saturation Present? Yes X	No Depth (inch	nes): 0 Wetlan	d Hydrology Present?	Yes X No			
(includes capillary fringe)							
Describe Recorded Data (stream gauge,	monitoring well, aerial photo	os, previous inspections),	if available:				
Remarks: Wetland hydrology present.							
ENG FORM 6116-4-SG, JUL 2018			Eastern Moun	tains and Piedmont – Version 2			

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP7-W4 Absolute Dominant Indicator 30) Dominance Test worksheet: Tree Stratum (Plot size: % Cover Species? Status 1. **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 3. **Total Number of Dominant** 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 100.0% (A/B) 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 10 x 2 = FAC species 50 x3 =FACU species x 4 = 0 x 5 = 0 3 UPL species 4. Column Totals: 65 190 (B) 2.92 5. Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% 8. X 3 - Prevalence Index is ≤3.0¹ 9. 4 - Morphological Adaptations¹ (Provide supporting =Total Cover data in Remarks or on a separate sheet) 50% of total cover: 20% of total cover: 5) Problematic Hydrophytic Vegetation¹ (Explain) Herb Stratum (Plot size: 5 1. Rumex obtusifolius **FACU** ¹Indicators of hydric soil and wetland hydrology must FAC 2. Setaria viridis 40 Yes be present, unless disturbed or problematic. 3. Carex sp.* 10 **FACW Definitions of Four Vegetation Strata:** 4. Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of 5. 6. 7. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft 8. (1 m) tall. 9. 10. 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 55 =Total Cover height. 50% of total cover: 28 20% of total cover: Woody Vine Stratum (Plot size: 30) Toxicodendron radicans 2. 3. 4. Hydrophytic 10 =Total Cover Vegetation 20% of total cover: 50% of total cover: Present? Yes X No Remarks: (Include photo numbers here or on a separate sheet.) Wetland vegetation is present.

SOIL Sampling Point: DP7-W4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth	Matrix		Redo	x Featur	es							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remark	3		
0-10	10YR 4/2	100					Loamy/Clayey					
10-20	2.5Y 5/2	80	10YR 5/6	20	С	M	Loamy/Clayey	Pro	minent redox co	ncentrations		
							-	_				
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand (Grains.	² Locat	tion: PL=Po	re Lining, M=Ma	trix.		
Hydric Soil I	ndicators:						In	dicators for	Problematic H	ydric Soils³:		
Histosol ((A1)		Polyvalue Be	Polyvalue Below Surface (S8) (MLRA 1				147, 148) 2 cm Muck (A10) (MLRA 147)				
Histic Epi	pedon (A2)		Thin Dark Su	rface (S	9) (MLR /	A 147, 14	Coast Prairie Redox (A16)					
Black His	tic (A3)		Loamy Muck	Loamy Mucky Mineral (F1) (MLRA 136)				(MLRA 147, 148)				
Hydroger	n Sulfide (A4)		Loamy Gleye	d Matrix	(F2)		Piedmont Floodplain Soils (F19)					
Stratified	Layers (A5)		X Depleted Ma	trix (F3)			(MLRA 136, 147)					
2 cm Mud	ck (A10) (LRR N)		Redox Dark	Surface	(F6)		Red Parent Material (F21)					
Depleted	Below Dark Surface	(A11)	Depleted Da	k Surfac	ce (F7)		(outside MLRA 127, 147, 148)					
Thick Dar	rk Surface (A12)		X Redox Depre	ssions (F8)		Very Shallow Dark Surface (F22)			e (F22)		
Sandy Mu	ucky Mineral (S1)		Iron-Mangan	ese Mas	ses (F12) (LRR N	, <u> </u>	Other (Exp	olain in Remarks	s)		
Sandy Gl	eyed Matrix (S4)		MLRA 136	MLRA 136)								
Sandy Re	edox (S5)		Umbric Surfa	Umbric Surface (F13) (MLRA 122, 136)				³ Indicators of hydrophytic vegetation and				
Stripped I	Matrix (S6)		Piedmont Flo	Piedmont Floodplain Soils (F19) (MLRA				A 148) wetland hydrology must be present,				
Dark Surf	face (S7)		Red Parent N	Red Parent Material (F21) (MLRA 127,				, 147, 148) unless disturbed or problematic.				
Restrictive L	.ayer (if observed):											
Туре:												
Depth (in	ches):						Hydric Soil Present? Yes X No					
Remarks:	' <u>'</u>						•					
Hydric soils p	resent.											

