STREAM ID	S-YZ1		STREAM NA	STREAM NAME Doe Creek			
	Р		PROJECT N	PROJECT NAME MVP			
LAT 37.33648	37 LO	ONG -80.61455	DATE 09/19/	DATE 09/19/2016 COUNTY Giles			
INVESTIGATO	DRS S. Pi	lcher, S. Therkild	dson, S. Yarbrough				
	WATER TYPE RPW NRPW FLOW REGIME Ephemeral						
		Estimate Mea	asurements		Sinuosity <u>~</u> Low	MediumHigh	
		Top of Bank Width: <u>10.0</u> ft Top of Bank Height:				•	
					Gradient Flat Mo (0.5/100 ft) (2 ft/	derate \checkmark Severe 100 ft) (10 ft/100 ft)	
		LB 3.0 ft RB 4.0 ft			Stream Erosion		
		Water Depth:	0.00 in		NoneModerate	<u></u> Heavy	
		Water Width	 0.0 ft		Artificial, Modified or Chann	nelized	
CHANNEL FE	ATURES	Ordinary High	Nater Mark (Width):	10.0 ft	Yes 🖌 No		
		Ordinary High	Water Mark (Weith).	· 24.0 in	Within Roadside Ditch		
			Nater Mark (Teight)	24.0 III	YesNo		
		Flow Direction	1: <u>500</u> (11	-	Culvert Present 🖌 Yes	No	
					Culvert Material: Corrugated Metal		
					Culvert Size: 20 in		
		Water Preser	nt		Proportion of Reach Repres	ented by Stream	
✓ No water, stream			stream bed dry		Morphology Types (Only enter	r if water present)	
		Stream bed moist			Riffle % Run %		
FLOW		Standing w	vater		P00I %		
CHARACTER	ISTICS	Flowing wa	lter		Turbidity		
		Velocity			ClearSlightly turbidTurbid		
		Fast Moderate			Other		
		Slow					
INOR	GANIC SI (shoul	UBSTRATE CO	MPONENTS 0%) 100		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate	Dia	meter	% Composition in	Substrat	e Characteristic	% Composition in	
Туре			Sampling Reach	Туре		Sampling Area	
Bedrock			20	Detritus	sticks, wood, coarse		
Boulder	> 25	56 mm (10")	30			10	
Cobble	64-256	6 mm (2.5"-10")	30	Muck-Muc	black, very fine organic		
Sand	2-041	$\frac{1111}{2mm}\left(0.1 - 2.5\right)$	10				
Silt	0.00	-211111 (gritty)	-	Marl	arev, shell fragments		
Clay	< 0.00)4 mm (slick)	5	Iviali	grey, shen hagments		
City	. 0.00	Predominant	Surrounding Landu	ISA	Floodplain Width		
recommant Surrou <u> </u>			Commercia	ıl	Wide > 30ftModera	te 15-30ft	
		Field/Past	ureIndustrial		Narrow <15ft		
WATERSHED		Agricultura	alResidential				
FEATURES			Other:				
		Canopy Cove	er				
		Open	Partly shade	ed			
		✓ Shaded					

Ground squirrels in riparian area. Also pileated woodpecker nearby and potentially tree frogs.

Stream ID <u>S-YZ1</u> Date: <u>09/19/2016</u>



Photograph Direction SE

STREAM ID S	STREAM ID S-A34			STREAM NAME UNT to Doe Creek			
LAT 37.33772	LON	G -80.605311	DATE 04/06	DATE 04/06/2015			
CLIENT MVP			PROJECT N	AME MVP			
INVESTIGATO	INVESTIGATORS Yarbrough, Stoliker, Heule						
FLOW REGIM Perennial	IE Intermitte	nt <u> </u>	ral 🖌 WATER TYP	PE RPW	NRPW <u>~</u>		
CHANNEL FEATURES Estimate Measure Top of Bank Widt Top of Bank Heig LB 1.0 ft Water Depth: 0.0 Water Depth: 0.0 Water Width: 0.0 High Water Mark: Flow Direction: S Vater Present ✓ No water, streat Stream bed mode Stream bed mode			easurements Width: 7.0 ft Height: t RB 18.0 if n: 0.00 in n: 0.0 ft Mark: 1.0 ft on: South	<u>n</u>	Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes Yes ✓ Low Gradient Yes Flat Moderate (0.5/100 ft (2 ft/100 ft) Proportion of Reach Represent Morphology Types Riffle % Run Pool %	Heavy melized ✓ No MediumHigh ✓ Severe (10 ft/100 ft) sented by Stream %	
FLOW CHARACTERISTICS		Flowing water Velocity Fast Moderate Slow			Turbidity ClearSlightly turbidTurbid OpaqueStained Other		
INOR	GANIC SUB (should a	STRATE COM add up to 100	MPONENTS %)	0 (0	RGANIC SUBSTRATE COM does not necessarily add u	IPONENTS p to 100%)	
Substrate Type	Diame	eter % Composition in Sampling Reach		Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			40	Detritus	sticks, wood, coarse		
Boulder	> 256	mm (10")	15	Doundo	plant materials (CPOM)	70	
Cobble	64-256 m	m (2.5"-10")	5	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1"-2.5")	20		(FPOM)		
Sand	0.06-2n	nm (gritty)	20	Maul	and the life and the		
Slit	0.004-0).06 mm		Iviari	grey, snell tragments		
Clay	< 0.004 i	nm (slick)		ale cana		(a) , , ,	
WATERSHED		ver Sture Commer Industrial Resident ver Den Partly sha Open	cial iial aded	✓ Trees Shrub Grasses Herba Floodplain Width Wide > 30ft Moder ✓ Narrow <16ft Wetland PresentYes Wetland ID	rate 15-30ft		
AQUATIC VEC	GETATION	Indicate the Rooted Floating	e dominant type and emergent algae	d record the c Rooted subme Attached algae	Iominant species present ergentRooted float e	ingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			ent: Ephemeral strea listed on this form rej 19. The presence of	am channel wi presents the d a stream char	th lots of leafy detritus. ata collected in 2015. The sti nel and OHWM was confirm	ream was revisited ed.	

