STREAM ID S-C33	STREAM NAME UNT to Flatwoods Branch						
LAT 37.256652 LONG -80.281251	DATE 04/09/2015						
CLIENT MVP	PROJECT NAME MVP						
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers							
FLOW REGIME Perennial Intermittent Ephemeral	WATER TYPE TNW RPW_✓ NRPW						

r el el li li al 2	_	nt <u> </u>	erai INVV	RPW —	NRPW		
					<u> </u>		
		ē.			Stream ErosionNone ✓ Moderate	Heavy	
		Top of Barik Widan.			NoneNoderate	rieavy	
		Top of Ban	ŭ		Artificial, Modified or Char	ınelized	
CHANNEL FEATURES		LB <u>1.0</u>	ft RB <u>1.0</u>	<u>ft</u>	Yes _ <u>✔</u> No		
		Water Dep	th: <u>7.00 in</u>		Dam PresentYes _	. No	
		Water Widt	th: <u>5.0 ft</u>		Dalii Pieseili ies _	<u>/</u> NO	
		High Water	r Mark: <u>1.0 ft</u>		Sinuosity Low	Medium High	
		Flow Direct	tion: SE		Gradient		
						Severe	
					. , ,	(10 ft/100 ft)	
		Water Pres			Proportion of Reach Repre	sented by Stream	
			er, stream bed dry bed moist		Morphology Types Riffle 10 % Run 85	%	
		— Standing			Pool 5 %	,,	
FLOW CHARACTER	ISTICS	Flowing	•				
					Turbidity Clear ✓ Slightly	turbidTurbid	
		Velocity Fast	Moderate		OpaqueStained		
		✓ Slow	Woderate		Other		
INOR	GANIC SUB	STRATE CO	MPONENTS	0	RGANIC SUBSTRATE COM	PONENTS	
		add up to 10			does not necessarily add u		
Substrate	Diame	oter	% Composition in	Substrate	Characteristic	% Composition in	
Туре	Diame		Sampling Reach	Туре	Characteristic	Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder		mm (10")			plant materials (CPOM)	20	
Cobble	64-256 m	m (2.5"-10")		Muck-Mud	black, very fine organic		
Gravel	2-64 mm	n (0.1"-2.5")	10		(FPOM)		
Sand		nm (gritty)	25				
Silt		0.06 mm	65	Marl	grey, shell fragments		
Clay	< 0.004	mm (slick)					
		Predomina ✓ Forest	ant Surrounding Lan Commer		Indicate the dominant type ✓ Trees Shrub		
		Field/Pa			Grasses Herba		
		Agricult		tial	_		
WATERSHED FEATURES		Other: Powerline ROW clearing			Floodplain Width Wide > 30ft Narrow <16ft Woderate 15-30ft		
TEATOREO							
		Canopy Co		aded			
		Shaded			Wetland PresentNo Wetland IDW-C9. 12		
		Indicate th	a dominant tuna an		Iominant species present	-	
AQUATIC VE	GETATION			Rooted subme		ing Free floating	
Floating algaeAttached algae							
		Several see	eps along banks, over	widening in ar	eas where banks have erode	ed. Stream flows	
		subterrain i	in several locations. U		on with low banks, downstrea		
MACROINVER	RTEBRATES	incised dee	ep banks.				
OR OTHER WILDLIFE		Perennial					
OBSERVED/C							
NOTES	יייס אויט						
Ī		Ī					



Photograph Direction NW

Date: 04/09/2015

Comments: 2015 stream identification.



Photograph Direction West

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

CTDE AM ID C	` MM04		CTDE AM N	AME LINE to	Flatwoods Branch	
STREAM ID S	-	- 00 200500			-latwoods Branch	
CLIENT MVP		IG -80.280509				
		- A C+++	PROJECTI	NAME MVP		
INVESTIGATO		i, A.Sioii				
TNW	E RPW ┌┐	NRPW [FLOW REC	GIME ☐ Intermitte	ent Ephemeral	
					· L	
		Fetimate M	/leasurements		Stream Erosion	
			k Width: 4.0 ft		✓ None Moderate .	Heavy
		Top of Banl				
			ft RB 4.0	ft	Artificial, Modified or Char Yes ✓ No	inelized
l			th: <u>2.00 in</u>	<u></u>	Yes No	
CHANNEL FE	ATURES	Water Dept			Dam PresentYes	<u>∠</u> No
			in. <u>2.0 it</u> igh Water Mark (Wid	₩5\. 20 ft	Sinuosity 🗸 Low	Medium High
		1	igh Water Mark (Wid igh Water Mark (Hei	,		
		,	` `	gnι). <u>Ζ.υ τι</u>	Gradient Flat ✓ Moderate	Severe
		Flow Direct	tion: South			(10 ft/100 ft)
		Water Pres			Proportion of Reach Repre	sented by Stream
			r, stream bed dry		Morphology Types Riffle 80 % Run	%
			bed moist g water		Pool 20 % Kuii	/0
FLOW CHARACTERI	ISTICS	Standing water Flowing water			20	
CHARACIEM	31103				Turbidity ✓ ClearSlightly	turbid Turbid
		Velocity Fast ✓ Moderate			✓ ClearSlightly :OpaqueStained	
		Slow	- Woderate		Other	
INOR		STRATE COI			RGANIC SUBSTRATE COM	
	(should a				does not necessarily add u	
Substrate Type	Diame	ter	% Composition in Sampling Reach		Characteristic	% Composition in Sampling Area
Bedrock				7,	sticks, wood, coarse	
Boulder	> 256	mm (10")		Detritus	plant materials (CPOM)	80
Cobble	64-256 m	m (2.5"-10")		Marie Marie	black, very fine organic	
Gravel		1 (0.1"-2.5")		Muck-Mud	(FPOM)	
Sand	0.06-2n	nm (gritty)	10			
Silt	0.004-0	0.06 mm	80	Marl	grey, shell fragments	
Clay	< 0.004 r	mm (slick)	10			
			ant Surrounding La		Indicate the dominant type	
1		✓ Forest Field/Pa	Comme astureIndustria		✓ Trees Shrub Herba	
1		Agricult				Ceous
WATERSHED FEATURES		Other:			Floodplain Width Wide > 30ft — Moder	rata 15-30ft
I LAIONES		Canopy Co			Narrow <16ft	ale 13-30it
1		Open	over <u>✓</u> Partly sl	haded		
		Shaded			Wetland Present <u>✓</u> Yes Wetland ID W-C7/8	No
 		Indicate th	e dominant type ar	nd record the (dominant species present	
AQUATIC VE	GETATION	<u></u> Rooted	l emergent	_Rooted subm		tingFree floating
		Floating	g algae	_Attached alga	e	
		_				
		Comes from	n pond			
MACROINVER OR OTHER	₹TEBRATES	i				
WILDLIFE	THER					
URSERVED/C						
OBSERVED/O OBSERVATIO						