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 Blount		City/County: Blount Cou	ınty	Sampling Date: 3/8/2022		
Applicant/Owner: SRC			State: TN	Sampling Point: DP8-UP4		
Investigator(s): L. Thiem and C. Rycuik		Section, Township, Range:				
Landform (hillside, terrace, etc.): Hillside	Lo	cal relief (concave, convex, r	none): concave	Slope (%): 2-5		
Subregion (LRR or MLRA): LRR N	Lat: 35.761524	Long: -8	4.001794	Datum: NAD86		
Soil Map Unit Name: Prader silt loam (melvir	 າ)		NWI classificat	tion:		
Are climatic / hydrologic conditions on the site	e typical for this time of ye	ar? Yes X	No (If no, e	explain in Remarks.)		
Are Vegetation , Soil , or Hydrol			rcumstances" present?			
Are Vegetation, Soil, or Hydrol	logy naturally probl	ematic? (If needed, exp	lain any answers in Re	marks.)		
SUMMARY OF FINDINGS – Attach	<u> </u>		-	•		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area				
	Yes No X	within a Wetland?	Yes	No X		
Wetland Hydrology Present?	Yes No X					
Upland point located upslope of Wetland 1 a	Tought T					
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is requir		 	Surface Soil Crack			
Surface Water (A1)	True Aquatic Plants	•	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Od		Drainage Patterns (B10)			
Saturation (A3)		res on Living Roots (C3)	Moss Trim Lines (B16)			
Water Marks (B1)	Presence of Reduce		Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Sediment Deposits (B2)		on in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3) Algal Mat or Crust (B4)	Thin Muck Surface (Other (Explain in Re	•	Stunted or Stressed Plants (D1)			
Iron Deposits (B5)	Other (Explain in Nei	ilaiks)	Geomorphic Posit	· ·		
Inundation Visible on Aerial Imagery (B7	·)	•	Shallow Aquitard (·		
Water-Stained Leaves (B9)	,		Microtopographic	•		
Aquatic Fauna (B13)			FAC-Neutral Test	` '		
Field Observations:				(20)		
Surface Water Present? Yes	No X Depth (inche	<i>≥6).</i>				
Water Table Present? Yes	No X Depth (inche					
Saturation Present? Yes	No X Depth (inche	· ———	lydrology Present?	Yes No X		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos	s, previous inspections), if av	ailable:			
Remarks: Wetland Hydrology is not present.						
ENG FORM 6116-4-SG, JUL 2018			Eastern Mountain	s and Piedmont – Version 2 (

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP8-UP4 Absolute Dominant Indicator Tree Stratum (Plot size: 30) **Dominance Test worksheet:** % Cover Species? Status **Number of Dominant Species** 2. That Are OBL, FACW, or FAC: 3. Total Number of Dominant 4. Species Across All Strata: (B) 5. Percent of Dominant Species 6. That Are OBL, FACW, or FAC: 0.0% (A/B) Prevalence Index worksheet: =Total Cover Total % Cover of: Multiply by: 50% of total cover: 20% of total cover: OBL species 0 Sapling/Shrub Stratum (Plot size: 30) FACW species x 2 = 0 x 3 = FAC species 20 FACU species x 4 = 15 x 5 = 3. UPL species 35 4. Column Totals: 5. Prevalence Index = B/A = 6. **Hydrophytic Vegetation Indicators:** 7. 1 - Rapid Test for Hydrophytic Vegetation 8. 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 9 4 - Morphological Adaptations¹ (Provide supporting =Total Cover data in Remarks or on a separate sheet) 50% of total cover: 20% of total cover: Problematic Hydrophytic Vegetation¹ (Explain) Herb Stratum (Plot size: Eupatorium capillifolium 20 FACU ¹Indicators of hydric soil and wetland hydrology must be 2. Taraxacum laevigatum 10 No HPI present, unless disturbed or problematic. 20 **Definitions of Four Vegetation Strata:** 3. Grass sp. Yes 5 4. Allium oleraceum No **UPL** Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of 5. Geranium sp. 5 No height. 6. 7. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft 8. (1 m) tall. 9. Herb - All herbaceous (non-woody) plants, regardless 10. of size, and woody plants less than 3.28 ft tall. 60 =Total Cover Woody Vine - All woody vines greater than 3.28 ft in height. 50% of total cover: 30 20% of total cover: Woody Vine Stratum (Plot size: 30) 2. 3 4. **Hvdrophytic** =Total Cover Vegetation 20% of total cover: Present? 50% of total cover: Yes No X Remarks: (Include photo numbers here or on a separate sheet.) Wetland vegetation is not present.

