



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
SUITE 900 - JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-0334**

MEMORANDUM

To: Melanie Bumpus
Region 3 Environmental Tech Group

From: Jennifer Thompson
Environmental Division

Jennifer
Thompson

Digitally signed by Jennifer Thompson
DN: cn=Jennifer Thompson, o=TDOT,
ou=Environmental,
email=Jennifer.Thompson@tn.gov, c=US
Date: 2016.06.09 17:15:25 -05'00'

Date: June 9, 2016

Subject: ENVIRONMENTAL BOUNDARIES AND MITIGATION DESIGN FOR:
Maury County, SIA serving Project Shotgun
PIN Number: 121394.00 P. E. Number: 60019-1208-04

An ecological evaluation of the subject project has been conducted with the following results:

There is one stream, an unnamed tributary to Carter's Creek (STR-1), one WWC/EPH and one wetland. Forms and photos are included in this report.

Your assistance is appreciated. If you have any questions or comments, please contact me at 615-532-3878 or Jennifer.Thompson@tn.gov.

xc: Anthony Myers
Jon Zirkle
Joe Deering
John Hewitt
Rita Thompson

Ecology Field Data Sheet: **Water Resources**

Project:		Maury Co. SIA Serving Project Shotgun		P.E. Number: 60019-1208-04 PIN: 121394.00	
Biologist:	J. Thompson	Affiliation:	TDOT	Date:	5/13/2016

1-Station: from plans	28+10				
2-Map label and name	WWC-1/EPH-1				
3-Latitude/Longitude	354510.11 N, 865758.26W				
4-Potential impact	Crossing/ runoff				
5-Feature description:					
-channel identification	perennial stream ☐	intermittent stream ☒	ephemeral stream ☒	wwc ☐	
-HD score (if applicable)	7.5				
-OHWM indicators	bed & banks ☒	deposition ☒	presence of litter / debris ☐	scour ☒	veg absent, bent, matted ☒
	change in plant community ☒	destruction of terrestrial veg ☐	multiple observed flow events ☐	sediment sorting ☒	water staining ☐
	change in soil character ☒	leaf litter disturbed absent ☐	natural line impressed on bank ☒	shelving ☐	wracking ☐
-sinuosity	absent ☒	weak ☐	moderate ☐	strong ☐	
-channel bottom width	1'		-top of bank width		2'
- avg. gradient of stream (%)	Less than 5				
-bank height and slope ratio	LDB - 2"		RDB - 2"		
-water flow	fast ☐	moderate ☐	slow ☐	isolated pools ☐	none ☒
-water depth (riffles / pools)	water width (riffles / pools)				
-bank stability: LDB, RDB	LDB: Stable ☒	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☐
	RDB: Stable ☒	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☐
-dominant riparian species: ------(LDB /RDB)-----	LDB: Grass (pasture)				
	RDB: Grass				
-habitat assessment score	71				
	epifaunal substrate	0	channel alteration	16	
	rifle embeddedness	11	frequency of re-ox zones	0	
	velocity / depth regime	0	bank stability	LDB 6	RDB 6
	sediment deposition	16	bank vegetative protection	LDB 3	RDB 3
	channel flow status	0	riparian veg zone width	LDB 5	RDB 5
-benthos	none				
-fish	none				
-algae or other aquatic life	none				
6-photo numbers	1, 2				
7-rainfall information	Low to moderate rainfall received in the previous three days.				
8-HUC -12 Code & Name	060400030202, Carter's Creek				
9-Confirmed by:					
10-Assessed	yes ☐	no ☒			
11-ETW	yes ☐	no ☒			
12-303 (d) List	yes ☐	siltation ☐	habitat: ☐	other: ☐	
	no ☐				
13-Notes					