Photograph Direction South

	STREAM ID S-C29			STREAM NAME Flatwoods Branch			
CLIENT MVP			PROJECT N	PROJECT NAME MVP			
LAT 37.25605	57 <u>L</u> (ONG -80.278326			COUNTY Montgomery		
INVESTIGATO	ORS HBS,	ST, SP					
WATER TYPE	RPW	NRPW	FLOW REGI Perennial	IME Interm	ittent Ephemeral		
		Estimate Mea	surements	I	Sinuosity <u>v</u> LowN	Medium High	
			/idth: 2.0 ft			_ •	
		Top of Bank H	eight:			derate Severe 100 ft) (10 ft/100 ft)	
		LB <u>0.5</u> ft	RB <u>0.5</u> f	ft	Stream Erosion	(** ** ** ** ** ** ** ** ** ** ** ** **	
		Water Depth: _			<u>✓ None</u> Moderate	Heavy	
CHANNEL EE	Water Width: 0.				Artificial, Modified or Chann	nelized	
CHANNEL FEATURES			Water Mark (Width):	1.2_ft	✓ YesNo		
			Water Mark (Height):		Within Roadside Ditch		
		Flow Direction			Yes _ <u>✓</u> No		
	Tiow Biroduoiii <u></u>			- I	Culvert PresentYes _	<u>√</u> No	
					Culvert Material:	· · · · · · · · · · · · · · · ·	
					Culvert Size:in		
		Water Presen			Proportion of Reach Repres		
	✓ No water, strear Stream bed moi				Morphology Types (Only enter if water present) Riffle % Run %		
		Standing wa			Pool %		
FLOW CHARACTERI	FLOW CHARACTERISTICS — Flowing water				=		
C. D. W. C. C. L.	05			Turbidity ClearSlightly turbid Turb			
		Velocity Fast	Moderate		Other		
		Slow	Moderate		_		
INOR	-	JBSTRATE CON			ORGANIC SUBSTRATE COM (does not necessarily add up		
Substrate Type	Diar	meter	% Composition in Sampling Reach	Substrat Type	te Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder		56 mm (10")		500.000	plant materials (CPOM)		
Cobble		mm (2.5"-10")		Muck-Muck	black, very fine organic		
Gravel		nm (0.1"-2.5")	40		(FPOM)		
Sand		-2mm (gritty)	10	Mod	arov shall fragments		
Silt Clay		4-0.06 mm 04 mm (slick)	50	Marl	grey, shell fragments		
Clay	\ 0.00	` '	Surrounding Landu	100	 Floodplain Width		
		Forest	Commercia		Wide > 30ft Modera	te 15-30ft	
		<u>✓</u> Field/Pastu			✓ Narrow <15ft		
WATERSHED		Agricultura					
FEATURES — ROW			Other:				
FEATURES		Canopy Cover					
FEATURES							
FEATURES		<u>✔</u> Open	r Partly shade	ed			
FEATURES				ed			
		<u>✓</u> Open Shaded	Partly shade				
	ROINVER	<u>✓</u> Open Shaded	Partly shade		ROTHER NOTES AND OBSER	VATIONS	
MAC	channel wh	✓ Open Shaded TEBRATES/OTHere bed and bar	Partly shade	SERVED OR	levels of horse, goat, and cow a		
MAC	channel wh	✓ Open Shaded TEBRATES/OTHere bed and bar	Partly shade	SERVED OR			
MAC	channel wh	✓ Open Shaded TEBRATES/OTHere bed and bar	Partly shade	SERVED OR	levels of horse, goat, and cow a		
MAC	channel wh	✓ Open Shaded TEBRATES/OTHere bed and bar	Partly shade	SERVED OR	levels of horse, goat, and cow a		



Photograph Direction North

STREAM ID S-C25	STREAM NAME UNT to Bradshaw Creek					
LAT 37.254410 LONG -80.267957	DATE 04/08/2015					
CLIENT MVP	PROJECT NAME MVP					
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers						
FLOW REGIME Perennial Intermittent Lephemeral	WATER TYPE TNW RPW NRPW					

Perenniai —		nt <u> — Epnem</u>	erai INVV —	RPW —	NRPW —	
					Stream Erosion	Haara
			k Width: 3.0 ft		NoneModerate	neavy
		Top of Ban	k Height:		Artificial, Modified or Char	nnelized
		LB <u>6.0</u>	in RB <u>6.0</u>	<u>in</u> .	Yes <u></u> ✓ No	
CHANNEL FE	ATURES	Water Dep	th: 1.00 in		Dama Duanant Van	. No
0134442212	/ \	Water Widt	h: 1.0 ft		Dam PresentYes _	<u>∠</u> No
		High Water	Mark: 6.0 ft		Sinuosity 🔽 Low	Medium High
		Flow Direct	tion. SE		Gradient	
					Flat Moderate _	Severe
					(0.5/100 ft (2 ft/100 ft)	
		Water Pres			Proportion of Reach Repre	esented by Stream
			r, stream bed dry bed moist		Morphology Types Riffle % Run 10	0 %
		Standing			Pool %	0 /0
FLOW CHARACTER	ISTICS	Flowing	•			
	.01.50				Turbidity <u>✓</u> ClearSlightly	turbidTurbid
		Velocity Fast	Moderate		OpaqueStained	
		✓ Slow	Moderate		Other	
INOR	GANIC SUB	STRATE CO	MPONENTS	O	RGANIC SUBSTRATE COM	/PONENTS
	(should a	add up to 10	0%)	_	loes not necessarily add u	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock				Dotritus	sticks, wood, coarse	
Boulder	> 256 ı	mm (10")	5	Detritus	plant materials (CPOM)	75
Cobble	64-256 m	m (2.5"-10")	20	Muck-Mud	black, very fine organic	
Gravel	2-64 mm	(0.1"-2.5")	65	Wuck-Wud	(FPOM)	
Sand	0.06-2n	nm (gritty)				
Silt	0.004-0	0.06 mm	10	Marl	grey, shell fragments	
Clay	< 0.004 r	mm (slick)				
			ant Surrounding Lan		Indicate the dominant type	
		✓ Forest Field/Pa	Commer asture Industrial		<u>✓</u> Trees Shrub Grasses Herba	is iceous
		— Agricult			_	
WATERSHED		Other:	<u> </u>		Floodplain Width	
FEATURES					Wide > 30ft Mode ✓ Narrow <16ft Mode	rate 15-30ft
		Canopy Co			Nanow Toll	
		✓ Partly openPartly shadedOpen			Wetland PresentYes	<u>✓</u> No
			<u> </u>		Wetland ID	
AOUATIC VE	SETATION			d record the d Rooted subme	lominant species present ergent Rooted float	ting Free floating
AQUATIC VEGETATION		Floating	· —	Attached algae	<u> </u>	
		Trib to S-C	23			
MACROINVER	RTEBRATES	Intermittent				
OR OTHER WILDLIFE						
OBSERVED/C						
OBSERVATIO NOTES	IND AND					



Photograph Direction SE

Date: 04/08/2015

Comments: 2015 stream identification.



Photograph Direction SE

Date: <u>11/01/2019</u>

Comments: 2019 stream identification confirmation.

STREAM ID S-C24	STREAM NAME UNT to Bradshaw Creek					
LAT 37.254152 LONG -80.266762	DATE 04/08/2015					
CLIENT MVP	PROJECT NAME MVP					
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers						
FLOW REGIME Perennial Intermittent February Ephemeral	WATER TYPE TNW RPW NRPW					