SOIL Sampling Point: DP8-UP4

Profile Desc Depth	ription: (Describe to Matrix	o the de		ı ment th x Featuı		tor or co	ntirm the abser	nce of indica	tors.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Ren	narks	
0-6	10YR 4/3	100			.) 0		Loamy/Claye	ev			
6-20	10YR 4/3	80	10YR 5/8	20			Loamy/Claye				
0 20	1011(4/0		101110/0				Loamyrolaye				
	oncentration, D=Deple	etion, RM	I=Reduced Matrix, N	/IS=Masl	ked Sand	l Grains.	² Lo	cation: PL=P			
Hydric Soil I								Indicators f		-	Soils ³ :
Histosol	` '		Polyvalue B						ıck (A10) (ML	•	
Histic Ep	ipedon (A2)		Thin Dark S						rairie Redox	(A16)	
Black His	stic (A3)		Loamy Mucl	ky Miner	al (F1) (N	ILRA 13	ŝ)	(MLR	A 147, 148)		
Hydroge	n Sulfide (A4)		Loamy Gley	ed Matri	x (F2)			Piedmor	nt Floodplain	Soils (F19)	
Stratified	Layers (A5)		Depleted Ma	atrix (F3))			(MLR	A 136, 147)		
2 cm Mu	ck (A10) (LRR N)		Redox Dark	Surface	(F6)			Red Par	ent Material	(F21)	
Depleted	l Below Dark Surface	(A11)	Depleted Da	ark Surfa	ice (F7)			(outsi	de MLRA 12	7, 147, 148)
Thick Da	rk Surface (A12)		Redox Depr	essions	(F8)			Very Sh	allow Dark Si	urface (F22))
Sandy M	ucky Mineral (S1)		Iron-Mangar	nese Ma	sses (F12	2) (LRR l	N,	Other (E	xplain in Rer	marks)	
Sandy G	leyed Matrix (S4)		MLRA 13	6)							
Sandy R	edox (S5)		Umbric Surf	ace (F13	B) (MLRA	122, 13	ô)	³ Indicators o	f hydrophytic	vegetation	and
Stripped	Matrix (S6)		Piedmont FI	oodplain	Soils (F	19) (MLF	kA 148)	wetland	hydrology mi	ust be prese	ent,
Dark Sur	face (S7)		Red Parent	Material	(F21) (M	LRA 127	', 147, 148)	unless d	isturbed or p	roblematic.	
Restrictive I	_ayer (if observed):						T				
Type:	,										
Depth (ir	nches):						Hydric Soil	Present?	Yes	No	X
Remarks:							1 ,				
	s were not present.										
	•										

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Laurel Bank Branch						
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik						
Site Name/Description: S1						
oping into Laurel	Bank Branch					
	Lat/Long:					
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches						
Precipitation this Season vs. Normal: abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precipidata: ESRL and AHPS						
County: M	lontgomery					
·	USDA: Web Soil Survey Source:					
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land						
•	escribe fully in Notes) : osent					
	age low abn County: N ed land (circle one & d					

Primary Field Indicators Observed

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

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

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

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

Overall Hydrologic Determination = Stream	

Justification / Notes:

Secondary Indicator Score (if applicable) = 23

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

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
Continuous bed and bank	0	1	2	3
2. Sinuous channel	Q	1	2	3
In-channel structure: riffle-pool sequences	0	1	2	3
Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	[.5]
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
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 Ye		Yes	= 3
NRCS map				

B. Hydrology (Subtotal = 6)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No:	= 0	Yes =	1.5

C. Biology (Subtotal = 7)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	9	1	2	3
23. Bivalves/mussels	þ	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

Total Points = 23
Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

	of gravel from sandy s	substrates occ	urea inrougnou	it the stream. Ano	ther www flows
down into this st	ream.				