Stream ID S-A34



Photograph Direction NE

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction ENE

Date: _____

STREAM ID S	-A33		STREAM NA	STREAM NAME UNT to Doe Creek			
LAT 37.33772	LON	G -80.605311	DATE 04/06	DATE 04/06/2015			
CLIENT MVP	•		PROJECT NA	ME MVP			
INVESTIGATO	DRS Yarbrou	gh, Stoliker, Heul	le				
FLOW REGIN Perennial	IE Intermitter	nt <u> </u>	VATER TYP	PE RPW	NRPW 🖌		
		Estimate Meas Top of Bank W	surements /idth: <u>7.0 ft</u>		Stream Erosion	Heavy	
		Top of Bank H	eight:		Artificial Madified or Char	nolizod	
		LB_12.0 in	RB <u>16.0</u> i	n	Yes V No	menzea	
		Water Depth:	0.00 in				
CHANNELTE	ATORES	Water Width:_C	0.0 ft		Dam Present Yes	<u>∕</u> No	
		High Water Ma	ark: <u>12.0 ft</u>		Sinuosity 🖌 Low	Medium High	
		Flow Direction:	West		Gradient		
					FlatModerate	Severe	
					(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)	
		Water Present	t ream bed drv		Proportion of Reach Repre Morphology Types	esented by Stream	
		Stream bed	moist		Riffle % Run	%	
FLOW		Standing wa	ater		Pool %		
CHARACTERISTICS		Flowing water			Turbidity		
		Velocity			ClearSlightly	turbidTurbid	
		Fast	Moderate		OpaqueStained		
INOD				0			
(should add up to 100%)			UNEN15	(c	loes not necessarily add u	p to 100%)	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 256 r	mm (10")	10	20111110	plant materials (CPOM)	100	
Cobble	64-256 mi	m (2.5"-10")		Muck-Mud	black, very fine organic		
Gravel	2-64 mm	$(0.1^{-2.5^{\circ}})$	20				
Sanu	0.06-211		40	Marl	arey shell fragments		
Clav	< 0.004 r	nm (slick)	30	Man	grey, shen nagments		
		Predominant	Surrounding Lan	duse	Indicate the dominant type	(Check one)	
		✓ Forest	Commer	cial	<u>✓</u> Trees Shrub	s	
		Field/Pastu	ireIndustrial	ial	GrassesHerba	ceous	
WATERSHED		Other:			Floodplain Width		
FEATURES		_			✓ Narrow <16ft	rate 15-30ft	
		Partly oper	r Partly sha	aded			
		✓ Shaded	Open		Wetland PresentYes Wetland ID	<u>✓</u> No	
		Indicate the d	ominant type and	record the d	lominant species present		
AQUATIC VEC	GETATION	Rooted em	nergent	Rooted subme	ergentRooted float	ingFree floating	
			gac,				
		2015 comment	t: Ephemeral strea	m. No flow. Le	eaf-covered channel. Foreste	ed overstory.	
		Information list	ed on this form rer	presents the d	ata collected in 2015. The st	ream was revisited	
MACROINVER	RTEBRATES	on 10/28/2019.	. The presence of	a stream chan	nel and OHWM was confirm	ed.	
OR OTHER WILDLIFE							
OBSERVED/C OBSERVATIO	THER NS AND						
NOTES							

Stream ID S-A33



Photograph Direction SE

Date: _____

Comments: 2015 stream identification.



Photograph Direction ENE

Date: _____

STREAM ID S	-A32		STREAM NA	STREAM NAME UNT to Doe Creek			
LAT 37.33518	1 LON	G -80.59686	DATE 04/06	DATE 04/06/2015			
CLIENT MVP	1		PROJECT NA	AME MVP			
INVESTIGATO	DRS Yarbroug	h, Stoliker, Heul	e				
FLOW REGIME							
Perenniai-							
		Estimate Meas Top of Bank W Top of Bank He	idth: <u>16.0 ft</u> eight:		Stream Erosion NoneModerate Artificial, Modified or Char	Heavy nnelized	
		$LB \underline{1.0 \ IL} RB \underline{2.0 \ IL}$			Yes 🖌 No		
CHANNEL FE	ATURES	Water Depth: _	2.00 In		Dam PresentYes	∕_No	
		Water Width: 5	$\frac{10}{\pi}$		Sinucsity of Low	 Medium High	
		High water wa	rK: <u>1.0 II</u>				
		Flow Direction:	Soyin		Gradient	Severe	
					(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)	
FLOW CHARACTERISTICS		Water Present No water, str Stream bed Standing water Flowing water	: eam bed dry moist ater er		Proportion of Reach Repre Morphology Types Riffle 40 % Run 30 Pool 30 %	esented by Stream %	
		Velocity Fast ⊻ Moderate Slow			✓ ClearSlightly turbidTurbid _OpaqueStained _Other		
INOR	GANIC SUB	STRATE COMPO	ONENTS	0	RGANIC SUBSTRATE CON	IPONENTS	
(should add up to 100%)				(C	loes not necessarily add u	p to 100%)	
Substrate Type	Diamet	er 9	% Composition in Sampling Reach	Substrate Type	Characteristic	Sampling Area	
Bedrock			30	Detritus	sticks, wood, coarse		
Boulder	> 256 r	nm (10")	20	Detilitus	plant materials (CPOM)	5	
Cobble	64-256 mr	n (2.5"-10")	25	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1"-2.5")	20		(FPOM)		
Sano	0.06-21	im (gritty)	5	Morl	arov, shall fragments		
Clay	< 0.004 n	nm (slick)		IVIAII	grey, shen nagments		
Clay < 0.004 mm (s Pre WATERSHED FEATURES Ca		Predominant S Forest Field/Pastu ✓ Agricultural Other: Canopy Cover Partly open Shaded	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 ✓ Grasses Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft Narrow <16ft Wetland PresentYesNo Wotland ID See below		
AQUATIC VEC	GETATION	Indicate the de Rooted em Floating alg	ominant type and ergent gae	d record the d Rooted subme Attached algae	Iominant species present ergentRooted float e	ingFree floating	
		2015 0000000	· Doronnial atra	n Von mina-	wotland frings davidenment	within honkfull width	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES		Information liste on 10/28/2019.	ed on this form rej The presence of	oresents the d	ata collected in 2015. The st nel and OHWM was confirm	ream was revisited ed.	

Stream ID S-A32



Photograph Direction South

Date: _____

Comments: 2015 stream identification.



Photograph Direction South

Date: _____

STREAM ID S	-QQ2		STREAM NA	STREAM NAME Sinking Creek			
LAT 37.33311	2 LON	G -80.429428	B DATE 09/11/	DATE 09/11/2015			
CLIENT MVP			PROJECT N	AME MVP			
INVESTIGATO	ORS A lands,	S Therkildso	n				
FLOW REGIN	IE Intermitter	nt Epheme	eralTNW	PE	NRPW		
		Estimate M Top of Ban Top of Ban	leasurements k Width: <u>35.0 ft</u> k Height:		Stream Erosion <u> V</u> None Moderate Artificial Modified or Char	Heavy	
		LB <u>3.0</u>	ft RB <u>4.0</u>	ft	Yes V No	menzeu	
CHANNEL FE	ATURES	Water Dept	h: <u>10.00 in</u>				
ONANNEETE	ATOREO	Water Widt	h: 25.0 ft		Dam Present Yes	∠ No	
		High Water	Mark: <u>1.0 ft</u>		Sinuosity 🖌 Low	Medium High	
		Flow Direct	ion: West		Gradient		
					✓ FlatModerate (0.5/100 ft (2 ft/100 ft)	Severe (10 ft/100 ft)	
		Water Pres	sent		Proportion of Reach Repre	esented by Stream	
		No wate	r, stream bed dry		Morphology Types	0/	
		Stream t	ped moist		Pool % Rull 50	70	
FLOW	STICS	Flowing	water				
CHARACTERISTICS		Velocity			Turbidity	turbid Turbid	
		Velocity ✓ Fast	Moderate		OpaqueStained		
Slow					Other		
INORGANIC SUBSTRATE COMPON (should add up to 100%)				0	RGANIC SUBSTRATE CON		
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")	10		plant materials (CPOM)	5	
Cobble	64-256 m	m (2.5"-10")	30	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1 [°] -2.5 [°])	30				
Sano	0.00-20	1m (gritty)	30	Marl	arov, shall fragmonts		
Clay	< 0.004 r	mm (slick)		IVIAII	grey, shen nagments		
City	0.0011	Predomina	nt Surrounding Lan	duse	Indicate the dominant type	(Check one)	
		Forest	Commer	cial	TreesShrub	s	
		✓ Field/Pa	asture Industrial		✓ GrassesHerba	ceous	
WATERSHED		Agricuit Other:	uraiResident	liai	Floodplain Width		
FEATURES					✓ Wide > 30ft Model	rate 15-30ft	
		Canopy Co	over	adad			
		Shaded	lOpen	aueu	Wetland PresentYes Wetland ID	<u>✓</u> No	
		Indicate th	e dominant type and	d record the d	lominant species present		
AQUATIC VE	GETATION	Rooted	emergent	Rooted subme	ergentRooted float	ing Free floating	
		Floating	g algae	Attached algae	9		
		Small fish,	water beetles, crawfis	sh, clam shells	, raccoon tracks observed.		
	RTERRATES	Water dept	hs up to 2 ft were obs	erved in stream	n, but outside corridor		
OR OTHER							
OBSERVED/C							
NOTES	INS AND						