Perenniai —	_ intermitte	nt <u> — Epnem</u>	erai INVV —	RPW —	NRPW	
			Measurements		Stream Erosion	Haava
			k Width: 3.0 ft		None Moderate	neavy
		Top of Ban	k Height:		Artificial, Modified or Char	nnelized
		LB <u>8.0</u>	in RB <u>8.0</u>	<u>in</u> .	Yes _ <u>✔</u> No	
CHANNEL FE	ATURES	Water Dep	th: 1.00 in		D D	. Ma
01,511112212	/ \	Water Widt	h: 1.5 ft		Dam PresentYes _	<u>∠</u> No
		High Water	Mark: 8.0 in		Sinuosity <u>v</u> Low	Medium High
		Flow Direct			Oundiant	
		1 low biles			Gradient Flat✓ Moderate _	Severe
					(0.5/100 ft (2 ft/100 ft)	
		Water Pres			Proportion of Reach Repre	esented by Stream
			r, stream bed dry bed moist		Morphology Types Riffle % Run 10	0 %
		Stream			Pool %	0 70
FLOW CHARACTER	ISTICS	<u>✓</u> Flowing	•			
CHARACTER	131103				Turbidity	
		Velocity	Madauta		✓ Clear — Slightly — Opaque — Stained	
		Fast ✓ Slow	Moderate		Other	
INOR	CANIC CUD		MPONENTS	0		ADONENTO
INUR		add up to 10		_	RGANIC SUBSTRATE COM loes not necessarily add u	-
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition ir Sampling Area
Bedrock			55	Detritus	sticks, wood, coarse	
Boulder	> 256 ı	mm (10")		Detilitus	plant materials (CPOM)	75
Cobble	64-256 m	m (2.5"-10")	10	Muck-Mud	black, very fine organic	
Gravel	2-64 mm	(0.1"-2.5")	25	IVIUCK-IVIUU	(FPOM)	
Sand	0.06-2n	nm (gritty)				
Silt	0.004-0).06 mm	5	Marl	grey, shell fragments	
Clay	< 0.004 r	mm (slick)	5			
			ant Surrounding Lan		Indicate the dominant type	
		<u>✓</u> Forest	Commer		✓ Trees Shrub	
		— Field/Pa			GrassesHerbaceous	
WATERSHED		Other:	itesideiii		Floodplain Width	
FEATURES		_ •				rate 15-30ft
		Canopy Co			✓ Narrow <16ft	
		Partiy o	ppen _v_Partly sh	aded	Wetland PresentYes	∠ No
			Open		Wetland ID	
					Iominant species present	
AQUATIC VE	GETATION	— Rooted Floating		Rooted subme Attached algae	<u> </u>	tingFree floating
		FIDALITY	y algae	Allacrieu algae	=	
		T " . 0 0				
		Trib to S-C	23.			
MACDOINVE	TERRATES	Intermittent				
MACROINVER OR OTHER	VIEDKAIE9					
WILDLIFE OBSERVED/C	THER					
OBSERVATION NOTES						
NOTES						
1		1				



Photograph Direction NNW

Date: 04/08/2015

Comments: 2015 stream identification.



Photograph Direction SSE

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-C21	STREAM NAME Bradshaw Creek					
LAT 37.252811 LONG -80.259676	DATE 04/08/2015					
CLIENT MVP	PROJECT NAME MVP					
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers						
FLOW REGIME Perennial ✓ Intermittent — Ephemeral —	WATER TYPE TNW RPW_✓ NRPW					

Perennial P	_ Intermitte	ntEpnem	eral TNW	RPW <u>→</u>	NRPW				
	1								
			Measurements		Stream Erosion None ✓ Moderate	Ности			
			k Width: 25.0 ft		NoneNoderate	<u> —</u> пеаvy			
		Top of Ban	•		Artificial, Modified or Char	nnelized			
		LB <u>2.0</u>		<u>ft</u>	Yes _ <u>✓</u> No				
CHANNEL FE	ATURES	Water Dep	th: 2.00 ft		Dam PresentYes _	∠ No			
		Water Widt	h: 20.0 ft						
		High Water	Mark: <u>3.0 ft</u>		Sinuosity Low	Medium High			
		Flow Direct	tion: S		Gradient				
					FlatModerate _				
		Water Due			(0.5/100 ft (2 ft/100 ft)				
		Water Pres No wate	senτ r, stream bed dry		Proportion of Reach Repre Morphology Types	esented by Stream			
		Stream I			Riffle 75 % Run 20	%			
FLOW		Standin	•		Pool 5 %				
CHARACTER	ISTICS	<u></u> Flowing	water		Turbidity				
		Velocity			✓ Clear — Slightly	turbidTurbid			
		Fast	✓ Moderate		OpaqueStained				
		Slow		ſ	Other				
INOR		STRATE CO add up to 10	MPONENTS		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)				
Substrate	(Siloulu a	add up to 10	% Composition in	-	loes not necessarily add d	% Composition in			
Type	Diame	ter	Sampling Reach	Type	Characteristic	Sampling Area			
Bedrock				Detritus	sticks, wood, coarse				
Boulder		mm (10")		Dounted	plant materials (CPOM)	5			
Cobble		m (2.5"-10")	85	Muck-Mud	black, very fine organic				
Gravel		(0.1"-2.5")	15		(FPOM)				
Sand		nm (gritty)							
Silt		0.06 mm		Marl	grey, shell fragments				
Clay	< 0.004 i	mm (slick)			In dia to the education of the	(2)			
		✓ Forest	ant Surrounding Lar Commer		Indicate the dominant type ✓ Trees Shrub				
			astureIndustria		GrassesHerba				
MATEROUER		Agricult	tural 🔽 Residen	tial	Floodplain Width				
WATERSHED FEATURES		Other:			✓ Wide > 30ft Mode	rate 15-30ft			
		Canopy Co	over		Narrow <16ft				
		<u>✓</u> Partly c	ppenPartly sh	aded	Wetland Present Yes	✓ No			
		Shaded	Open		Wetland ID	<u>v</u> No			
		Indicate th	e dominant type and	d record the d	lominant species present				
AQUATIC VE	GETATION		Rooted emergentRooted submergentRooted floatingFree floating						
		Floating	g algae	Attached algae	9				
		1							
		Floodplain	and terrace developm	nent with sandy	y soils, no hydric indicators.				
MACROINVER	TEDDATES								
OR OTHER	VIEDKA 153								
WILDLIFE OBSERVED/C									
OBSERVATION NOTES	NS AND								



Photograph Direction SE

STREAM ID S-NN19			STREAM NAME UNT to Roanoke River				
CLIENT MVP				PROJECT NAME MVP			
		ONG -80.20699		DATE 08/02/	2016	COUNTY Montgomery	
INVESTIGATO	ORS D Ha	dersbeck K Pul	er C S	1			
TNW	RPW [NRPW		FLOW REG Perennial	IME Interm	nittent Ephemeral	
CHANNEL FE	ATURES	Water Depth: Water Width: Ordinary High Ordinary High Flow Direction	Vidth: _ Height: t 1.00 1.0 waten waten : North	4.0			
Water PresentNo water, streamStream bed moisStanding waterFlowing water VelocityFastModSlow				·		Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle 10 % Run 80 % Pool 10 % Turbidity ✓ ClearSlightly turbidTurbidOther	
INOR	-	UBSTRATE CO	_	-		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)	
Substrate Type	Dia	meter		Composition in mpling Reach	Substra Type	I Characteristic '	
Bedrock			2		Detritus	sticks, wood, coarse	
Boulder		56 mm (10")	5			plant materials (CPOM) 15	
Cobble		6 mm (2.5"-10")	1:		Muck-Mu	black, very fine organic	
Gravel		mm (0.1"-2.5")	3			(FPOM)	
Sand		-2mm (gritty)	2	0			
Silt		04-0.06 mm	10	0	Marl	grey, shell fragments	
Clay < 0.004 mm (slick) Predominant Surre Forest Field/Pasture Agricultural ROW Canopy Cover Open Fhaded		ure _ al _	cunding Landuse Commercial Industrial Residential Other: Partly shaded		Floodplain Width Wide > 30ft Moderate 15-30ft V Narrow <15ft		
		•					
MAC	ROINVER	TEBRATES/OT	HER V	VILDLIFE OBS	ERVED OF	R OTHER NOTES AND OBSERVATIONS	