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

Tennessee Division of Water Pollution Control, Version 1.5

Date/Time: 3/7/2022						
Date/Time. 3/1/2022						
Project ID:						
SR Maryville Blount						
d floodplain						
Lat/Long:						
35.761312/-84.001084						
Precipitation this Season vs. Normal: abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precipidata: ESRL and AHPS						
ntgomery						
USDA: Web Soil Survey Source:						
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land						
scribe fully in Notes) : sent						
F IC I						

Primary Field Indicators Observed

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

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

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

Overall Hydrologic Determination = Stream	
Secondary Indicator Score (if applicable) = ²³	

	Jı	ustifi	cation	ı / Notes	•
--	----	--------	--------	-----------	---

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

A. Geomorphology (Subtotal = 19)	Absent	Weak	Moderate	Strong
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
Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	[.5]
6. Depositional bars or benches	0	1	2	3
7. Braided channel	0	1	2	3
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	No = 0 Yes = 3		2	
or NRCS map			= 3	

B. Hydrology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	1	2	3
15. Water in channel and >48 hours since sig. rain NA	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel	No = 0 Yes =		1.5	

C. Biology (Subtotal = 7)	Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed 1	3	2	1	0
21. Rooted plants in the thalweg 1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	6	1	2	3
23. Bivalves/mussels	O	1	2	3
24. Amphibians	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	1	2	3
26. Filamentous algae; periphyton	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5
28.Wetland plants in channel bed 2	0	0.5	1	1.5

¹ Focus is on the presence of terrestrial plants.

Total Points = $\frac{32.5}{}$
Under Normal Conditions, Watercourse is a Wet Weather
Conveyance if Secondary Indicator Score < 19 points

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

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

Tennessee Division of Water Pollution Control, Version 1.5

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

Primary Field Indicators Observed

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

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

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

Overall Hydrologic Determination = WWC
Secondary Indicator Score (if applicable) = 12.5
Justification / Notes :
This WWC flows from a foot path and leads down into a rocky outcrop area and finally flowing into a UNT to
Laurel Bank Branch. Bank width ranged from 1 to 6 feet and bank height ranged from 6 inches to 5 feet.
No water was flowing within the channel at the time of the survey.

A. Geomorphology (Subtotal = 9)	Absent	Weak	Moderate	Strong
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
Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
Depositional bars or benches		1	2	3
7. Braided channel	0	1	2	3
Recent alluvial deposits		0.5	1	1.5
9. Natural levees	0 1 2		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 =		Yes	= 3
NRCS map				

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

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

¹ Focus is on the presence of terrestrial plants.

Total Points = $\frac{12.5}{1}$
Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

tes:4) Very lit	le graver son	ing nom sa	nd along the	i lengur or ure	sucam.	

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

Tennessee Division of Water Pollution Control, Version 1.5

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

Primary Field Indicators Observed

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

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

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

Overall Hydrologic Determination = WWC	
Secondary Indicator Score (if applicable) =	
Justification / Notes :	
This WWC flows down into WWC 1 which leads down into a UNT to Laurel Bank Branch.	
Laurel Bank Branch. Bank width was 1 foot and bank height	
No water was flowing within the channel at the time of the survey.	

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

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

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

¹ Focus is on the presence of terrestrial plants.

