Stream Photograph Page

Stream ID S-G47 Date: 04/10/2015

Photograph Direction West

Comments:

STREAM ID S-G52	**STREAM NAME** UNT to Wind Creek
LAT 37.627527 **LONG** -80.695528	**DATE** 04/11/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 4.0 in RB 4.0 in
Water Depth: 0.00 in
Water Width: 0.0 in
High Water Mark: 4.0 in
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
✔ Other Dry chnnel

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	30
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	30

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	75
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

S-G52 flows from S-G51 into S-G48.
No flow at time of survey.

Stream Photograph Page

Stream ID S-G52 Date: 04/11/2015

Photograph Direction West

Comments:

STREAM ID S-G49	**STREAM NAME** UNT to Wind Creek
LAT 37.627316 **LONG** -80.695474	**DATE** 04/11/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20.0 ft
Top of Bank Height:
LB 4.0 ft RB 4.0 ft
Water Depth: 15.00 in
Water Width: 4.0 ft
High Water Mark: 2.0 ft
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 65 % Run 20 %
Pool 15 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		30
Boulder	> 256 mm (10")	20
Cobble	64-256 mm (2.5"-10")	20
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

S-G49 flows into S-G48.

Stream Photograph Page

Stream ID S-G49 Date: 04/11/2015

Photograph Direction East

Comments:

STREAM ID S-G48	**STREAM NAME** Wind Creek
LAT 37.627256 **LONG** -80.695613	**DATE** 04/11/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20.0 ft
Top of Bank Height:
LB 4.0 ft RB 3.0 ft
Water Depth: 15.00 in
Water Width: 15.0 ft
High Water Mark: 24.0 in
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 65 % Run 20 %
Pool 15 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	65
Cobble	64-256 mm (2.5"-10")	20
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	5
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream Photograph Page

Stream ID S-G48 Date: 04/11/2015

Photograph Direction South

Comments:

STREAM ID S-H61	**STREAM NAME** UNT to Stoney Creek
LAT 37.618424 **LONG** -80.699134	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Stott, H. Heist, A. Grech	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 25.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 10.00 in
Water Width: 22.0 ft
High Water Mark: 2.0 ft
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 80 % Run 10 %
Pool 10 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	50
Cobble	64-256 mm (2.5"-10")	20
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

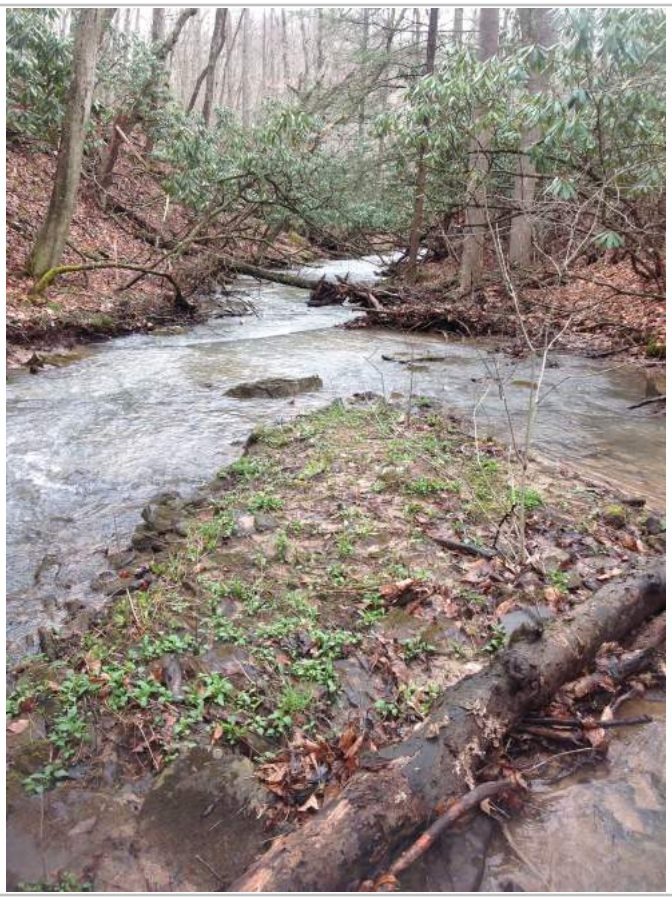
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Heavy rains previous day