Photograph Direction SSE

STREAM ID	S-NN16-B	raid	STREAM N	STREAM NAME Roanoke River					
CLIENT MV				PROJECT NAME MVP					
LAT 37.2336	24 L	ONG -80.19770		STATE Virginia COUNTY Montgomery					
		cCullough, K. La			DATE 08/28/2015				
WATER TYPE TNW 🗸	RPW	NRPW	FLOW REG Perennial		ittent Ephemeral				
Cinnester Levy & Medium High									
CHANNEL FE	ATURES	Top of Bank H LB 15.0 ft Water Depth: Water Width: Ordinary High	Vidth: <u>50.0</u> ft deight: RB <u>10.0</u> 18.00 in 25.0 ft Water Mark (Width) Water Mark (Height	Gradient Flat Moderate (0.5/100 ft) RB 10.0 ft D in ft Mark (Width): 44.0 ft Mark (Height): 24.0 in Mark (Height): 24.0 in					
FLOW CHARACTER	ISTICS	Water Preser No water, s Stream bec Standing w Flowing wa Velocity Fast Slow	tream bed dry I moist vater		Proportion of Reach Repres Morphology Types (Only ente Riffle 20 % Run 50 Pool 30 % Turbidity Clear Slightly to Other	er if water present) %			
INOR		UBSTRATE COI		•	ORGANIC SUBSTRATE COM (does not necessarily add u				
Substrate Type	Dia	meter	% Composition in Sampling Reach	Substrat Type	te Characteristic	% Composition in Sampling Area			
Bedrock			5	Detritus	sticks, wood, coarse plant materials (CPOM)	4.0			
Boulder		56 mm (10")	20		, ,	10			
Cobble Gravel		6 mm (2.5"-10") mm (0.1"-2.5")	40 15	Muck-Muck	d black, very fine organic (FPOM)				
Sand		i-2mm (gritty)	10		(* * * * * * * * * * * * * * * * * * *				
Silt)4-0.06 mm	10	Marl	grey, shell fragments				
Clay		04 mm (slick)		1	3 -y,ag				
Forest Commercial Wide > 30					Floodplain Width Wide > 30ft Modera Narrow <15ft	ate 15-30ft			
	Silaueu								
	DON:: /=-	TEDD 4		0ED\/ED (=	ATUEN MATER AND ASSES				
						RVATIONS			
MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS Stream was revisited on 1/8/2019 the presence of a stream channel and OHWM was confirmed.									



STREAM ID S-NN16	STREAM NAME Roanoke River				
LAT 37.2334624 LONG -80.197144	DATE 08/28/2015				
CLIENT MVP	PROJECT NAME MVP				
INVESTIGATORS D. McCullough, K. Larsen, R. Turner					
FLOW REGIME Perennial — Intermittent Ephemeral —	WATER TYPE TNW RPW NRPW NRPW NRPW NRPW NRPW NRPW NRPW NRPW				

referillar =	<u> </u>	nt <u> </u>	erai — Tinvv —	RPW —	NRPW —		
		1					
			leasurements		Stream Erosion None Moderate Heavy		
			k Width: 100.0 ft		None _v woderate	пеаvy	
		Top of Ban	-		Artificial, Modified or Char	nelized	
		LB <u>18.0</u>	ft RB <u>20.0</u>	<u>ft</u>	Yes _ <u>✔</u> No		
CHANNEL FE	ATURES	Water Dept	h: 2.00 ft		5 5		
OHAMELTE	ATORLO	Water Widt	h: <u>40.0 ft</u>		Dam PresentYes	<u>∕</u> No	
		High Water	Mark: <u>3.0 ft</u>		Sinuosity <u>v</u> Low	Medium High	
		Flow Direct	ion: East		Gradient		
						Severe	
						(10 ft/100 ft)	
		Water Pres			Proportion of Reach Repre	sented by Stream	
			r, stream bed dry		Morphology Types Riffle 40 % Run 30	%	
		✓ Standing	ped moist		Pool 30 %	70	
FLOW CHARACTER	ISTICS	Flowing					
CHARACTER	131103	_ 3			Turbidity		
		Velocity			✓ ClearSlightly turbidTurbid OpaqueStained		
		<u>✓</u> Fast Slow	Moderate		OpaqueStainedOther		
		_		_			
INOR		STRATE CO		_	RGANIC SUBSTRATE CON does not necessarily add u		
Substrate	(Siloulu	add up to 10	% Composition in	-	Substrate % Compo		
Type	Diame	eter	Sampling Reach	Type	Characteristic	Sampling Area	
Bedrock			15	Datelton	sticks, wood, coarse		
Boulder	> 256	mm (10")	15	Detritus	plant materials (CPOM)	10	
Cobble	64-256 m	ım (2.5"-10")	40	Musik Mud	black, very fine organic	_	
Gravel	2-64 mm	า (0.1"-2.5")	20	Muck-Mud	(FPOM)	0	
Sand	0.06-2r	nm (gritty)	10				
Silt	0.004-	0.06 mm	0	Marl	grey, shell fragments	0	
Clay	< 0.004	mm (slick)	0				
			nt Surrounding Lan	duse	Indicate the dominant type	(Check one)	
		<u>✓</u> Forest	<u>✓</u> Commer		<u>✓</u> Trees Shrub		
		Agricult	asture <u>✓</u> Industrial ural ✓ Resident		Grasses Herba	ceous	
WATERSHED		Agricult Other:	urai <u>v</u> Resideni	ılaı	Floodplain Width		
FEATURES		0011011			✓ Wide > 30ft Mode	rate 15-30ft	
		Canopy Co			Narrow <16ft		
		<u>✓</u> Partly o	. — ₋	aded	Wetland Present _v_Yes	No	
		Shaded	Open		Wetland ID w-NN8		
		Indicate th			dominant species present		
AQUATIC VE	GETATION			Rooted subme		ingFree floating	
		Floating	g algae	Attached alga	e		
		Large river	with fish, clams, snail	s and many o	ther aquatic organisms. Large	e forested wetland	

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Large river with fish, clams, snails and many other aquatic organisms. Large forested wetland (W-NN8) on sand/gravel bar in river that separates the main stem of the river from a ponded braid 2015 comment Stream was revisited on 1/8/2019. Presence of a stream channel and OHWM was confirmed.



Photograph Direction East

STREAM ID S-AB16				STREAM NAME UNT to Roanoke River					
CLIENT MV				PROJECT NAME MVP					
LAT 37.23168		ONG -80.19878	88	DATE 04/11/2016 COUNTY Montgomery					
INVESTIGATO	ORS J. Ha	art, A. Larson, T.	Woods	3					
WATER TYPE TNW RPW NRPW NRPW				FLOW REG Perennial	FLOW REGIME Perennial Intermittent Ephemeral				
CHANNEL FEATURES Estimate Measure Top of Bank Width: Top of Bank Height				RB 1.0 in ft Mark (Width): Mark (Height)	<u>5.0</u> ft	Sinuosity			
FLOW CHARACTERISTICS Water Present No water, stream Stream bed mois ✓ Standing water Flowing water Velocity FastMood ✓ Slow				·		Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle % Run 100 % Pool % Turbidity Clear Slightly turbid Turbid Other			
INOR		UBSTRATE CO		_			SUBSTRATE COM t necessarily add u		
Substrate Type	Dia	meter		composition in npling Reach	Substra Type	(:n	aracteristic	% Composition in Sampling Area	
Bedrock					Detritus		cks, wood, coarse		
Boulder		56 mm (10")	0		20111100	plant materials (CPOM) black, very fine organic		15	
Cobble		6 mm (2.5"-10")	5		Muck-Mu				
Gravel		nm (0.1"-2.5")	10				(FPOM)		
Sand		-2mm (gritty)	15						
Silt		04-0.06 mm	45		Marl	gre	ey, shell fragments		
Clay < 0.004 mm (slick) 2 Predominant Surro Forest Field/Pasture Agricultural ✓ ROW Canopy Cover ✓ Open Shaded			ture _ al _				I ate 15-30ft		
MAG		TEDDATES	HED 14	/// DUIEE 020	EDVED OF	OTUER 1	IOTES AND ODGE	DVATIONS	
							IOTES AND OBSER		
Intermittent stream occurs in roadside ditch adjacent to Hwy 11. Wetland vegetation present within OHWM									