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.4

County: Maury	Named Waterbody: WWC-1/EPH-1	Date/Time: 5/13/2016
Assessors/Affiliation: Jennifer Thompson, TDOT		Project ID: 60019-1208-04 PIN: 121394.00
Site Name/Description: SIA serving Project Shotgun		
Site Location: Duplex Rd.		
USGS quad:	HUC (12 digit): 060400030202	Lat/Long: 354510.11N, 865758.26W
Previous Rainfall (7-days) : Within last 2 days		
Precipitation this Season vs. Normal : very wet wet average dry drought unknown		
Source of recent & seasonal precip data :		
Watershed Size :	Photos: Yes	Number : 1, 2
Soil Type(s) / Geology :		
Surrounding Land Use : pasture		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, dominated by upland vegetation / grass	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except <i>Gambusia</i>)	✓	Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precipitation 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 STOP; absent directly contradictory evidence, determination is complete.

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 1.4*

Overall Hydrologic Determination =

Secondary Indicator Score (if applicable) = 6.5

Justification / Notes :

Secondary Field Indicator Evaluation

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

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

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

¹ Focus is on the presence of upland plants.

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

Total Points =	6.5
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Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes : This is a wet weather conveyance/ephemeral stream.

[illegible]

Ecology Field Data Sheet: Water Resources

Project:		Maury Co. SIA serving Project Shotgun in Spring Hill, P.E. Number: 60019-1208-04, PIN: 121394.00					
Biologist:	Jennifer Thompson	Affiliation:	TDOT	Date:	5-13 -2016		

1-Station: from plans	41+50							
2-Map label and name	STR-1, Unnamed tributary to Carter's Creek							
3-Latitude/Longitude	354510.04N, 865741.87W							
4-Potential impact	Crossing							
5-Feature description:								
-channel identification	perennial stream	☐	intermittent stream	☒	ephemeral stream	☐	wwc	☐
-HD score (if applicable)	Secondary indicators not needed: centrarchids found at culvert outlet.							
-OHWM indicators	bed & banks	☒	deposition	☒	presence of litter / debris	☒	scour	☒
	change in plant community	☒	destruction of terrestrial veg	☒	multiple observed flow events	☐	sediment sorting	☒
	change in soil character	☒	leaf litter disturbed absent	☐	natural line impressed on bank	☒	shelving	☐
-sinuosity	absent	☐	weak	☒	moderate	☐	strong	☐
-channel bottom width	3'			-top of bank width		4'		
- avg. gradient of stream (%)	Less than 5							
-bank height and slope ratio	LDB - 1'				RDB - 1'			
-water flow	fast	☐	moderate	☐	slow	☒	isolated pools	☐
-water depth (riffles / pools)	N/A				water width (riffles / pools)			
-bank stability: LDB, RDB	LDB:	Stable	☐	Eroding	☒	Undercutting	☐	Sloughing
	RDB:	Stable	☐	Eroding	☒	Undercutting	☐	Sloughing
-dominant riparian species:	LDB: Grass & herbaceous vegetation (pasture) for the first 200', then hackberry, ash & privet.							
------(LDB /RDB)-----	RDB: Same as LDB above.							
-habitat assessment score	74							
	epifaunal substrate	10			channel alteration	6		
	riffle embeddedness	13			frequency of re-ox zones	4		
	velocity / depth regime	5			bank stability	LDB	4	RDB
	sediment deposition	8			bank vegetative protection	LDB	5	RDB
	channel flow status	6			riparian veg zone width	LDB	2	RDB
-benthos	None							
-fish	Small centrarchids observed at culvert outlet (dead).							
-algae or other aquatic life	algae							
6-photo numbers	3, 4							
7-rainfall information	Rainfall within last 2 days.							
8-HUC -12 Code & Name	060400030202, Carter's Creek							
9-Confirmed by:								
10-Assessed	yes	☐	no	☒				
11-ETW	yes	☐	no	☒				
12-303 (d) List	yes	☐	siltation	☐	habitat:	☐	other:	☐
	no	☐						
13-Notes	Stream has no flow at road crossing. There has been considerable modification (filling of channel) in the portion of the stream that flows through the industrial property near the road crossing. There is no flow until approximately 200' south of the edge of pavement (SR-247) to the wooded area where the stream resumes normal characteristics. Older aerial maps show a continuous stream that is connected to the wetland.							