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

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

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: WWC		Date/Time: 3/7/2022
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :
Site Name/Description: WWC3		SR Maryville Blount
Site Location: Located in the central portion of the subject property and flows down int	o WWC 2	
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.760297/-84.002657
Precipitation this Season vs. Normal: abnormally wet elevated average Source of recent & seasonal precipidata: ESRL and AHPS	low abn	ormally dry unknown
Watershed Size: 44, 971 acres	County: B	
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source:
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested la	nd	
Degree of historical alteration to natural channel morphology & hydrology (circ Severe Moderate Slight		escribe fully in Notes) : osent

Primary Field Indicators Observed

Primary Indicators	NO	YES
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
Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	✓	Stream
6. Presence of fish (except Gambusia)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✓	Stream
Evidence watercourse has been used as a supply of drinking water	✓	Stream

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

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

Overall Hydrologic Determination = WWC	
Secondary Indicator Score (if applicable) =	
Justification / Notes :	
This WWC flows down into WWC 2 which leads down into a UNT to Laurel Bank Branch.	
Laurel Bank Branch. Bank width was 1 foot and bank height	
No water was flowing within the channel at the time of the survey.	

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

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

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

¹ Focus is on the presence of terrestrial plants.

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

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

Tennessee Division of Water Pollution Control, Version 1.5

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

Primary Field Indicators Observed

Primary Indicators	NO	YES
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
Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
 Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase 	✓	Stream
6. Presence of fish (except Gambusia)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✓	Stream
9. Evidence watercourse has been used as a supply of drinking water	✓	Stream

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

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

Overall Hydrologic Determination = WWC	
Secondary Indicator Score (if applicable) = 7	,
Justification / Notes :	
This WWC flows from footpath down into a PFO wetland.	_
Bank width ranged from 1 to 2 feet and bank height ranged from 6 inches to 12 inches	
No water was flowing within the channel at the time of the survey.	

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
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
Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
Depositional bars or benches		1	2	3
7. Braided channel	0	1	2	3
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:	= 0	Yes	= 3
NRCS map				

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

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

¹ Focus is on the presence of terrestrial plants.

Total Points = 7				
Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points				
Notes: Substate within this channel is similar to the surrounding upland area				

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

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: UNT to Laurel Bank Branch		Date/Time: 3/7/2022		
Assessors/Affiliation: HDR INC/ Lyranda Thiem and Caroline Rycuik		Project ID :		
Site Name/Description: WWC5		SR Maryville Blount		
Site Location: Located in the northern portion of the subject property and flows down in	nto WWC1			
HUC (12 digit): Big Sandy River Headwaters (Hydrologic Unit Code [HUC] (060400050501)		Lat/Long:		
Previous Rainfall (7-days): In the previous 7 days it rained 0.25 inches		35.760415/-84.002620		
Precipitation this Season vs. Normal: abnormally wet elevated average low abnormally dry unknown Source of recent & seasonal precipidata: ESRL and AHPS				
Watershed Size : 44, 971 acres	County: B			
Soil Type(s) / Geology : Litz silt loam, moderately steep phase		USDA: Web Soil Survey Source:		
Surrounding Land Use : Industrial (Denso Steal Manufactoring) and forested land				
Degree of historical alteration to natural channel morphology & hydrology (circ Severe Moderate Slight		escribe fully in Notes) : osent		

Primary Field Indicators Observed

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

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

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

Overall Hydrologic Determination = WWC
Secondary Indicator Score (if applicable) = 10.5
Justification / Notes :
This WWC flows from a foot path and leads down into a rocky outcrop area and finally flowing into a UNT to
Laurel Bank Branch. Bank width ranged from 1 to 3 feet and bank height ranged from 6 inches to 12 inches
No water was flowing within the channel at the time of the survey.

A. Geomorphology (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
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
Sorting of soil textures or other substrate	0	1	2	3
5. Active/relic floodplain	0	0.5	1	1.5
Depositional bars or benches		1	2	3
7. Braided channel	0	1	2	3
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 = 0			
or			Yes	= 3
NRCS map				

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

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

¹ Focus is on the presence of terrestrial plants.

Total Points = $\frac{10.5}{10.5}$
Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

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

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

Appendix C Site Photographs



Photograph 1- Start of Stream 2, perennial, R2UB2, facing north and upstream.



Photograph 2- Start of Stream 2, perennial, facing south and downstream.