Photograph Direction <u>SW</u>

STREAM ID S-I1	STREAM NAME UNT to Roanoke River					
LAT 37.231265 LONG -80.198246	DATE 04/11/2015					
CLIENT MVP	PROJECT NAME MVP					
INVESTIGATORS Yarbrough, Stoliker, Heule, Hatfield, Richardson						
FLOW REGIME Perennial — Intermittent ✓ Ephemeral —	WATER TYPE TNW — RPW ✓ NRPW —					

			Measurements		Stream Erosion		
		Top of Ban	k Width: 14.0 ft		None Moderate	Heavy	
		Top of Ban	k Height:		Artificial, Modified or Chan	nelized	
CHANNEL FEATURES		LB <u>4.0</u>	ft RB <u>4.0</u>	<u>ft</u>	<u>✓</u> Yes No		
		Water Dep	th: 3.00 in		Dam PresentYes	. No	
		Water Widt	h: <u>6.0 ft</u>		Dani Flesent les	_110	
		High Water	Mark: <u>1.0 ft</u>		Sinuosity 🔽 Low	Medium High	
		Flow Direct	tion: East		Gradient		
						Severe (10 ft/100 ft)	
		Water Pres	sent		Proportion of Reach Repre	sented by Stream	
			r, stream bed dry		Morphology Types Riffle 25 % Run 60	%	
		Stream Standing	bed moist		Riffle 25 % Run 60 Pool 15 %	%	
FLOW CHARACTER	ICTICC	Flowing			70		
CHARACTER	131103	_ 3			Turbidity	to contact and the contact and	
		Velocity Fast	✓ Moderate		✓ ClearSlightly turbidTurbid— OpaqueStained		
		Slow			Other		
INOR	GANIC SUB	STRATE CO	MPONENTS	0	RGANIC SUBSTRATE COM	IPONENTS	
	(should	add up to 10	0%)	(0	does not necessarily add up	p to 100%)	
Substrate Type	Diame	eter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder		mm (10")	5	Detritus	plant materials (CPOM)	10	
Cobble		m (2.5"-10")	5	Muck-Mud	black, very fine organic		
Gravel		1 (0.1"-2.5")	70		(FPOM)		
Sand		nm (gritty)	10				
Silt		0.06 mm	10	Marl	grey, shell fragments		
Clay	< 0.004	mm (slick)	10 "		1 11 1 11 1 1 1 1		
		Forest	ant Surrounding Lan Commer	rcial	Indicate the dominant type Trees Shrub:		
		Field/Pa	asture 🔽 Industrial		✓ Grasses ✓ Herba		
WATERSHED		Agricult	tural Resident	tial	Floodplain Width		
FEATURES		Other:			Wide > 30ft Moder	rate 15-30ft	
		Canopy Co	over		✓ Narrow <16ft		
		Partly o		aded	Wetland Present ✓ Yes	No	
		Shaded	Dpen _v_Open		Wetland ID In channel		
					dominant species present		
AQUATIC VE	GETATION		· —	Rooted submen	ergentRooted float	ingFree floating	
		· loatility		, macricu aiga			

	Man-made ditch paralleling railroad with in-channel wetland veg
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Information listed on this form represents the data collected in 2015. The stream was revisited on 11/01/2019. The presence of a stream channel and OHWM was unable to be confirmed.



Photograph Direction ENE

Date: 04/11/2015

Comments: 2015 stream identification.



Photograph Direction NE

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

STREAM ID	STREAM ID S-CD12b			STREAM NAME UNT to South Fork Roanoke River				
CLIENT MV			PROJECT N					
LAT 37.22976		ONG -80.20114		DATE 06/01/2017 COUNTY Montgomery				
INVESTIGATO	ORS E. Fo	ster, J. Cook, S	. Pilcher					
WATER TYPE		NRPW	FLOW REG Perennial	Perennial Intermittent Ephemeral				
		Estimate Mea	euromonte	1	Sinuosity Low	Medium High		
		Top of Bank V Top of Bank H LB <u>4.0</u> ff	Vidth: <u>6.0</u> ft Height: t RB <u>4.0</u>	ft	Gradient Flat Moderate Seven (0.5/100 ft) (2 ft/100 ft) Stream Erosion (2 ft/100 ft) (10 ft/100 ft)			
		Water Depth:			_			
CHANNEL FE	ATURES	Water Width:_	1.5 ft		Artificial, Modified or Chan ✓ Yes			
		Ordinary High	Water Mark (Width):	<u>1.5</u> ft	<u> </u>	,		
		Ordinary High Flow Direction	Water Mark (Height)	: <u>15.0</u> in	Within Roadside Ditch <u>✓</u> YesNo)		
		I low Direction	i. Ivoitiiwest	-	Culvert Present _v Yes	No		
					Culvert Material: Corrugated	Metal		
					Culvert Size: 36 in			
FLOW	Water Present No water, stream Stream bed moist Standing water				Proportion of Reach Repre Morphology Types (Only ent Riffle 30 % Run 70 Pool %	er if water present)		
CHARACTER	ISTICS	<u>✓</u> Flowing wa	ter		Turbidity			
		Velocity			✓ ClearSlightly turbidTurbid Other			
			_ Moderate					
		<u>✓</u> Slow						
INOR		JBSTRATE CO d add up to 100						
Substrate Type	Dia	meter	% Composition in Sampling Reach	Substrat Type	e Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder	> 25	56 mm (10")		Detitus	plant materials (CPOM)			
		. ,			, ,			
Cobble	64-256	mm (2.5"-10")		Muck-Muc	black, very fine organic			
Cobble Gravel	2-64 r	nm (0.1"-2.5")	30	Muck-Muc	hlack very fine organic			
	2-64 r	,	30 30	Muck-Muc	black, very fine organic (FPOM)			
Gravel Sand Silt	2-64 r 0.06 0.00	nm (0.1"-2.5") -2mm (gritty) 4-0.06 mm		Muck-Muc	black, very fine organic			
Gravel Sand	2-64 r 0.06 0.00	nm (0.1"-2.5") -2mm (gritty) 4-0.06 mm 04 mm (slick)	30 30 10	Marl	black, very fine organic (FPOM) grey, shell fragments			
Gravel Sand Silt	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) 4-0.06 mm 04 mm (slick)	30 30 10 Surrounding Landu — Commercia ure — Industrial al — Residential — Other:	Marl Ise	black, very fine organic (FPOM) grey, shell fragments Floodplain Width	ate 15-30ft		
Gravel Sand Silt Clay	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) 4-0.06 mm 4 mm (slick) Predominant Forest Field/Past Agricultura ROW Canopy Cove Open	30 30 10 Surrounding Landu Commercia ure Industrial al Residential Other:	Marl Ise	black, very fine organic (FPOM) grey, shell fragments Floodplain Width Wide > 30ft Moder			
Gravel Sand Silt Clay WATERSHED FEATURES	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) 4-0.06 mm 04 mm (slick) Predominant Forest Field/Past Agricultura ROW Canopy Cove Open Shaded	30 30 10 Surrounding Landu Commercia ure Industrial Residential Other:	Marl use al	black, very fine organic (FPOM) grey, shell fragments Floodplain Width Wide > 30ft Moder	ate 15-30ft		
Gravel Sand Silt Clay WATERSHED FEATURES	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) -4-0.06 mm -4 mm (slick) Predominant Forest Field/Past Agricultura ROW Canopy Cove Open Shaded	30 30 10 Surrounding Landu Commercia ure Industrial Residential Other:	Marl use al	black, very fine organic (FPOM) grey, shell fragments Floodplain Width Wide > 30ft Narrow <15ft	ate 15-30ft		
Gravel Sand Silt Clay WATERSHED FEATURES	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) -4-0.06 mm -4 mm (slick) Predominant Forest Field/Past Agricultura ROW Canopy Cove Open Shaded	30 30 10 Surrounding Landu Commercia ure Industrial Residential Other:	Marl use al	black, very fine organic (FPOM) grey, shell fragments Floodplain Width Wide > 30ft Narrow <15ft	ate 15-30ft		
Gravel Sand Silt Clay WATERSHED FEATURES	2-64 r 0.06 0.00 < 0.00	nm (0.1"-2.5") -2mm (gritty) -4-0.06 mm -4 mm (slick) Predominant Forest Field/Past Agricultura ROW Canopy Cove Open Shaded	30 30 10 Surrounding Landu Commercia ure Industrial Residential Other:	Marl use al	black, very fine organic (FPOM) grey, shell fragments Floodplain Width Wide > 30ft Narrow <15ft	ate 15-30ft		