Braided waterfalls

Stream Photograph Page

Stream ID S-H61 Date: 04/10/2015



Photograph Direction SE

Comments:

STREAM ID S-OP1		**STREAM NAME** Stony Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.599722	**LONG** -80.700359	**DATE** 04/19/2016	**COUNTY** Monroe
INVESTIGATORS S. Townsend, C. Stoliker, K. Lew			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 4.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: North

Sinuosity ✔ Low ___Medium ___High

Gradient ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (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: Corrugated Plastic
Culvert Size: 24 in

FLOW CHARACTERISTICS

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 100 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 80

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	15
Clay	< 0.004 mm (slick)	65

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	30
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ ROW ___Other:

Canopy Cover
✔ Open ___Partly shaded
___ Shaded

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Substrate is 20% riprap

Armored with riprap more just below culverts, and not armored for majority of length.

This stream drains pond 2 through two 24" corr plastic culverts

Stream Photograph Page

Stream ID S-OP1 Date: 04/19/2016

Photograph Direction SE

Comments:

STREAM ID S-IJ64		**STREAM NAME** UNT to Little Stony Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.591822	**LONG** -80.70587	**DATE** 09/10/2016	**COUNTY** Monroe
INVESTIGATORS E. Foster, K. Pulver, M. Whitten			
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.5 ft
Ordinary High Water Mark (Height): 5.0 in
Flow Direction: West

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	50
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

No macros seen.

Stream Photograph Page

Stream ID S-IJ64 Date: 09/10/2016

Photograph Direction East

Comments:

STREAM ID S-A63	**STREAM NAME** Slate Run
LAT 37.560504 **LONG** -80.71002	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS Yarbrough, Stoliker, Heule	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 31.0 in RB 17.0 in
Water Depth: 4.00 in
Water Width: 68.0 in
High Water Mark: 16.0 in
Flow Direction: SW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 60 % Run 15 %
Pool 25 %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Opaque ✔ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	20
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	30
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Perennial stream in forest, but near a rural residence.

Stream Photograph Page

Stream ID S-A63 Date: 04/10/2015

Photograph Direction NE

Comments:

STREAM ID S-A61	**STREAM NAME** UNT to Slate Run
LAT 37.559328 **LONG** -80.710071	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS Yarbrough, Stoliker, Heule	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7.0 ft
Top of Bank Height:
LB 6.0 in RB 6.0 in
Water Depth: 2.00 in
Water Width: 41.0 in
High Water Mark: 4.0 in
Flow Direction: W

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 20 % Run 60 %
Pool 20 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	40
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	20

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID W-A13

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

This feature is only flowing now because of the rainfall over the last couple of days.

Stream Photograph Page

Stream ID S-A61 Date: 04/10/2015

Photograph Direction East

Comments:

STREAM ID S-A60	**STREAM NAME** Slate Run
LAT 37.557852 **LONG** -80.709832	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS Yarbrough, Stoliker, Heule	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 18.0 ft
Top of Bank Height:
LB 7.0 ft RB 2.0 ft
Water Depth: 0.50 in
Water Width: 111.(in
High Water Mark: 21.0 in
Flow Direction: SW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 30 % Run 40 %
Pool 30 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	35
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	25
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Perennial stream. Swollen with recent precipitation events.

Stream Photograph Page

Stream ID S-A60 Date: 04/10/2015

Photograph Direction NW

Comments:

STREAM ID S-CV26		**STREAM NAME** UNT to Slate Run	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.556445	**LONG** -80.708883	**DATE** 01/09/2018	**COUNTY** Monroe
INVESTIGATORS CV, KP			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 3.0 ft RB 2.0 ft
Water Depth: 8.00 in
Water Width: 2.5 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 8.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (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: Corrugated Metal
Culvert Size: 36 in

FLOW CHARACTERISTICS

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 50 % Run 30 %
Pool 20 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	40

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream Photograph Page

Stream ID S-CV26 Date: 01/09/2018

Photograph Direction South

Comments:

STREAM ID S-D31	**STREAM NAME** Indian Creek
LAT 37.554164 **LONG** -80.710854	**DATE** 04/11/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, J. Kraus, A. Larson	
FLOW REGIME Perennial ✓ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✓ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 65.0 ft
Top of Bank Height:
LB 10.0 ft RB 10.0 ft
Water Depth: 6.00 in
Water Width: 65.0 ft
High Water Mark: 6.0 ft
Flow Direction: NW

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Dam Present ___ Yes ✓ No

Sinuosity ___ Low ✓ Medium ___ High

Gradient
✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 100 % Run % Pool %

Turbidity
___ Clear ___ Slightly turbid ✓ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	30
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Indian Creek - at high water mark at time of survey (2015).