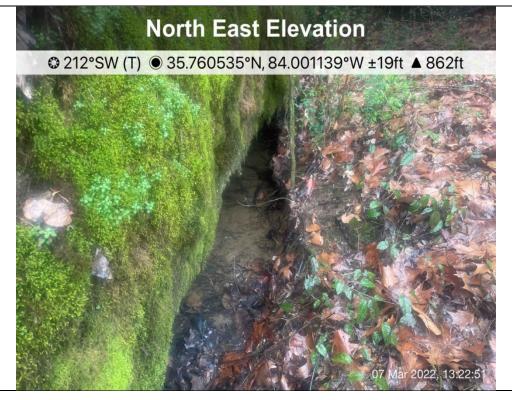
Photograph 3- End of Stream 2, perennial, facing east and upstream.



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



Photograph 5- Start of Stream 1, perennial, R5UB2 facing southwest and upstream.



Photograph 6- Start of Stream 1, perennial, facing northeast and downstream.



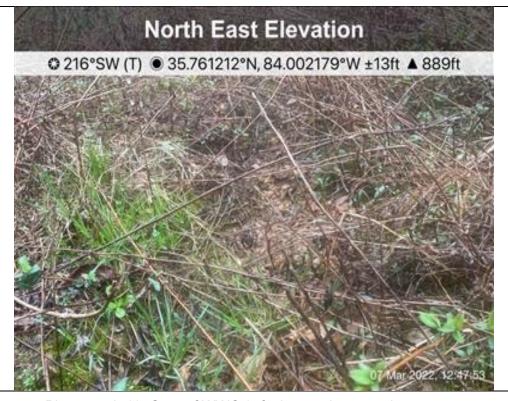
Photograph 7- End of Stream 1, perennial, facing north and upstream.



Photograph 8- Start of WWC 1, facing southeast and downstream.



Photograph 9- End of WWC 1, facing southeast and downstream.



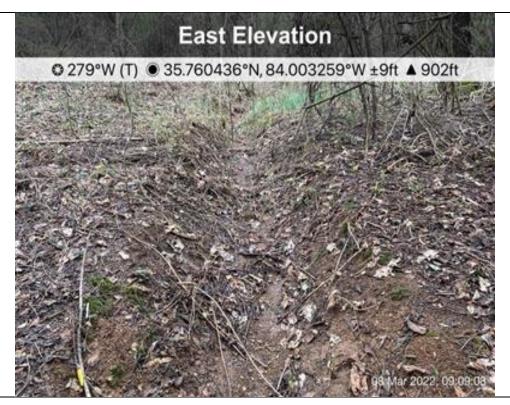
Photograph 10- Start of WWC 2, facing northeast and upstream.



Photograph 11- End of WWC 2, facing southwest and downstream



Photograph 12- Representative photo of WWC 3.



Photograph 13- End of WWC 5, facing east and downstream.



Photograph 14- Start of WWC 4, facing west and downstream.



Photograph 15- Start of WWC 5, facing west and upstream.



Photograph 16- Wetland 1, PFO, DP1-W1, facing southwest.



Photograph 17- Upland 4, DP8-UP4, facing west.



Photograph 18- Wetland 3, PFO, DP2-W3 facing northeast.



Photograph 19- Upland 1, DP3-UP1, facing north.



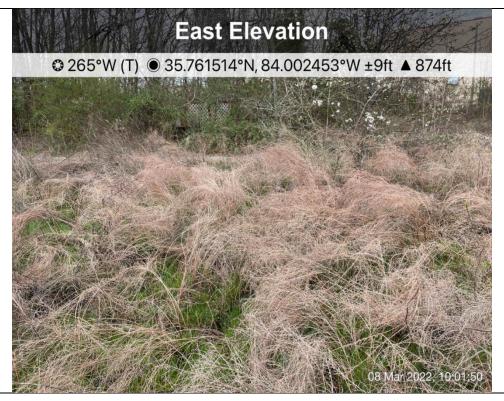
Photograph 20- Upland 2, DP4-UP2 facing west.



Photograph 21- Wetland 2, PEM/PFO, DP5-W2, facing north.



Photograph 22- Wetland 4, PEM, DP7-W4, facing south.



Photograph 23- Upland 3, DP6-UP3, facing east.



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



Photograph 25 – Representative photo of on-site uplands, open deciduous forest, facing north



Photograph 26 – Representative photo of on-site uplands, trailhead on southwestern border of the Site, facing northwest