Stream ID <u>S-QQ2</u> Date: <u>09/11/2015</u>



Photograph Direction West

STREAM ID S-MN11-Upstream			STREAM NA	STREAM NAME UNT to Sinking Creek			
	Þ		PROJECT N	PROJECT NAME MVP			
LAT 37.33280)7 L(ONG -80.55923	7 DATE 09/14/	DATE 09/14/2016 COUNTY Giles			
INVESTIGATO	ORS SRy	an, M Whitten, S	S Therkildson				
WATER TYPE			FLOW REG	IME			
TNW	RPW	NRPW	Perennial	Intermi	ttent Ephemeral		
Estimate Measuren Top of Bank Width: _ Top of Bank Height: LB0.5ft Water Depth:0.00 Water Width:0.0 Ordinary High Water Ordinary High Water Flow Direction:Sour			asurements Vidth:4.0ft Height: t RB0.5f 0.00in 0.0ft Water Mark (Width): Water Mark (Height) Southwest	ft <u>2.0_</u> ft : <u>3.0_</u> in _	Sinuosity ∠ LowMediumHigh GradientFlatModerateY Severe (0.5/100 ft)(2 ft/100 ft) Stream ErosionNoneModerateHeavy Artificial, Modified or ChannelizedNo YesNo Within Roadside DitchYesNo Culvert Present ∠ YesNo Culvert Material: Corrugated Metal Culvert Size: 18 in		
FLOW Water Present CHARACTERISTICS No water, stream Flowing water Standing water Flowing water Flowing water Velocity Fast Slow Slow			nt tream bed dry d moist vater ter _ Moderate	rate Proportion of Reach Represented by St Morphology Types (Only enter if water press Riffle % Run % Pool % TurbidityClearSlightly turbidTOther			
INOR	GANIC SU (shoul	JBSTRATE CO	MPONENTS 0%) 100		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate	Dia	meter	% Composition in	Substrat	e Characteristic	% Composition in	
Туре	Dial		Sampling Reach	Туре		Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 25	56 mm (10")	5		plant materials (CPOM)	10	
Cobble	64-256	mm (2.5"-10")	0	Muck-Muc	black, very fine organic	<u>_</u>	
Gravel	2-64 r	nm (0.1"-2.5")	15		(FPOM)	U	
Sand	0.06	-2mm (gritty)	40			<u>_</u>	
Silt	0.00	4-0.06 mm	40	Marl	grey, shell fragments	0	
Clay	< 0.00	04 mm (slick)					
WATERSHED Predominant Surro ✓ Forest Field/Pasture Agricultural ROW Canopy Cover <			Surrounding Landu Commercia ure Industrial al Residential Other: Partly shade	u se al ed	Floodplain Width Wide > 30ftModera Narrow <15ft	ite 15-30ft	

Stream crosses AR in two locations. This is form for eastern (upstream) crossing. This is the head water origin of stream with culvert as source. Culvert emerges from under Mt Lake Road and flows over AR to where bed/bank begin.

Stream ID <u>S-MN11-Upstream</u> Date: <u>09/14/2016</u>



Photograph Direction NE

STREAM ID	STREAM ID S-MN11-Downstream		STREAM NA	STREAM NAME UNT to Sinking Creek			
	Ρ		PROJECT N	PROJECT NAME MVP			
LAT 37.33208	35 L	ONG -80.56032	3 DATE 09/14/	DATE 09/14/2016 COUNTY Giles			
INVESTIGATO	DRS S Ry	an, M Whitten, S	S Therkildson				
WATER TYPE	RPW	NRPW	FLOW REG	IME] Intermi	ttent Ephemeral 🔽		
Estimate Measuren Top of Bank Width: _ Top of Bank Height: LBft Water Depth:0.00 Water Width:0.0 Ordinary High Water Ordinary High Water Flow Direction:			asurements Vidth: <u>5.0</u> ft Height: t RB <u>1.0</u> <u>0.00</u> in <u>0.00</u> ft Water Mark (Width): Water Mark (Height) h: <u>West</u>	ft <u>3.0_</u> ft : <u>5.0_</u> in _	SinuosityLowMediumHigh GradientFlatModerateSevere (0.5/100 ft)(2 ft/100 ft) Stream ErosionNoneModerateHeavy Artificial, Modified or ChannelizedYesNo Within Roadside DitchYesNo Culvert PresentYesNo Culvert Material: Culvert Size:in		
FLOW Water Present CHARACTERISTICS Model Flowing water Flowing water Velocity Fast Model Slow			nt tream bed dry d moist vater ter _ Moderate	rate Proportion of Reach Represented by Stread Morphology Types (Only enter if water present Riffle % Run % Pool % TurbidityClearSlightly turbidTurbidityOther			
INOR	GANIC SI (shoul	UBSTRATE CO	MPONENTS 0%) 100		ORGANIC SUBSTRATE COMPONENTS (does not necessarily 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")	15	Deallas	plant materials (CPOM)	40	
Cobble	64-256	6 mm (2.5"-10")	5	Muck-Muc	black, very fine organic		
Gravel	2-64 r	nm (0.1"-2.5")	10		(FPOM)	0	
Sand	0.06	-2mm (gritty)	30				
Silt	0.00	4-0.06 mm	40	Marl	grey, shell fragments	0	
Clay	< 0.00	04 mm (slick)					
WATERSHED			Surrounding Landu Commercia ure Industrial al Residential Other: Partly shade	ise al ed	Floodplain Width Wide > 30ftModera Narrow <15ft	ate 15-30ft	

Stream crosses AR in two locations. This is form for western (downstream) crossing. Variable bed/bank characteristics. Incised near existing road with a wider bed (nearing sheet flow) near the downstream edge of access road. Stream ID taken in middle to represent average. No culvert under access road - stream crosses over road.