Information listed on this form represents the data collected in 2015. The stream was revisited on 10/25/2019. The presence of a stream channel and OHWM was confirmed.

Stream Photograph Page

Stream ID S-D31

Photograph Direction SE

Date: 04/11/2015

Comments: 2015 stream identification.

Photograph Direction NW

Date: 10/25/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-D25	**STREAM NAME** UNT to Hans Creek
LAT 37.538803 **LONG** -80.718796	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, J. Kraus, A. Larson	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 3.0 ft
Water Depth: 4.00 in
Water Width: 3.5 ft
High Water Mark: 4.0 in
Flow Direction: W

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 75 % Run 10 %
Pool 15 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		25
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	25
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Portions of stream may have been excavated down to bedrock. Old floodplain of stream contains hydric soils, and has hydrology at some locations, but lacks hydrophytic vegetation so is not currently a wetland. Upland plot taken for verification. Recent rains have brought stream to bankfull stage.

Stream Photograph Page

Stream ID S-D25 Date: 04/10/2015

Photograph Direction SW

Comments:

STREAM ID S-F18	**STREAM NAME** UNT to Hans Creek
LAT 37.537587 **LONG** -80.717815	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS E. Stromhaier, A. Flake, D. McCullough	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 18.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 1.00 in
Water Width: 6.0 ft
High Water Mark: 2.0 ft
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 75 % Run 25 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		55
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	5
Sand	0.06-2mm (gritty)	5
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	5

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
✔ Rooted emergent ✔ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ✔ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream Photograph Page

Stream ID S-F18 Date: 04/10/2015

Photograph Direction SW

Comments:

STREAM ID S-Z5	**STREAM NAME** UNT to Hans Creek
LAT 37.524342 **LONG** -80.711383	**DATE** 07/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S. Townsend, S. Therkildson, D. McCullough	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 0.5 ft RB 3.0 ft
Water Depth: 0.30 in
Water Width: 1.5 ft
High Water Mark: 2.0 ft
Flow Direction: SW

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run 100 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		10
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	50
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
✔ Other: Gravel road

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream Photograph Page

Stream ID S-Z5 Date: 07/10/2015

Photograph Direction West

Comments:

STREAM ID S-Z4	**STREAM NAME** UNT to Hans Creek
LAT 37.524178 **LONG** -80.710954	**DATE** 07/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S. Townsend, S. Therkildson, D. McCullough	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.5 ft
Top of Bank Height:
LB 4.0 ft RB 4.0 ft
Water Depth: 0.50 in
Water Width: 1.0 ft
High Water Mark: 1.0 ft
Flow Direction: SW

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
✔ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	5

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream Photograph Page

Stream ID S-Z4 Date: 07/10/2015

Photograph Direction NW

Comments:

STREAM ID S-MN2	**STREAM NAME** UNT to Hans Creek		
CLIENT MVP	**PROJECT NAME** MVP		
LAT 37.520099 **LONG** -80.706868	**DATE** 04/20/2016	**COUNTY** Monroe	
INVESTIGATORS S Ryan, A Flake, N Katsiaficas			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐	**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐		

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 9.0 ft
Top of Bank Height:
LB 1.5 ft RB 2.0 ft
Water Depth: 2.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 7.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: West

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 10 % Run 70 %
Pool 20 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		70
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	5
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	0
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream only partially surveyed due to access constraints downstream. Channel crossed by farm roads in two locations - both crossings lack culverts and consist of bare bedrock.