Photograph Direction NNE

STREAM ID S-EF19		STREAM NA	STREAM NAME UNT to Indian Run				
CLIENT MVP				PROJECT NAME MVP			
LAT 37.21609	93 <u>L</u>	ONG -80.19743		DATE 04/11/2016 COUNTY Montgomery			
INVESTIGATO	ORS D Ha	dersbeck, J Swil	ik, J Potrikus				
WATER TYPE	RPW [NRPW .	FLOW REG Perennial	FLOW REGIME Perennial Intermittent Ephemeral			
CHANNEL FE	ATURES	Top of Bank H LB <u>1.0</u> ft Water Depth: Water Width: Ordinary High	Vidth:5.0ft leight: RB1.0 n in 0.00 ft	: <u>1.0</u> ft	Sinuosity		
FLOW CHARACTER	ISTICS	Water Presen ✓ No water, si — Stream bed — Standing w — Flowing wat Velocity — Fast — Slow	tream bed dry moist rater	Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle % Run % Pool % Turbidity			er if water present) %
INOR		UBSTRATE CON					-
Substrate Type	Dia	meter	% Composition in Sampling Reach	Substrat Type	e Ch	aracteristic	% Composition in Sampling Area
Bedrock				Detritus		cks, wood, coarse	
Boulder		56 mm (10")	20	200.100	plant materials (CPOM)		100
Cobble		6 mm (2.5"-10")	20	Muck-Muc	blac	ck, very fine organic	
Gravel		mm (0.1"-2.5")	20		-	(FPOM)	
Sand		-2mm (gritty)	20	1			
Silt		04-0.06 mm	20	Marl	gre	grey, shell fragments	
Clay < 0.004 mm (slick) Predominant Surre Forest Field/Pasture Agricultural ROW Canopy Cover Open Shaded			Residential Other:	CommercialWide > IndustrialNarrow Residential			te 15-30ft
		. —					
MAC	ROINVER	TEBRATES/OTI	HER WILDLIFE OBS	SERVED OR	OTHER N	NOTES AND OBSER	RVATIONS
Stream comple	tely cover	ed by leaves. NH	ID ephemeral line on	mapbook.			



Photograph Direction East

STREAM ID S-EF20A				STREAM NAME UNT to Roanoke River					
CLIENT MV				PROJECT NAME MVP					
LAT 37.21122		ONG -80.19277	'3	DATE 04/11/2016 COUNTY Montgomery					
INVESTIGATO	ORS D Ha	adersbeck, J Swi	ilik, J Po						
WATER TYPE TNW RPW NRPW NRPW				FLOW REG Perennial	IME Interm	nittent	Ephemeral		
		Fatimata Mar		anta		Cinu	noity law di	Madium High	
		Top of Bank V Top of Bank I LB1.0 f	Width: _ Height:	6.0 ft Gradient Flat ✓ Moderate (0.5/100 ft) (2 ft/100 ft)			derateSevere		
		Water Depth:					NoneModerate	Heavy	
		Water Beptin		_		Artifi		nelized	
CHANNEL FE	ATURES	1		_	50 ft		Yes ✓ No		
		Ordinary High				With	in Roadside Ditch		
		Ordinary High		` ,	: <u>8.0</u> in	_	Yes <u>✓</u> No)	
		Flow Direction	n: North	neast	_		ert PresentYes		
							ert Material:		
							ert Size:in		
Water Present No water, stream Stream bed mois Standing water FLOW CHARACTERISTICS Flowing water				ed dry		Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle 10 % Run 80 % Pool 10 %			
CHARACTER	Velocity Fast Mod Slow			rate		Turbidity <u>✓</u> ClearSlightly turbidTurbidOther			
INOR	_	UBSTRATE CO		_			NIC SUBSTRATE COM		
Substrate Type	Dia	meter		omposition in npling Reach	Substra Type		Characteristic	% Composition in Sampling Area	
Bedrock					Detritus		sticks, wood, coarse		
Boulder	> 2	56 mm (10")	10)	Detilitus	١	olant materials (CPOM)	40	
Cobble	64-256	6 mm (2.5"-10")	20)	Muck-Mu	ıd	black, very fine organic		
Gravel	2-64 r	mm (0.1"-2.5")	50)	WIGOK WIC		(FPOM)		
Sand	0.06	-2mm (gritty)	20)					
Silt		04-0.06 mm			Marl		grey, shell fragments		
Clay	< 0.00	04 mm (slick)							
Predominant Surre ✓ Forest — Field/Pasture — Agricultural — ROW Canopy Cover — Open Shaded			ture _ al _ er	conding Landuse Commercial Industrial Residential Other:		<u>~</u> \	Iplain Width /ide > 30ft Modera arrow <15ft	ate 15-30ft	
МДС	ROINVER	TEBRATES/OT	HER W	ILDLIFF ORS	SERVED O	R OTHE	R NOTES AND OBSER	RVATIONS	
		d downstream as						VALIONO	



Photograph Direction ENE

STREAM ID S-MM22	STREAM NAME UNT to Roanoke River				
LAT 37.205489 LONG -80.187353	DATE 09/16/2015				
CLIENT MVP	PROJECT NAME MVP				
INVESTIGATORS A.Grech, A. Stott, L.Sexton					
FLOW REGIME Perennial Intermittent Ephemeral	WATER TYPE TNW RPW NRPW				

Perennial _		nt Ephem	eral YMTER 11	_	NRPW 🖍		
			Measurements		Stream Erosion	Hoove	
		•	k Width: 15.0 ft		<u>✓</u> NoneModerate	<u> —</u> пеаvy	
		Top of Ban	•		Artificial, Modified or Char	nnelized	
		LB <u>0.0</u>	ft RB <u>0.0</u>	<u>ft</u>	Yes _ <u>✔</u> No		
CHANNEL FE	ATURES	Water Dept	th: 0.00 in		Dam Bussant Vas	. Na	
		Water Widt	h: 0.0 ft		Dam PresentYes _	Z NO	
		High Water	Mark: 0.0 ft		Sinuosity Low	Medium High	
		Flow Direct	tion: North		Gradient		
		2				Severe	
						(10 ft/100 ft)	
		Water Pres			Proportion of Reach Repre	esented by Stream	
			r, stream bed dry		Morphology Types Riffle % Run	%	
		Stream	oed moist		Pool %	/0	
FLOW	ICTICC	Flowing	•		,,,		
CHARACTER	131103				Turbidity		
		Velocity			Clear Slightly Opaque Stained		
		Fast Slow	Moderate		Other		
on	0.4.110.0110					IDONENTO	
INOR		STRATE CO add up to 10	MPONENTS 0%)	ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)			
Substrate	-	-	% Composition in	Substrate		% Composition in	
Туре	Diame	ter	Sampling Reach	Туре	Characteristic	Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 256 ı	mm (10")		Delilius	plant materials (CPOM)		
Cobble	64-256 m	m (2.5"-10")		Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1"-2.5")		WIGON-WIGG	(FPOM)		
Sand	0.06-2n	nm (gritty)					
Silt	0.004-0).06 mm		Marl	grey, shell fragments		
Clay	< 0.004 r	mm (slick)					
			ant Surrounding Lan		Indicate the dominant type		
		Forest	Commer asture Industrial		Trees Shrub Grasses Herba	s ceous	
		Agricult			Grassesrierba	ceous	
WATERSHED			Access road		Floodplain Width		
FEATURES			. 100000 1000		Wide > 30ftMode	rate 15-30ft	
		Canopy Co		adad	Ivaliow < fold		
		Partly of Shaded		aueu	<u>✓</u> No		
		— Wetland ID					
401147101/5			• •		dominant species present	ing Free fleeting	
AQUATIC VE	EIAIION		_	Rooted subme Attached algae	_	tingFree floating	
				rittaorica aiga			
		Stroom noo	de revisited. Data no	artially collecte	ed in field due to being remov	ad from proporty by	
		owner.	rus revisiteu - Data pa	artially collecte	a in hela due to being remov	ed from property by	
MACROINVER	?TFRRATES						
OR OTHER	VILDIVATEO						
WILDLIFE OBSERVED/C	THER						
OBSERVATION NOTES							
1		1					



Photograph Direction North

STREAM ID S-IJ50			STREAM NA	STREAM NAME UNT to Roanoke River			
CLIENT MVP				PROJECT NAME MVP			
LAT 37.193575 LONG -80.167123					COUNTY Roanoke		
INVESTIGATO	ORS E. Fo	ster, K. Lew, J.	Bittner				
	WATER TYPE TNW RPW NRPW NRPW			FLOW REGIME Perennial Intermittent Ephemeral			
		Estimate Mea	asuromonts		Sinuosity Low 🗸	Medium High	
		Top of Bank Width:25.0ft Top of Bank Height: LB4.0ft RB4.0ft Water Depth:6.00in			GradientFlatModerate✓ Severe (0.5/100 ft)		
		Water Width:			Artificial, Modified or Channelized		
CHANNEL FE	CHANNEL FEATURES			400 #	Yes No		
			Water Mark (Width):		Within Roadside Ditch		
		_	Water Mark (Height)	: <u>12.0</u> in	Yes _✓No	1	
		Flow Direction	n: Northwest	_	_		
					Culvert PresentYes No Culvert Material:		
					Culvert Size:in		
		Water Preser No water, sStream bed Standing v	stream bed dry d moist		Proportion of Reach Repres Morphology Types (Only ente Riffle 30 % Run 35 Pool 35 %	er if water present)	
FLOW CHARACTERI	ISTICS	Flowing wa	ter		Touchiditor		
		VelocityFast Moderate Slow			Turbidity <u>✓</u> ClearSlightly turbidTurbid Other		
INOR	-	UBSTRATE CO			ORGANIC SUBSTRATE CON (does not necessarily add u		
Substrate		-	% Composition in	Substrat	e T	% Composition in	
Туре	Dia	meter	Sampling Reach	Туре	Characteristic	Sampling Area	
Bedrock			50	Detritus	sticks, wood, coarse		
Boulder	> 25	56 mm (10")	20	Detilitus	plant materials (CPOM)	10	
Cobble	64-256	6 mm (2.5"-10")	10	Muck-Muc	black, very fine organic		
Gravel	2-64 r	mm (0.1"-2.5")	10	WIUCK-WIUC	(FPOM)		
Sand	0.06	-2mm (gritty)	10				
Silt	0.00	04-0.06 mm		Marl	grey, shell fragments		
Clay	< 0.00	04 mm (slick)					
WATERSHED FEATURES Predominant Su Forest Agricultural ROW Canopy Cover Open Shaded		al ResidentialOther:	al	Floodplain Width Wide > 30ft Modera Narrow <15ft	ate 15-30ft		
MAC	ROINVER	TEBRATES/OT	HER WILDLIFE OBS	SERVED OR	OTHER NOTES AND OBSER	RVATIONS	
none observed							
1							



Photograph Direction SE

STREAM ID S-Y13	STREAM NAME UNT to Bottom Creek
LAT 37.187804 LONG -80.150962	DATE 07/16/2015
CLIENT MVP	PROJECT NAME MVP
INVESTIGATORS D Hadersbeck, K Lew, G Bu	da, J Swilik
FLOW REGIME Perennial Intermittent ✓ Ephemeral	WATER TYPE TNW RPW_✓ NRPW

CHANNEL FEATURES		Estimate Measurements Top of Bank Width: 8.0 ft			Stream Erosion V NoneModerateHeavy	
					Artificial, Modified or Channelized <u>v</u> Yes No	
		Water Depth: 1.00 in Water Width: 4.0 ft			Dam PresentYes _	<u>∕</u> No
		High Water Mark: _4.0 ft_			Sinuosity Low	Medium 👱 High
		Flow Direct	ion: E/NE		Gradient	
					—	Severe (10 ft/100 ft)
FLOW CHARACTERISTICS		Water Present No water, stream bed dry Stream bed moist Standing water Flowing water Velocity Fast Moderate			Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity Clear Slightly turbid Turbid Opaque Stained	
INOR	CANIC CUE	STRATE COMPONENTS			—Other ORGANIC SUBSTRATE COMPONENTS	
INUR				does not necessarily add up to 100%)		
Substrate Type	Diame	eter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock				Detritus	sticks, wood, coarse	
Boulder		mm (10")			plant materials (CPOM)	20
Cobble Gravel		ım (2.5"-10") n (0.1"-2.5")	<u>20</u> 50	Muck-Mud	black, very fine organic (FPOM)	
Sand		nm (gritty)	25		(- ,	
Silt		0.06 mm	5	Marl	grey, shell fragments	
Clay	< 0.004	mm (slick)	0			
WATERSHED FEATURES -		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly open Partly shaded ✓ Shaded Open		Indicate the dominant type (Check one) Trees Shrubs Herbaceous Floodplain Width Wide > 30ft Narrow <16ft Wetland Present Yes No		
		_		4	Wetland ID	
AQUATIC VEGETATION		Rooted	Indicate the dominant type and record the dominant species present Rooted emergent			
1		I Dune adiac	ont to S V1/			

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Information listed on this form represents the data collected in 2015. The stream was not accessible for survey in 2019 to reconfirm the presence of a stream channel and OHWM.