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.4

County: Maury	Named Waterbody: STR-1	Date/Time: 5/13/2016
Assessors/Affiliation: Jennifer Thompson, TDOT		Project ID: 60019-1208-04 PIN: 121394.00
Site Name/Description: SIA serving Project Shotgun		
Site Location: Duplex Rd.		
USGS quad:	HUC (12 digit): 060400030202	Lat/Long: 354510.04N, 865741.87W
Previous Rainfall (7-days) : Within last 2 days		
Precipitation this Season vs. Normal : very wet wet average dry drought unknown		
Source of recent & seasonal precip data :		
Watershed Size :	Photos: Yes	Number : 3, 4
Soil Type(s) / Geology :		
Surrounding Land Use : industrial/pasture		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe Moderate Slight Absent		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✓	WWC
2. Defined bed and bank absent, dominated by upland vegetation / grass	✓	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	✓	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✓	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✓	Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection	✓	Stream
8. Flowing water in channel and 7 days since last precipitation 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 STOP; absent directly contradictory evidence, determination is complete.

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 1.4*

Overall Hydrologic Determination = Stream because of presence of fish.

Secondary Indicator Score (if applicable) = 13.5

Justification / Notes :

Secondary Field Indicator Evaluation

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

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

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

¹ Focus is on the presence of upland plants.

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

Total Points =	13.5
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Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes : This is a wet weather conveyance/ephemeral stream.

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: Maury Co. SIA serving Project Shotgun Map Label: WTL-1
P.E. and PIN: 60019-1208-04, 121394.00 Date: 5-13-2016 Station: _____
Investigator(s): Jennifer Thompson, TDOT HUC 12 (code and name): 060400030202, Carter's Creek
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): flat (pasture) Slope (%): 5 or less
Subregion (LRR or MLRA): _____ Lat: 354511.24N Long: 865741.65W Datum: _____
Soil Map Unit Name: _____ NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation ☒, Soil ☒, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No _____ Hydric Soil Present? Yes ☒ No _____ Wetland Hydrology Present? Yes ☒ No _____	Is the Sampled Area within a Wetland? Yes ☒ No _____
Remarks: Photos: _____ Buffer (ft.): <u>50+' (mostly grass & herbaceous veg)</u> Approximate Size (ac.): <u>0.9 total- most is off ROW</u> Portion Affected (permanent) (ac.): <u>0.12</u> Portion Affected (temporary) (ac.): <u>0.12</u>	Confirmation (by, date): _____ Mitigation (to be included in design): _____ Notes: _____

HYDROLOGY

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

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

Map Label: WTL-1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. Fescue	74	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Ranunculus	10	_____	_____	
3. Rumex	8	_____	_____	
4. Eleocharis	3	_____	_____	
5. Carex	5	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
26 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 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.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) The area by the road has been filled and planted. It adjoins a pasture.				Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Map Label: WTL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

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

Hydric Soil Indicators:

Indicators for Problematic Hydric Soils³:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) (**LRR N**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- ☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☒ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- ☐ Umbric Surface (F13) (**MLRA 136, 122**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)

- ☐ 2 cm Muck (A10) **(MLRA 147)**
☐ Coast Prairie Redox (A16)
(MLRA 147, 148)
☐ Piedmont Floodplain Soils (F19)
(MLRA 136, 147)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:



Photo 1: WWC-1/EPH-1 facing up gradient (north) towards Duplex Rd.



Photo 2: WWC-1/EPH-1 facing down gradient (south).



Photo 3: STR-1, facing upstream (north) toward Duplex Rd. This section of stream has been filled in.



Photo 4: STR-1 facing downstream (south).



Photo 5: WTL-1 facing north.