Stream Photograph Page

Stream ID S-MN2 Date: 04/20/2016

Photograph Direction East

Comments:

STREAM ID S-CV19		**STREAM NAME** Hans Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.501162	**LONG** -80.690668	**DATE** 01/04/2018	**COUNTY** Monroe
INVESTIGATORS CV, KP			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES	**Estimate Measurements** Top of Bank Width: 35.0 ft Top of Bank Height: LB 5.0 ft RB 5.0 ft Water Depth: 12.00 in Water Width: 20.0 ft Ordinary High Water Mark (Width): 25.0 ft Ordinary High Water Mark (Height): 24.0 in Flow Direction: Southeast	**Sinuosity** ___ Low ✔ Medium ___ High **Gradient** ✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (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	**Proportion of Reach Represented by Stream Morphology Types** (Only enter if water present) Riffle 40 % Run 30 % Pool 30 % **Turbidity** ✔ Clear ___ Slightly turbid ___ Turbid ___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			**ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)**		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	**Predominant Surrounding Landuse** ✔ Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other: **Canopy Cover** ___ Open ___ Partly shaded ✔ Shaded	**Floodplain Width** ___ Wide > 30ft ✔ Moderate 15-30ft ___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Average daily temperatures below 20 degrees. Majority of stream frozen. Substrate observations made at holes in ice near riffles.

Stream Photograph Page

Stream ID S-CV19 Date: 01/04/2018

Photograph Direction NE

Comments:

STREAM ID S-MN38		**STREAM NAME** UNT to Blue Lick Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.487679	**LONG** -80.68206	**DATE** 01/08/2018	**COUNTY** Monroe
INVESTIGATORS S. Ryan, J. Potrikus			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 2.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 75 % Run % Pool 25 %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
✔ Other Ice

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	15
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	25
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Drains to main stem.

Stream Photograph Page

Stream ID S-MN38 Date: 01/08/2018

Photograph Direction NE

Comments:

STREAM ID S-MN37		**STREAM NAME** UNT to Blue Lick Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.487584	**LONG** -80.681992	**DATE** 01/08/2018	**COUNTY** Monroe
INVESTIGATORS S. Ryan, J. Potrikus			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 3.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Northwest

Sinuosity ___ Low ___ Medium ✔ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 40 % Run 40 %
Pool 20 %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
✔ Other Ice

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	5
Gravel	2-64 mm (0.1"-2.5")	40
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream frozen completely.

Stream Photograph Page

Stream ID S-MN37 Date: 01/08/2018

Photograph Direction NE

Comments:

STREAM ID S-MN40		**STREAM NAME** UNT to Blue Lick Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 48.905784	**LONG** -80.681996	**DATE** 01/08/2018	**COUNTY** Monroe
INVESTIGATORS S. Ryan, J. Potrikus			
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 1.5 ft
Ordinary High Water Mark (Height): 8.0 in
Flow Direction: Northwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream Photograph Page

Stream ID S-MN40 Date: 01/08/2018

Photograph Direction South

Comments:

STREAM ID S-G44		**STREAM NAME** UNT to Hans Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.474795	**LONG** -80.676416	**DATE** 04/20/2016	**COUNTY** Monroe
INVESTIGATORS S Ryan, A Flake, N Katsiaficas			
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 2.0 ft RB 2.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 10.0 in
Flow Direction: Southwest

Sinuosity ✔ Low ___Medium ___High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		5
Boulder	> 256 mm (10")	5
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	35
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	40
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ ROW ___Other:

Canopy Cover
___Open ___Partly shaded
✔ Shaded

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream Photograph Page

Stream ID S-G44 Date: 04/20/2016

Photograph Direction SW

Comments:

STREAM ID S-G43	**STREAM NAME** UNT to Hans Creek
LAT 37.473383 **LONG** -80.676563	**DATE** 04/09/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 6.0 in RB 6.0 in
Water Depth: 7.00 in
Water Width: 2.0 ft
High Water Mark: 6.0 in
Flow Direction: SE

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 70 % Run 25 %
Pool 5 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	30
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Area of floodplain that failed soils test
Flow SE

Stream Photograph Page

Stream ID S-G43 Date: 04/09/2015

Photograph Direction NE

Comments:

STREAM ID S-G42	**STREAM NAME** UNT to Hans Creek
LAT 37.472339 **LONG** -80.676095	**DATE** 04/09/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 8.0 in RB 8.0 in
Water Depth: 2.00 in
Water Width: 1.0 ft
High Water Mark: 2.0 in
Flow Direction: E

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 85 % Run 15 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		15
Boulder	> 256 mm (10")	20
Cobble	64-256 mm (2.5"-10")	25
Gravel	2-64 mm (0.1"-2.5")	15
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	25

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID WG6

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Flows NW into W-G6.