Stream ID <u>S-MN11-Down</u>stream Date: <u>09/14/2016</u>



Photograph Direction West

STREAM ID S	-Y03		STREAM NA	STREAM NAME UNT to Doe Creek				
LAT 37.33188	3 <u>LO</u> N	G -80.583153	DATE 07/11/	DATE 07/11/2015				
CLIENT MVP	I		PROJECT N	AME MVP				
INVESTIGATO	ORS D. Hade	rsbeck K. Lew	G. Buda J. Swilik					
FLOW REGIN	IE		WATER TY	PE				
Perennial _	Intermitter	nt Ephemera	al 🗾 TNW 🔜	RPW —	NRPW 💆			
Estimate Measur Top of Bank Width Top of Bank Heigh LB 2.0 ft Water Depth: 0.0 Water Width: 0.0 High Water Mark: Flow Direction: Set		Presentation Presentation Width: 10.0 ft Height: RB 2.0 ft : 0.00 ft 0.0 ft ft Mark: 10.0 ft in: Southwest ft	<u>ft</u>	Stream Erosion None ✓ Moderate Artificial, Modified or Char Yes ✓ No Dam Present Yes Sinuosity ✓ Low Gradient Ylat Flat ✓ Moderate (0.5/100 ft (2 ft/100 ft)	Heavy nnelized ∠_No MediumHigh Severe (10 ft/100 ft)			
FLOW Stream bed n CHARACTERISTICS Flowing wate Velocity Fast Slow Slow		nt stream bed dry d moist water ater _ Moderate		Proportion of Reach Repre Morphology Types Riffle % Run Pool % Turbidity ClearSlightly OpaqueStained Other	esented by Stream % turbidTurbid			
INORGANIC SUBSTRATE COMPO (should add up to 100%)			PONENTS %)	0 ((RGANIC SUBSTRATE CON does not necessarily add u	IPONENTS p to 100%)		
Substrate Type	Diamet	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock		(1.5.11)	0	Detritus	sticks, wood, coarse	45		
Boulder	> 256 r	nm (10")	20			15		
Gravel	2-64 mm	(0.1"-2.5")	15	Muck-Mud	black, very fine organic (FPOM)	10		
Sand	0.06-2m	(0.1 - 2.0)	35		()			
Silt	0.004-0	0.06 mm	5	Marl	grev, shell fragments			
Clay	< 0.004 r	nm (slick)		-	3 • 3 • 4 3 • 4			
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 Grasses Herbaceous Floodplain Width Wide > 30ft ✓ Moderate 15-30ft Narrow <16ft Wetland Present Yes ✓ No				
AQUATIC VEGETATION			dominant type and mergent algae	d record the o Rooted submo Attached alga	Iominant species present ergentRooted float e	ingFree floating		
		Connocto inte	S-VO2 This stress	m rune throug				
Connects in MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES				in runs throug	II AI WO_77 I			

Stream ID <u>S-Y03</u> Date: <u>07/11/2015</u>



Photograph Direction SW

STREAM ID S	-Y02		STREAM NA	STREAM NAME Doe Creek			
LAT 37.33133	9 LON	G -80.583546	6 DATE 07/11/	DATE 07/11/2015			
CLIENT MVP			PROJECT N	AME MVP			
INVESTIGATORS LC, KG, KB							
FLOW REGIN		at Enhance					
Perenniai -		nt <u> </u>		RPW -	NRPW —		
Estimate Measure Top of Bank Widtl Top of Bank Heigl LB 2.0 ft Water Depth: 1.5 Water Width: 11.0 High Water Mark: Flow Direction: V			leasurements k Width: <u>25.0 ft</u> k Height: f <u>t</u> RB <u>2.0 f</u> h: <u>1.50 ft</u> h: <u>11.0 ft</u> Mark: <u>25.0 ft</u> ion: <u>W/Sw</u>	<u>'t</u>	None ✓ Moderate Heavy Artificial, Modified or Channelized Yes No Dam Present Yes ✓ No Sinuosity Low ✓ Medium High Gradient Severe Severe Severe (0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)		
FLOW Stream be CHARACTERISTICS Standing Velocity Fast Slow Slow		eent r, stream bed dry bed moist g water water <u>v</u> Moderate		Proportion of Reach Repro Morphology Types Riffle 20 % Run 60 Pool 20 % Turbidity ClearSlightly OpaqueStained Other	turbid <u>¥</u> Turbid		
INOR		STRATE CO		0	RGANIC SUBSTRATE CON		
Substrate	Diame	ter	% Composition in Sampling Reach	Substrate	Characteristic	% Composition in Sampling Area	
Bedrock			Camping Reading	Type	sticks wood coarse	Camping / ica	
Boulder	> 256	mm (10")	10	Detritus	plant materials (CPOM)	10	
Cobble	64-256 m	m (2.5"-10")	20		black, verv fine organic		
Gravel	2-64 mm	(0.1"-2.5")	20	Muck-Mud	(FPOM)	10	
Sand	0.06-2n	nm (gritty)	30				
Silt	0.004-0).06 mm	20	Marl	grey, shell fragments		
Clay	< 0.004 r	mm (slick)					
WATERSHED Predominar ✓ Forest Field/Pas Agricultu Other: Other: Canopy Cov Partly op ✓ Shaded		over penCommer astureIndustrial uralResident over Open	duse cial ial aded	Indicate the dominant type ✓ TreesShrub GrassesHerba Floodplain Width Wide > 30ftMode ✓ Narrow <16ft Wetland PresentYes Wetland ID	Check one) ss iceous rate 15-30ft ✓ No		
AQUATIC VEGETATION AQUATIC VEGETATION Rooted emerg			e dominant type and emergent g algae	d record the of Rooted submo Attached alga	dominant species present ergentRooted floa e	tingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES					m channel and		

Stream ID <u>S-Y02</u> Date: <u>07/11/2015</u>



Photograph Direction WSW

STREAM ID S	-PP04		STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.32828	5 LON	G -80.42281	DATE 08/26/	DATE 08/26/2015			
CLIENT MVP			PROJECT N	AME MVP			
INVESTIGATO	DRS J. Swilik	, D Hadersbe	ck, C. Carver				
FLOW REGIN	IE Intermitte	nt 🖌 Ephem	eralTNW	PE RPW 🖌	NRPW		
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: 100 ft LB 6.0 in RB Water Depth: 1.00 in			Stream Erosion ✓ None Moderate Artificial, Modified or Char Yes ✓ No	Heavy	
		Water Widt High Water	h: <u>1.0 ft</u> Mark: <u>1.5 ft</u>		Dam PresentYes Sinuosity Low	⊻_No Medium High	
		Flow Direct	ion: <u>North</u>		Gradient FlatModerate (0.5/100 ft (2 ft/100 ft)	Severe (10 ft/100 ft)	
FLOW Stream bed m CHARACTERISTICS ✓ Flowing water Velocity Fast ✓ Flow ✓ Flowing water			sent r, stream bed dry bed moist g water water Moderate		Proportion of Reach Repre Morphology Types Riffle 10 % Run 80 Pool 10 % Turbidity ClearSlightly OpaqueStained Other	turbid <u>✓</u> Turbid	
INORGANIC SUBSTRATE COMPON (should add up to 100%)			MPONENTS 0%)	OI (d	RGANIC SUBSTRATE CON loes not necessarily add u	IPONENTS p to 100%)	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock					sticks, wood, coarse		
Boulder	> 256	mm (10")	5	Detritus	plant materials (CPOM)	40	
Cobble	64-256 m	m (2.5"-10")	5	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	(0.1"-2.5")	0		(FPOM)		
Sand	0.06-2n	nm (gritty)	5				
Silt	0.004-0).06 mm	85	Mari	grey, shell fragments		
Clay < 0.004 mm (sl Prec WATERSHED FEATURES Can		Predomina Forest Forest Field/Pa Agricult Other: Canopy Co Partly co Shadeo	Im (Slick) Image: Complexity of the state of the s		Indicate the dominant type (Check one) ✓ Trees Shrubs Grasses Herbaceous Floodplain Width Wide > 30ft ✓ Wide > 30ft ✓ Moderate 15-30ft Wetland Present ✓ Yes No		
AQUATIC VEC	GETATION	Indicate th Rooted Floating	e dominant type and emergent g algae	d record the d Rooted subme Attached algae	lominant species present ergentRooted float e	ingFree floating	
		0045	ant. Otra (
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			ient: Stream fed by s listed on this form re 019. The presence of	pring and impa presents the d a stream chan	acted by cattle. One braid als ata collected in 2015. The sti inel and OHWM was confirm	so mappeα ream was revisited ed.	