Photograph Direction East

STREAM ID S-Y14	STREAM NAME UNT to Bottom Creek
LAT 37.187677 LONG -80.150851	DATE 07/16/2015
CLIENT MVP	PROJECT NAME MVP
INVESTIGATORS D Hadersbeck, K Lew, G Bu	da, J Swilik
FLOW REGIME Perennial ✓ Intermittent — Ephemeral —	WATER TYPE TNW RPW_✓ NRPW

i elelillai –	_ 11110111111110	nt — Epnem	erai INVV —	RPW —	NRPW		
			_				
		Estimate Measurements			Stream Erosion ✓ None Moderate	Носум	
		Top of Bank Width: 14.0 ft			<u>✓</u> NoneModerate	<u> —</u> пеаvy	
		Top of Bank Height:			Artificial, Modified or Char	nnelized	
		1.5 1.5		<u>ft</u>	<u>✓</u> Yes No		
CHANNEL FE	ATURES	Water Dep	th: 6.00 in		Dam PresentYes _	∠ No	
		Water Widt	h: <u>6.0 ft</u>		Dam Flesent 165 _	<u>/ </u>	
		High Water Mark: 14.0 ft			Sinuosity Low	Medium High	
		Flow Direction: E/NE			Gradient		
					Flat Moderate _	Severe	
					(0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)		
		Water Pres	sent r, stream bed dry	Proportion of Reach Represented by Stream Morphology Types			
			ned moist		Riffle % Run 100 %		
EL OW			g water		Pool %		
FLOW CHARACTER	ISTICS	<u>✓</u> Flowing	water		T		
		Velocity			Turbidity <u>✓</u> ClearSlightly turbid		
			✓ Moderate		OpaqueStained		
		Slow			Other		
INOR	GANIC SUB	STRATE CO	MPONENTS	0	RGANIC SUBSTRATE CON	IPONENTS	
	(should a	add up to 10	, , , , , , , , , , , , , , , , , , ,	(c	(does not necessarily add up to 1		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 256	mm (10")		Detritus	plant materials (CPOM)	20	
Cobble	64-256 m	m (2.5"-10")	20	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1"-2.5")	60	Widok Wida	(FPOM)		
Sand	0.06-2n	nm (gritty)	20				
Silt		0.06 mm		Marl	grey, shell fragments		
Clay	< 0.004 i	mm (slick)	0				
			ant Surrounding Lan	iduse	Indicate the dominant type ✓ Trees Shrub		
		Forest Commer				ceous	
		Agricult		tial	_		
WATERSHED FEATURES		Other:	<u>—</u>		Floodplain Width Wide > 30ft Moderate 15-30ft		
1 2711 5112 5		0			✓ Narrow <16ft	rate 10 ook	
		Canopy Co		aded	_		
			Open		Wetland PresentYes Wetland ID	<u>✓</u> No	
		Indicate th	e dominant type an				
AQUATIC VE	GETATION	Indicate the dominant type and record the dominant species present Rooted emergentRooted submergent Rooted floating Free floating					
		Floating algae Attached algae					
		Runs adjacent to S-Y13.					
MACROINVER OR OTHER	RTEBRATES						
WILDLIFE	TUES						
OBSERVED/C							
NOTES							
ĺ							



Photograph Direction WSW

STREAM ID S-EF57			STREAM N	STREAM NAME UNT to Bottom Creek			
CLIENT MVP				PROJECT NAME MVP			
LAT 37.1817736 LONG -80.148948				DATE 09/27/2016 COUNTY Roanoke			
INVESTIGATO	DRS D Ha	dersbeck C Wie	man J Niergarth				
WATER TYPE		NRPW	FLOW RE	FLOW REGIME			
CHANNEL FEATURES CHANNEL FEATURES Estimate Measurer Top of Bank Width: Top of Bank Height: LB2.5 ft Water Depth:1.00 Water Width:3.0 Ordinary High Water Flow Direction: Sou		Vidth: <u>8.0</u> ft Height: t RB <u>2.5</u> 1.00 in 3.0 ft Water Mark (Width Water Mark (Heigh): <u>4.0</u> ft	SinuosityLowMedium✓ High GradientFlat✓ ModerateSevere (0.5/100 ft)			
Water Present No water, streamStream bed moisStanding water VelocityFastModV Slow			tream bed dry I moist vater		Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle 30 % Run 70 % Pool % Turbidity ClearSlightly turbidTurbid Other		
INOR		JBSTRATE CO			ORGANIC SUBSTRATE COM (does not necessarily add u		
Substrate Type	Dia	meter	% Composition in Sampling Reach		i Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 25	56 mm (10")	10	Bottituo	plant materials (CPOM)	20	
Cobble	64-256	mm (2.5"-10")	25	Muck-Mu	black, very fine organic		
Gravel		nm (0.1"-2.5")	45	Widok Wid	(FPOM)		
Sand	0.06	-2mm (gritty)	20				
Silt	0.00	4-0.06 mm		Marl	grey, shell fragments		
Clay	< 0.00)4 mm (slick)					
WATERSHED FEATURES Predominant Surro ✓ Forest — Field/Pasture — Agricultural — ROW Canopy Cover — Open — Shaded		CommercureIndustrial alResidenti-	ial al	Floodplain Width Wide > 30ft Moder. ✓ Narrow <15ft	ate 15-30ft		
MAC	ROINVER	TEBRATES/OT	HER WILDLIFE OE	SERVED OF	R OTHER NOTES AND OBSE	RVATIONS	
connects S-EF:	34						



Photograph Direction North

STREAM ID S-EF55			STREAM NA	STREAM NAME UNT to Bottom Creek			
CLIENT MVP			PROJECT N	PROJECT NAME MVP			
LAT 37.181506 LONG -80.149497				DATE 09/27/2016 COUNTY Roanoke			
INVESTIGATO	ORS D Ha	dersbeck C Wie	man J Niergarth				
WATER TYPE	WATER TYPE TNW RPW NRPW NRPW			FLOW REGIME Perennial Intermittent F Ephemeral			
					Sinuosity Low v	Medium High	
		Estimate Measurements Top of Bank Width:8.0			Gradient Flat Moderate ✓ Severe (2 ft/100 ft) Stream Erosion Moderate ✓ Severe (10 ft/100 ft)		
					<u>✓</u> NoneModerateHeavy		
CHANNEL FE	ATURES	Water Width:	3.0 ft		Artificial, Modified or Channelized		
OTAMILE TEATORED		Ordinary High	Water Mark (Width):	<u>4.0</u> ft	YesNo		
		Ordinary High	Water Mark (Height)	: <u>5.0</u> in	Within Roadside Ditch		
		Flow Direction	: Southeast		Yes _ <u>✓</u> No		
				_	Culvert PresentYes	<u>√</u> No	
					Culvert Material:		
					Culvert Size:in		
FLOW		Stream bed	tream bed dry I moist vater		Proportion of Reach Representation Morphology Types (Only enter Riffle 50 % Run 40 Pool 10 %	er if water present)	
CHARACTER	ISTICS	✓ Flowing water Velocity Fast ✓ Moderate			Turbidity <u>v</u> ClearSlightly turbidTurbidOther		
		Slow	_				
INOR	-	UBSTRATE CO			ORGANIC SUBSTRATE COM (does not necessarily add u		
Substrate Type	Dia	meter	% Composition in Sampling Reach	Substrate Type	e Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse plant materials (CPOM)		
Boulder		56 mm (10")	15	201.11.00		15	
Cobble		6 mm (2.5"-10")	20	Muck-Mud	d black, very fine organic (FPOM)		
Gravel		mm (0.1"-2.5")	35	WIGOR WIGG			
Sand	0.06	-2mm (gritty)	30				
Silt	0.00	14 0 06 mm					
Clay		04-0.06 mm		Marl	grey, shell fragments		
		04 mm (slick)					
WATERSHED FEATURES	< 0.00	04 mm (slick)	al ResidentialOther:	use al	Floodplain Width	ate 15-30ft	
WATERSHED	< 0.00	Predominant Forest Field/Past Agricultura ROW Canopy Cove Open	Commercia ure Industrial al Residential Other:	use al	Floodplain Width Wide > 30ft Modera	ate 15-30ft	
WATERSHED FEATURES	< 0.00	Predominant Forest Forest Agricultura ROW Canopy Cove Open Shaded	Commercia ure Industrial al Residential Other: Partly shade	use al	Floodplain Width Wide > 30ft Modera		
WATERSHED FEATURES	< 0.00	Predominant Forest Forest Agricultura ROW Canopy Cove Open Shaded	Commercia ure Industrial al Residential Other: Partly shade	use al	Floodplain Width Wide > 30ft Narrow <15ft		



Photograph Direction NNE