Stream Photograph Page

Stream ID S-G42 Date: 04/09/2015

Photograph Direction South

Comments:

STREAM ID S-MN45		**STREAM NAME** UNT to Hans Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.462878	**LONG** -80.670284	**DATE** 01/09/2018	**COUNTY** Monroe
INVESTIGATORS S. Ryan, J. Potrikus			
WATER TYPE TNW ☐ RPW ☐ NRPW ☑		**FLOW REGIME** Perennial ☐ Intermittent ☐ Ephemeral ☑	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 0.5 ft RB 0.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (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

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	30
Sand	0.06-2mm (gritty)	15
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	15

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Bed/bank becomes marginal in spots.

Stream Photograph Page

Stream ID S-MN45 Date: 01/09/2018

Photograph Direction South

Comments:

STREAM ID S-CV27		**STREAM NAME** UNT to Blue Lick Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.46308	**LONG** -80.669552	**DATE** 01/09/2018	**COUNTY** Monroe
INVESTIGATORS CV, KP			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES	**Estimate Measurements** Top of Bank Width: 2.0 ft Top of Bank Height: LB 1.0 ft RB 1.0 ft Water Depth: 0.00 in Water Width: 0.0 ft Ordinary High Water Mark (Width): 1.5 ft Ordinary High Water Mark (Height): 4.0 in Flow Direction: South	**Sinuosity** ✔ Low ___Medium ___High **Gradient** ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (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	**Proportion of Reach Represented by Stream Morphology Types** (Only enter if water present) Riffle % Run % Pool % **Turbidity** ___ Clear ___Slightly turbid ___Turbid ___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			**ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)**		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	15			
Clay	< 0.004 mm (slick)	75			

WATERSHED FEATURES	**Predominant Surrounding Landuse** ✔ Forest ___ Commercial ___ Field/Pasture ___Industrial ___ Agricultural ___ Residential ___ ROW ✔Other: wetland **Canopy Cover** ___Open ___Partly shaded ✔ Shaded	**Floodplain Width** ___ Wide > 30ft ✔ Moderate 15-30ft ___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Goes to sheet flow within Wetland CV25 PSS portion.

Stream Photograph Page

Stream ID S-CV27 Date: 01/09/2018

Photograph Direction NNE

Comments:

STREAM ID S-E43	**STREAM NAME** UNT to Dry Creek
LAT 37.453960 **LONG** -80.664156	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S Ryan, A Mengel, L Sexton	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7.0 ft
Top of Bank Height:
LB 2.0 ft RB 3.0 ft
Water Depth: 0.50 in
Water Width: 2.0 in
High Water Mark: 2.0 in
Flow Direction: SW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run 25 %
Pool 75 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	25
Clay	< 0.004 mm (slick)	65

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	95
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream flow is impounded within ROW.
Impoundment creates P-E1.
Flow for S-E43 results from rainwater associated overflow.

Stream Photograph Page

Stream ID S-E43 Date: 04/10/2015

Photograph Direction SW

Comments:

STREAM ID S-E45	**STREAM NAME** UNT to Dry Creek
LAT 37.453747 **LONG** -80.664165	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S Ryan, A Mengel, L Sexton	
FLOW REGIME Perennial ___ Intermittent ___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 2.0 ft RB 1.5 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
High Water Mark: 1.0 in
Flow Direction: NW

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ✔ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	60

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	100
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Connects to S-E43.
Portions of stream choked by Rosa multiflora.