Stream ID S-PP04



Photograph Direction NW

Date: 08/26/2015

Comments: 2015 stream identification.



Photograph Direction NNW

Date: _____

STREAM ID S	-PP03		STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.32682	1 LON	G -80.426006	DATE 08/26/	DATE 08/26/2015			
CLIENT MVF)		PROJECT NA	PROJECT NAME MVP			
INVESTIGATO	DRS J. Swilik	, D. Hadersbe	eck, C. Carver				
FLOW REGIN Perennial	IE Intermitte	nt Epheme	eral TNW	RPW 🖌	NRPW		
Estimate Measure Top of Bank Widt Top of Bank Heig LB 6.0 in Water Depth: 1.0 Water Width: 1.0 High Water Mark: Flow Direction: 1			leasurements K Width: 3.0 ft K Height: n RB 6.0 i h: 1.00 in n: 1.0 ft Mark: 1.5 ft ion: Northwest	<u>n</u>	✓ None Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present _Yes ✓ No Sinuosity Low ✓ Medium High Gradient Flat ✓ Moderate Severe (0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)		
FLOW No water, streading CHARACTERISTICS Standing water ✓ Flowing water Velocity Fast ✓ Slow			ent , stream bed dry ed moist y water water Moderate		Proportion of Reach Repre Morphology Types Riffle 20 % Run 70 Pool 10 % Turbidity ✓ ClearSlightly t OpaqueStained Other	sented by Stream % turbidTurbid	
INOR	GANIC SUB (should a	STRATE COM add up to 100	MPONENTS 9%)	0	RGANIC SUBSTRATE COM does not necessarily add ur	IPONENTS to 100%)	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Dotritus	sticks, wood, coarse		
Boulder	> 256	mm (10")	20	Detilitus	plant materials (CPOM)	35	
Cobble	64-256 m	m (2.5"-10")	20	Muck-Mud	black, very fine organic		
Gravel	2-64 mm	n (0.1"-2.5")	30		(FPOM)		
Sand	0.06-2n	nm (gritty)	25	Mari			
Slit	0.004-0	J.06 mm	5	Man	grey, snell tragments		
Clay	< 0.004	nini (slick)		-	la d'a séa éla a da mala a séé é ma	(a)	
WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES WATERSHED FEATURES Partly open Shaded		Commer Commer Industrial Wer penPartly sha Open	adse ial aded	✓ Trees			
AQUATIC VEC	GETATION	Indicate the Rooted	e dominant type and emergent algae	d record the c Rooted subme Attached algae	Iominant species present ergentRooted floati e	ingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES			ent: Stream fed by s listed on this form rep 19. The presence of	pring presents the d a stream char	ata collected in 2015. The str nel and OHWM was confirme	ream was revisited ed.	

Stream ID S-PP03



Photograph Direction NW

Date: 08/26/2015

Comments: 2015 stream identification.



Photograph Direction NW

Date: _____

STREAM ID	S-RR4		STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.326049	946 LON	G -80.5567878	33 DATE 09/10/	DATE 09/10/2015			
CLIENT MVI	CLIENT MVP			AME	MVP		
INVESTIGATO	INVESTIGATORS J. Cook, R. Keyser, D. McCullough						
FLOW REGIM		nt Enhance					
Perenniai -		nt <u> </u>		RPW <u> </u>	NRPW —		
Estimate Measu Top of Bank Widt Top of Bank Heig LB 5.0 in Water Depth: 3.0 Water Width: 2.0 High Water Mark Flow Direction: 5			Basurements Width: 3 ft Height: RB 5.0 i : 3.00 in : 2.0 ft Mark: 3.0 in on: Southwest	<u>n</u>	Stream Erosion None ✓ ModerateHeavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity Low ✓ Medium ✓ High Gradient Severe Severe Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
FLOW CHARACTERISTICS		Water Prese No water, 1 Stream be Standing v ✓ Flowing water Velocity ✓ Fast Slow	Water Present No water, stream bed dry Stream bed moist Standing water Flowing water Fast Moderate Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 50 % Run % Pool 50 % Turbidity ClearSlightly turbidTurbid ✓ OpaqueStained Other		
INOR	GANIC SUB (should a	STRATE COM add up to 100%	IPONENTS %)	0 (0	RGANIC SUBSTRATE COM does not necessarily add u	IPONENTS p to 100%)	
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 256	mm (10")			plant materials (CPOM)	30	
Cobble	64-256 m	m (2.5"-10")	35	Muck-Mud	black, very fine organic		
Gravei	2-64 mm	(0.1 - 2.5)	35				
Sallu	0.00-20		30	Marl	arey, shell fragments		
Clav	< 0.004 r	mm (slick)		Man	grey, shen nagmenta		
WATERSHED FEATURES		Predominant Surrounding Landuse Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Road/easment Canopy Cover Partly shaded Partly open Partly shaded Shaded Open		Indicate the dominant type (Check one) TreesShrubs GrassesHerbaceous Floodplain Width Wide > 30ftModerate 15-30ft Narrow <16ft Wetland PresentYesNo			
AQUATIC VEGETATION Rooted emer Floating alga		dominant type and emergent algae	d record the c Rooted subme Attached alga	dominant species present ergentRooted float e	ingFree floating		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES							

Stream ID S-RR4



Photograph Direction SW

Date: 09/10/2015

Comments: 2015 stream identification.



Photograph Direction NNE

Date: _____

STREAM ID S-E24			STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.325768 LONG -80.565048			3 DATE 04/06	DATE 04/06/2015			
CLIENT MVP			PROJECT NA	AME MVP			
INVESTIGAT)RS S. Ryan	, A. Mengel, L	Sexton, S. Kelly				
FLOW REGIN	1E		WATER TY	PE ,			
Perennial -		nt Epheme	eral TNW	RPW 🖌	NRPW		
		Estimate N	leasurements		Stream Erosion		
		Top of Ban	k Width: 20.0 ft		✓ NoneModerate	Heavy	
		Top of Ban	k Height:		Artificial Modified or Char	nelized	
		LB <u>8.0</u>	ft RB <u>10.0 f</u>	ft	Yes _ No		
CHANNEL EE	ATURES	Water Dept	h: 2.00 in				
	ATONEO	Water Widt	h: <u>4.0 ft</u>		Dam Present Yes	No	
		High Water	Mark: <u>5.0 in</u>		Sinuosity Low _	Medium High	
		Flow Direct	ion: _SW		Gradient		
					FlatModerate	✓ Severe	
) .			(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)	
		Water Pres	sent r. stream bed dry		Proportion of Reach Repre	esented by Stream	
		Stream bed moist Standing water			Riffle 80 % Run 20	%	
FLOW					Pool %		
CHARACTER	ISTICS	Flowing water			Turbidity		
		Velocity			<u>✓</u> ClearSlightly	turbidTurbid	
		Fast <u>V</u> Moderate			OpaqueStained		
			MDONENTO				
INORGANIC SUBSTRATE COMPON (should add up to 100%)			WPONENTS)%)	0	AGANIC SUBSTRATE CON does not necessarily add u	p to 100%)	
Substrate	Diame	ter	% Composition in Sampling Reach	Substrate	Characteristic	% Composition in Sampling Area	
Bedrock	t		0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	sticks wood coarse		
Boulder	> 256	mm (10")	25	Detritus	plant materials (CPOM)	25	
Cobble	64-256 m	m (2.5"-10")	15	Muck Mud	black, very fine organic		
Gravel	2-64 mm	ı (0.1"-2.5")	30		(FPOM)	<u> </u>	
Sand	0.06-2n	nm (gritty)	30				
Silt	0.004-0	0.06 mm		Marl	grey, shell fragments		
Clay	< 0.004	mm (slick)			Indiants the last		
		Predomina ✓ Forest	ant Surrounding Lan	i ause icial	rnaicate the dominant type ✓ Trees Shrub	e (Check one)	
		Field/Pa	astureIndustrial		GrassesHerba	iceous	
WATEDOUED		Agricult	uralResident	tial	Floodplain Width		
FEATURES		Other:			Wide > 30ftMode	rate 15-30ft	
		Canopy Cover			✓ Narrow <16ft		
		Partly openPartly shaded		aded	Wetland Present Yes	.✔_No	
<u> </u>			Open		Wetland ID		
		Indicate th	e dominant type and	d record the o	dominant species present	ting Eroo floction	
AQUATIC VEGETATION		Floating	jalgae 🖌	Attached aloa			
		Τ					
	RTEBRATES	;					
WILDLIFE							

Stream ID <u>S-E24</u> Date: <u>04/06/2015</u>



Photograph Direction South

STREAM ID S-E25 Upstream			STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.325663 LONG -80.563954			DATE 04/06	/2015			
CLIENT MVP			PROJECT NA	MVP			
INVESTIGATORS S. Ryan, A. Mengel, L. Sexton, S. Kelly							
FLOW REGIM	E	t Esterat		PE			
Perennial		IL Ephemeral_		RPW	NRPW —		
Estimate Mease Top of Bank Wi Top of Bank He LB 3.0 ft Water Depth: 4 Water Width: 4 High Water Ma Flow Direction:		a urements dth: <u>10.0 ft</u> sight: RB <u>3.0 ft</u> <u>3.00 in</u> <u>.0 ft</u> rk: <u>8.0 in</u> West		None ✓ Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity Low ✓ Medium High Gradient Yestrict Severe (0.5/100 ft (2 ft/100 ft) Severe			
FLOW CHARACTERISTICS		Water Present No water, stra Stream bed r Standing wa ✓ Flowing wate Velocity ✓ Fast Slow	eam bed dry noist ter er Moderate		Proportion of Reach Representations Morphology Types Riffle 90 % Run 10 Pool % Turbidity └ ClearSlightly └ OpaqueStained └ Other	esented by Stream % turbidTurbid	
INORGANIC SUBSTRATE COMPONE (should add up to 100%)			DNENTS	0	RGANIC SUBSTRATE COM does not necessarily add u	/PONENTS p to 100%)	
Substrate Type	Diamet	ter %	6 Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock	. 050	(40")	0.5	Detritus	sticks, wood, coarse	15	
Boulder	64-256 m	$m(10^{\circ})$	35			15	
Gravel	2-64 mm	(0 1"-2 5")	20	Muck-Mud	(FPOM)		
Sand	0.06-2m	(aritty)	15				
Silt	0.004-0	0.06 mm	10	Marl	grey, shell fragments		
Clay	< 0.004 r	nm (slick)					
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest Commercial Field/Pasture Industrial Agricultural Residential Other: Canopy Cover Partly open ✓ Shaded Open		Indicate the dominant type (Check one) ✓ Trees			
AQUATIC VEGETATION Indicate the dominant type and a <u> v</u> Rooted emergentRooted emer				I record the c Rooted submo Attached alga	dominant species present ergentRooted floar e	tingFree floating	
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES							

Stream ID S-E25 Upsti



Photograph Direction NE

Date: _____

Comments: 2015 stream identification.



Photograph Direction East

Date: _____

STREAM ID S-E25 Downstream			STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.325663 LONG -80.563954			DATE 04/06	6/2015			
CLIENT MVP)		PROJECT NA	AME MVP			
INVESTIGATORS S. Ryan, A. Mengel, L. Sexton, S. Kelly							
FLOW REGIME WATER TYPE							
Perennial		IL Epheme		RPW	NRPW —		
Estimate Measure Top of Bank Widt Top of Bank Heige LB 6.0 in Water Depth: 2.0 Water Width: 2.5 High Water Marke Flow Direction:			leasurements k Width: 6.0 ft k Height: in RB 10.0 in: 2.00 in h: 2.5 ft Mark: 10.0 in ion: West in	<u>in</u>	Stream Erosion None ✓ Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Dam Present Yes ✓ No Sinuosity Low ✓ Medium High Gradient Flat ✓ Moderate Severe (0.5/100 ft (2 ft/100 ft) (10 ft/100 ft)		
FLOW CHARACTERISTICS SI SI SI			ent , stream bed dry bed moist y water water Moderate		Proportion of Reach Representation of Reach Rea	turbid <u>Turbid</u>	
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)					IPONENTS p to 100%)		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock		(40!!)		Detritus	sticks, wood, coarse	15	
Boulder	64 256 m	$m(10^{\circ})$ m(2.5" 10")	30			15	
Gravel	2-64 mm	(0 1"-2 5")	35	Muck-Mud	black, very fine organic (FPOM)		
Sand	0.06-2m	(0.1 2.0)	30				
Silt	0.004-0	0.06 mm	5	Marl	grey, shell fragments		
Clay	< 0.004 r	nm (slick)	U	-	g , ,		
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) ✓ TreesShrubs GrassesHerbaceous Floodplain Width ✓ Wide > 30ftModerate 15-30ft Narrow <16ft Wetland Present ✓ YesNo Wetland ID W-F6			
AQUATIC VEGETATION Indicate the dominant type and record the dominant species present					ingFree floating		
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES							

Stream ID S-E25 Down



Photograph Direction NE

Date: _____

Comments: 2015 stream identification.



Photograph Direction East

Date: 11/04/2019

STREAM ID S-PP01			STREAM NA	STREAM NAME UNT to Sinking Creek			
LAT 37.324752 LONG -80.431347			DATE 08/26/	DATE 08/26/2015			
CLIENT MVP			PROJECT N	AME MVP			
INVESTIGATO	DRS J. Swilik	, D. Hadersbe	eck, C. Carver				
FLOW REGIM	E	. V	WATER TY	PE			
Perennial	Intermitte	nt <u>Epheme</u>	eral TNW	RPW 📕	NRPW —		
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: 2.5 ft Top of Bank Height: LB LB 1.0 ft RB Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 2.0 ft Flow Direction: Northwest		Stream Erosion			
FLOW CHARACTERISTICS		Water Pres ✓ No water Stream b Stranding Flowing v Velocity Fast Slow	ent r, stream bed dry bed moist g water water Moderate		Proportion of Reach Repro Morphology Types Riffle % Run Pool % Turbidity ClearSlightly OpaqueStained Other	esented by Stream % turbidTurbid	
INORGANIC SUBSTRATE COM (should add up to 100		MPONENTS 0%)	0	RGANIC SUBSTRATE COM does not necessarily add u	IPONENTS p to 100%)		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse		
Boulder	> 256	mm (10")			plant materials (CPOM)	70	
Cobble	64-256 m	m (2.5"-10")	20	Muck-Mud	black, very fine organic		
Sand	2-04 MM	(0.1 - 2.5)	30				
Silt	0.004-0).06 mm	25	Marl	grey, shell fragments		
Clay	< 0.004	mm (slick)	20		g.e., onen nagmente		
WATERSHED FEATURES		Predominant Surrounding Landuse ✓ Forest _Commercial Field/Pasture _Industrial _Other: Canopy Cover _Partly open _Partly shaded _Open		Indicate the dominant type (Check one) ✓ Trees Shrubs Grasses Herbaceous Floodplain Width Wide > 30ft Moderate 15-30ft ✓ Narrow <16ft Wetland Present Yes ✓ No Wetland ID			
AQUATIC VEGETATION		Indicate the Rooted Floating	e dominant type and emergent g algae	d record the o Rooted subm Attached alga	dominant species present ergentRooted floa ie	tingFree floating	
MACROINVEF OR OTHER WILDLIFE OBSERVED/O OBSERVATIO NOTES	RTEBRATES THER NS AND						

Stream ID <u>S-PP01</u> Date: <u>08/26/2015</u>



Photograph Direction SE

STREAM ID S-RR5			STREAM NA	STREAM NAME UNT to Sinking Creek				
LAT 37.32359137 LONG -80.55561674			674 DATE 09/10	DATE 09/10/2015				
CLIENT MVP			PROJECT N	AME	MVP			
INVESTIGATORS J. Cook, R. Keyser, D. McCullough								
FLOW REGIN	FLOW REGIME WATER TYPE							
Perennial 🖌 Intermittent Ephemeral TNW RPW 🗹 NRPW								
		Estimate N	logguromente		Stream Erosion			
		Top of Ban	k Width: 10 ft		None <u><</u> Moderate	Heavy		
		Top of Bank Height			Antificial Madified on Chan	u a lina d		
		LB 1.0	ft RB 2.0	ft	Yes V No	inelized		
		Water Dept	 h: 3.00 in	_				
CHANNEL FE	AIURES	Water Widt	h: 4.0 ft		Dam PresentYes	∠ No		
		High Water	Mark: 8.0 in		Sinuosity Low	Medium 🖌 High		
		Flow Direct	ion [.] South		Gradiant			
					✓ FlatModerate	Severe		
					(0.5/100 ft (2 ft/100 ft)	(10 ft/100 ft)		
		Water Pres	sent r. stream bed dry		Proportion of Reach Repre	esented by Stream		
		Stream bed moist Standing water			Riffle 30 % Run 30 % Pool 20 %			
CHARACTER	ISTICS	Flowing water			Turbidity			
		Velocity			✓ ClearSlightly turbidTurbid			
		<u>✓</u> Fast	_Fast Moderate		OpaqueStained			
		Slow		1	Other			
INORGANIC SUBSTRATE COMPOI (should add up to 100%)				C	ORGANIC SUBSTRATE CON does not necessarily add u	IPONENTS p to 100%)		
Substrate	Diama		% Composition in	Substrate	Characteriatia	% Composition in		
Туре	Diame	ter	Sampling Reach	Туре	Characteristic	Sampling Area		
Bedrock				Detritus sticks, w	sticks, wood, coarse	40		
Boulder	> 256	mm (10")			plant materials (CPOIVI)	10		
Cobble	64-256 m	m (2.5"-10")	25	Muck-Mud	black, very fine organic (FPOM)			
Sand	2-04 1111	$\Gamma(0.1 - 2.5)$	25					
Silt	0.00-21) 06 mm	50	Marl	arev shell fragments			
Clay	< 0.004	mm (slick)			groy, onon nugmonto			
,		Predomina	Int Surrounding Lar	nduse	Indicate the dominant type	(Check one)		
		<u></u> ✓ Forest	Commer	rcial	TreesShrub	s		
		Field/Pa	asture Industrial	l tial	GrassesHerba	ceous		
WATERSHED		Agricult Other		udi	Floodplain Width			
FEATURES				Wide > 30ftModer	rate 15-30ft			
			over Den Dartivish	aded	Narrow <16tt			
		Partly open Partly shaded Shaded Open		Wetland Present <u>V</u> Yes	No			
			o dominant tuno on	d record the				
AQUATIC VEGETATION		Rooted	emergent	Rooted subm	ergent Rooted float	ing Free floating		
		Floating	g algae	Attached alga	ae			
	RTEBRATES	i						

Stream ID S-RR5



Photograph Direction NNW

Date: 09/10/2015

Comments: 2015 stream identification.



Photograph Direction SSE

Date: 11/04/2019

STREAM ID S-PA07			STREAM NA	STREAM NAME UNT to Sinking Creek				
			PROJECT N	PROJECT NAME MVP				
LAT 37.32353	33 L	ONG -80.55525	57 STATE Virgin	STATE Virginia COUNTY Giles				
INVESTIGATO		A			DATE 02/11/2020			
WATER TYPE	WATER TYPE FLOW REGIME TNW RPW NRPW Perennial Intermittent Ephemeral							
CHANNEL FEATURES Estimate Top of B Top of B UB 1.0 Water D Water W Ordinary Ordinary Flow Dir		Estimate Mea Top of Bank V Top of Bank F LB <u>1.0</u> ft Water Depth: Water Width:_ Ordinary High Ordinary High Flow Direction	stimate Measurements op of Bank Width: 2.0 ft op of Bank Height: B1.0 ft RB1.0 ft Vater Depth: 2.50 in Vater Width: 1.0 ft Ordinary High Water Mark (Width): 1.5 ft Ordinary High Water Mark (Height): 5.0 in Now Direction: Southwest		Sinuosity ∠ Low Medium High Gradient Flat ✓ Moderate Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) Stream Erosion ✓ Moderate Heavy Artificial, Modified or Channelized Yes ✓ No Within Roadside Ditch ✓ No Yes ✓ No Culvert Present Yes ✓ No Culvert Material:			
					Cuivert Material:			
FLOW CHARACTERISTICS		Water Present No water, stream bed dry Stream bed moist Standing water ✓ Flowing water Velocity Fast ✓ Moderate Slow		Morphology Types (Only enter if water present) Riffle 100 % Run % Pool % Turbidity Clear < Slightly turbid				
INOR	GANIC SI (shou	UBSTRATE CO Id add up to 100	MPONENTS D%) 100		ORGANIC SUBSTRATE COM (does not necessarily add up	IPONENTS p to 100%)		
Substrate Type	Dia	meter	% Composition in Sampling Reach	Substrat Type	te Characteristic	% Composition in Sampling Area		
Bedrock				Detritus	sticks, wood, coarse			
Boulder	> 25	56 mm (10")		Domao	plant materials (CPOM)			
Cobble	64-256	5 mm (2.5"-10")	10	Muck-Mud	black, very fine organic			
Gravel	2-64 r	mm (0.1"-2.5")	25		(FPOM)			
Sand	0.06	-2mm (gritty)	10					
Silt	0.00	4-0.06 mm	30	Marl	grey, shell fragments			
WATERSHED Field/Pasture FEATURES ✓ ROW — Canopy Cover ✓ Open Shaded			Surrounding Landu — Commercia ure — Industrial al — Residential — Other: Partly shade	ા se રા રા ed	I Floodplain Width Wide > 30ft <u>✔</u> Modera Narrow <15ft	I ate 15-30ft		

Note - heavy precipitation 24-36hrs prior to survey

The Environmental Inspector on site, who spoke with the land tenant of the property, said that the stream is being sourced by a spring upslope, outside the current LOD. The stream has a defined bed and bank as well as an OHWM. Channelization appears to be present upslope and downslope, outside the LOD and ROW clearing. The stream meets the confluence with an adjacent perennial tributary (S-RR5). A shallow water line runs parallel with the stream channel as indicated by the placement of blue pin flags and a marked out sign. The stream currently flows under a aerial timber bridge span and its banks have being reinforced with ECD controls (silt fencing).

Stream ID <u>S-PA07</u> Date <u>02/11/202</u>0



Photograph Number _____

Photograph Direction SW

Comments: Facing downstream



Photograph Number 2 Photograph Direction NE

Comments: Facing upstream Blue pin flags indicate shallow waterline location



Photograph Number 3

Photograph Direction North

Comments: Facing upstream



Photograph Number <u>4</u> Photograph Direction <u>West</u>

Comments: Substrate OHWM present

STREAM ID S-IJ18-EPH			STREAM NA	STREAM NAME UNT to Sinking Creek			
CLIENT MVP			PROJECT N	PROJECT NAME MVP			
LAT 37.322743 LONG -80.552397			7 DATE 03/03/	DATE 03/03/2018 COUNTY Giles			
INVESTIGATO	DRS S. Ry	van					
WATER TYPE			FLOW REG	IME			
TNW	RPW	NRPW	Perennial	Intermit	ttent Ephemeral 🔽		
CHANNEL FEATURES		Estimate Measurements Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>2.5</u> ft RB <u>2.5</u> ft Water Depth: <u>4.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>12.0</u> in Flow Direction: <u>South</u>			Sinuosity Low Medium High Gradient Flat Moderate Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) Stream Erosion None Moderate Heavy Artificial, Modified or Channelized Yes No Within Roadside Ditch Yes No Culvert Present Yes No Culvert Material: Culvert Size:in		
FLOW CHARACTERISTICS		Water Present No water, stream bed dry Stream bed moist Standing water ✓ Flowing water Velocity ✓ Fast Moderate Slow			Norphology Types (Only enter if water present) Riffle 75 % Run % Pool 25 % Turbidity Clear ✓ Slightly turbid Other		
INOR	GANIC SU (shoul	JBSTRATE CO d add up to 100	MPONENTS)%) 100		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate	Dia	meter	% Composition in	Substrate	e Characteristic % Composition ir		
i ype Bedrock				туре	Samping Area		
Boulder	> 26	56 mm (10")	20	Detritus	plant materials (CPOM)		
Cobble	64-256	mm (2 5"-10")	20				
Gravel	2-64 n	nm (0 1"-2 5")	20	Muck-Mud	(FPOM)		
Sand	0.06	-2mm (gritty)	50				
Silt	0.00	4-0.06 mm	5	Marl	arey shell fragments		
Clav	< 0.00)4 mm (slick)			groy, onon nugriture		
WATERSHED Predominant Surro ✓ Forest — Field/Pasture — Agricultural — ROW Canopy Cover Open Shaded Shaded			Surrounding Landu Commercia ure Industrial al Residential Other: Partly shad	u se al I	Floodplain Width Wide > 30ftModerate 15-30ft Varrow <15ft		

Flow is high and fast. Extension of previously identified stream S-IJ18 designated as Ephemeral based on previous assessments, recent heavy rains, and stream morphology.

Stream ID <u>S-IJ18-EPH</u>



Photograph Direction NE

Date: _____

Comments:



Photograph Direction South

Date: 03/03/2018

STREAM ID S-IJ19	STREAM NA	STREAM NAME UNT to Sinking Creek				
CLIENT MVP	PROJECT N	PROJECT NAME MVP				
LAT 37.321838	9 DATE 04/14/	DATE 04/14/2016 COUNTY Giles				
	. Foster, S. Lieb, J.	Niergarth				
WATER TYPE TNW		Perennial	FLOW REGIME Perennial Intermittent Ephemeral			
CHANNEL FEATUR	Estimate Mea Top of Bank V Top of Bank F LB <u>2.0</u> f Water Depth: Water Width: Ordinary High Ordinary High Flow Direction	Estimate Measurements Top of Bank Width: <u>4.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>1.5</u> ft Ordinary High Water Mark (Width): <u>2.0</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>South</u>		Sinuosity ✓ Low Medium High Gradient Flat ✓ Moderate Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) Stream Erosion Moderate None ✓ Moderate Artificial, Modified or Channelized Yes ✓ Yes ✓ No Within Roadside Ditch Yes ✓ No Culvert Present Yes ✓ No Culvert Size: in		
FLOW CHARACTERISTICS	Water Present No water, s Stream bed ✓ Standing v ✓ Flowing water Velocity Fast Slow	Water Present No water, stream bed dry Stream bed moist ✓ Standing water Flowing water Velocity Fast Moderate Slow		Proportion of Reach Represented by Stream Morphology Types (Only enter if water present) Riffle % Run Pool % Turbidity Clear < Slightly turbid		
INORGANIC (sh	SUBSTRATE CO ould add up to 10	MPONENTS 0%) 100		ORGANIC SUBSTRATE COM (does not necessarily add u	PONENTS to 100%)	
Substrate	Diameter	% Composition in	Substrate	e Characteristic	% Composition in	
I ype Rodrock		Sampling Reach	туре	atialia in l	Sampling Area	
Boulder	> 256 mm (10")		Detritus	plant materials (CPOM)		
Cobble 64-	256 mm (2.5"-10")			black yory fine organia		
Gravel 2-	64 mm (0.1"-2.5")		Muck-Mud	(FPOM)		
Sand 0	.06-2mm (gritty)	40				
Silt ().004-0.06 mm	30	Marl	grey, shell fragments		
Clay <	0.004 mm (slick)	30				
WATERSHED FEATURES	Surrounding Landu Commercia ture Industrial al Residential Other: er Partly shade	ise al	Floodplain Width Wide > 30ft Narrow <15ft	te 15-30ft		

previously mapped as drainage change to ephemeral stream

Stream ID <u>S-IJ19</u> Date: <u>04/14/2016</u>



Photograph Direction NE