Stream Photograph Page

Stream ID S-E45 Date: 04/10/2015

Photograph Direction NW

Comments:

STREAM ID S-E40	**STREAM NAME** Dry Creek
LAT 37.450738 **LONG** -80.667711	**DATE** 04/09/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S Ryan, A Mengel, L Sexton	
FLOW REGIME Perennial ✓ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✓ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 12.0 ft
Top of Bank Height:
LB 3.0 ft RB 2.0 ft
Water Depth: 10.00 in
Water Width: 8.0 ft
High Water Mark: 3.0 ft
Flow Direction: NW

Stream Erosion
___ None ✓ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Dam Present ___ Yes ✓ No

Sinuosity ✓ Low ___ Medium ___ High

Gradient
✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 15 % Run 80 %
Pool 5 %

Turbidity
___ Clear ✓ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	55
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	5
Silt	0.004-0.06 mm	15
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID W-E12

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
✓ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

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 10/23/2019. The presence of a stream channel and OHWM was confirmed.

Stream Photograph Page

Stream ID S-E40

Photograph Direction SE

Date: 04/09/2015

Comments: 2015 stream identification.

Photograph Direction SE

Date: 10/23/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-E41	**STREAM NAME** UNT to Dry Creek
LAT 37.450611 **LONG** -80.667367	**DATE** 04/09/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS S Ryan, A Mengel, L Sexton	
FLOW REGIME Perennial ___ Intermittent ✓ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✓ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2.0 ft
Top of Bank Height:
LB 6.0 in RB 6.0 in
Water Depth: 2.00 in
Water Width: 2.0 ft
High Water Mark: 3.0 in
Flow Direction: W

Stream Erosion
✓ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✓ No

Dam Present ___ Yes ✓ No

Sinuosity ___ Low ✓ Medium ___ High

Gradient
✓ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 5 % Run 95 %
Pool %

Turbidity
✓ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	5
Gravel	2-64 mm (0.1"-2.5")	5
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	90
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
✓ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

American Toad eggs present in stream.
Connects to S-E42 before both converge with S-E40.

Information listed on this form represents the data collected in 2015. The stream was revisited on 10/23/2019, no stream channel or OHWM were observed.

Stream Photograph Page

Stream ID S-E41

Photograph Direction SE

Date: 04/09/2015

Comments: 2015 stream identification.

Photograph Direction NW

Date: 10/23/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-C38	**STREAM NAME** UNT to Painter Run
LAT 37.426928 **LONG** -80.694454	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7.0 ft
Top of Bank Height:
LB 8.0 in RB 10.0 in
Water Depth: 1.00 in
Water Width: 4.0 ft
High Water Mark: 8.0 ft
Flow Direction: SW

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run 100 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	50
Clay	< 0.004 mm (slick)	50

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Culvert under road, at upstream end. Trib to S-C39.

Stream Photograph Page

Stream ID S-C38 Date: 04/10/2015

Photograph Direction SW

Comments:

STREAM ID S-C39	**STREAM NAME** Painter Run
LAT 37.426601 **LONG** --80.693889	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 11.0 ft RB 11.0 in
Water Depth: 3.00 in
Water Width: 4.0 ft
High Water Mark: 11.0 ft
Flow Direction: N

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 40 % Run 60 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	80
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID W-C13, 15

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Recent rain, high flow. Braided section.

Stream Photograph Page

Stream ID S-C39 Date: 04/10/2015

Photograph Direction NW

Comments:

STREAM ID S-C41	**STREAM NAME** UNT to Painter Run
LAT 37.426230 **LONG** -80.694471	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 3.00 in
Water Width: 1.0 ft
High Water Mark: 1.0 ft
Flow Direction: NE

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ✔ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		10
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	60
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	80
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Headcut present at upstream end of reach.

Stream Photograph Page

Stream ID S-C41 Date: 04/10/2015

Photograph Direction NE

Comments:

STREAM ID S-C40	**STREAM NAME** UNT to Painter Run
LAT 37.425636 **LONG** -80.693884	**DATE** 04/10/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS L.Harloe, K.Lamontagne, L. Summers	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3.0 ft
Top of Bank Height:
LB 4.0 in RB 4.0 in
Water Depth: 4.00 in
Water Width: 3.0 ft
High Water Mark: 4.0 ft
Flow Direction: NW

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

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
Riffle 25 % Run 75 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	20
Gravel	2-64 mm (0.1"-2.5")	50
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

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
Wetland ID W-C17, 16, 18, 19

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Trib to S-C39.

Stream Photograph Page

Stream ID S-C40 Date: 04/10/2015

Photograph Direction NE

Comments: