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## TOWN OF CHAPEL HILL

February 4, 2003

Warren Mitchell  
Mitchell Westendorf, PA  
210 N. Columbia Street  
Chapel Hill, NC 27514

Re: Creekside determination of east and west channels

Dear Mr. Mitchell,

As per a request from the Planning Department, I have again performed a stream determination for intermittent stream origins on the subject property Tax Map # 7.70.D.5, Address: 600 Morgan Creek Road, PIN# 9787-59-6577. Based on my training using the North Carolina Division of Water Quality Stream Classification Forms and my professional judgment, I have reached the following conclusions:

For the west channel, the existing intermittent stream origin remains at the same location as previously determined.

For the east channel, the existing intermittent stream origin remains at the same location as previously determined.

I have enclosed the determination form for your use.

Best Regards,

Fred Royal, EI, CFM  
Stormwater Management Engineer

Cc: Phil Mason, Senior Planner  
Larry Tucker, Senior Engineering Coordinator  
Deborah Squires, Senior G.I.S. Technician  
Maggie Bowers, Sr. Code Enforcement Officer









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## TOWN OF CHAPEL HILL

January 17, 2003

Warren Mitchell  
Mitchell Westendorf, PA  
210 N. Columbia Street  
Chapel Hill, NC 27514

Dear Mr. Mitchell:

A site inspection of the property Tax Map #70.D.5, PIN# 9787-59-6577, Address 600 Morgan Creek Road, was conducted on January 13, 2003. At that time, the area in question did meet the minimum requirement for classification as perennial and intermittent streams, and therefore the Resource Conservation District Ordinance will apply to this parcel.

The perennial determination has already been completed and the intermittent determination found two intermittent streams.

Regards,

Fred Royal  
Stormwater Management Engineer

FR/jcf

cc: Larry Tucker, Senior Engineering Coordinator  
Deborah Squires, Senior G.I.S. Technician  
Maggie Bowers, Sr. Code Enforcement Officer











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## TOWN OF CHAPEL HILL

December 13, 2002

Mr. Roger Waldon  
Chapel Hill Planning Department  
306 N. Columbia Street  
Chapel Hill, NC 27516

Dear Mr. Waldon:

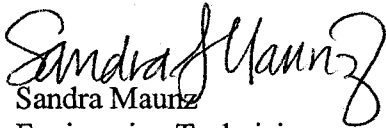
A field verification was conducted on the property Tax Map # 7.70.D.5, PIN# 9787-59-6577 (Creekside Subdivision Site) on December 12, 2002.

Morgan Creek runs along the east side of this lot. It is perennial.

A small tributary enters Morgan Creek at the southeast corner of this lot. It is perennial for a short distance upstream of the confluence with Morgan Creek. The perennial determination of the tributary begins near the southeast corner of parcel 7.70..6A, approximately 300 feet upstream of the confluence.

The Resource Conservation will apply to the noted portion of the tributary in question and to Morgan Creek.

Regards,

  
Sandra Maurz  
Engineering Technician

SM/jcf

cc: Larry Tucker, Senior Engineering Coordinator  
Deborah Squires, Senior G.I.S. Technician  
Maggie Bowers, Zoning Enforcement Officer







EAST CHANNEL 2

CREEKSIDE

56

# NCDWQ Stream Classification Form

Project Name: CREEKSIDE River Basin: MORGAN County: ORANGE Evaluator: STR

DWQ Project Number: Nearest Named Stream: Latitude: Signature: [Signature]

Date: 2/3/03 USGS QUAD: Longitude: Location/Directions:

\*PLEASE NOTE: If evaluator and landowner agree that the feature is a man-made ditch, then use of this form is not necessary. Also, if in the best professional judgement of the evaluator, the feature is a man-made ditch and not a modified natural stream—this rating system should not be used\*

## Primary Field Indicators: (Circle One Number Per Line)

### I. Geomorphology

	Absent	Weak	Moderate	Strong
1) Is There A Riffle-Pool Sequence?	0	1	2	3
2) Is The USDA Texture In Streambed Different From Surrounding Terrain?	0	1	2	3
3) Are Natural Levees Present?	0	1	2	3
4) Is The Channel Sinuous?	0	1	2	3
5) Is There An Active (Or Relic) Floodplain Present?	0	1	2	3
6) Is The Channel Braided?	0	1	2	3
7) Are Recent Alluvial Deposits Present?	0	1	2	3
8) Is There A Bankfull Bench Present?	0	1	2	3
9) Is a Continuous Bed & Bank Present?	0	1	2	3
(*NOTE: If Bed & Bank Caused By Ditching And WITHOUT Sinuosity Then Score=0*)				
10) Is a 2 <sup>nd</sup> Order Or Greater Channel (As Indicated On Topo Map And/Or In Field) Present?	Yes=3		No=0	

PRIMARY GEOMORPHOLOGY INDICATOR POINTS: 8

### II. Hydrology

	Absent	Weak	Moderate	Strong
1) Is There A Groundwater Flow/Discharge Present?	0	1	2	3

PRIMARY HYDROLOGY INDICATOR POINTS: 2

### III. Biology

	Absent	Weak	Moderate	Strong
1) Are Fibrous Roots Present In Streambed?	3	2	1	0
2) Are Rooted Plants Present In Streambed?	3	2	1	0
3) Is Periphyton Present?	0	1	2	3
4) Are Bivalves Present?	0	1	2	3

PRIMARY BIOLOGY INDICATOR POINTS: 2

## Secondary Field Indicators: (Circle One Number Per Line)

### I. Geomorphology

	Absent	Weak	Moderate	Strong
1) Is There A Head Cut Present In Channel?	0	.5	1	1.5
2) Is There A Grade Control Point In Channel?	0	.5	1	1.5
3) Does Topography Indicate A Natural Drainage Way?	0	.5	1	1.5

SECONDARY GEOMORPHOLOGY INDICATOR POINTS: 3

11

57

**II. Hydrology**

	Absent	Weak	Moderate	Strong
1) Is This Year's (Or Last Year's) Leaf litter Present In Streambed?	1.5	.5	.5	0
2) Is Sediment On Plants (Or Debris) Present?	0	.5	1	1.5
3) Are Wrack Lines Present?	0	.5	1	1.5
4) Is Water In Channel And >48 Hrs. Since Last Known Rain? (*NOTE: If Ditch Indicated In #9 Above Skip This Step And #5 Below*)	0	.5	1	1.5
5) Is There Water In Channel During Dry Conditions Or In Growing Season)?	0	.5	1	1.5
6) Are Hydric Soils Present In Sides Of Channel (Or In Headcut)?		Yes=1.5		No=0

**SECONDARY HYDROLOGY INDICATOR POINTS: 3**

**III. Biology**

	Absent	Weak	Moderate	Strong		
1) Are Fish Present?	0	.5	1	1.5		
2) Are Amphibians Present?	0	.5	1	1.5		
3) Are Aquatic Turtles Present?	0	.5	1	1.5		
4) Are Crayfish Present?	0	.5	1	1.5		
5) Are Macroinvertebrates Present?	0	.5	1	1.5		
6) Are Iron Oxidizing Bacteria/Fungus Present?	0	.5	1	1.5		
7) Is Filamentous Algae Present?	0	.5	1	1.5		
8) Are Wetland Plants In Streambed?	SAV	Mostly OBL	Mostly FACW	Mostly FAC	Mostly FACU	Mostly UPL
(* NOTE: If Total Absence Of All Plants In Streambed As Noted Above Skip This Step UNLESS SAV Present*)	2	1	.75	.5	0	0

**SECONDARY BIOLOGY INDICATOR POINTS: .5**

**TOTAL POINTS (Primary + Secondary) = 14.5** (If Greater Than Or Equal To 19 Points The Stream Is At Least Intermittent)

Notes: **EMERALD CHANNEL**

EAST CHANNEL II (Previous Side) (58)

**NCDWQ Stream Classification Form**

Project Name: Creekside River Basin: MORGAN County: ORANGE Evaluator: FRK  
 DWQ Project Number: Nearest Named Stream: Latitude: Signature: [Signature]  
 Date: 2/3/03 USGS QUAD: Longitude: Location/Directions:

**\*PLEASE NOTE:** If evaluator and landowner agree that the feature is a man-made ditch, then use of this form is not necessary. Also, if in the best professional judgement of the evaluator, the feature is a man-made ditch and not a modified natural stream—this rating system should not be used\*

**Primary Field Indicators:** (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Riffle-Pool Sequence?	0	1	2	3
2) Is The USDA Texture In Streambed Different From Surrounding Terrain?	0	1	2	3
3) Are Natural Levees Present?	0	1	2	3
4) Is The Channel Sinuous?	0	1	2	3
5) Is There An Active (Or Relic) Floodplain Present?	0	1	2	3
6) Is The Channel Braided?	0	1	2	3
7) Are Recent Alluvial Deposits Present?	0	1	2	3
8) Is There A Bankfull Bench Present?	0	1	2	3
9) Is a Continuous Bed & Bank Present?	0	1	2	3
(*NOTE: If Bed & Bank Caused By Ditching And WITHOUT Sinuosity Then Score=0*)				
10) Is a 2 <sup>nd</sup> Order Or Greater Channel (As Indicated On Topo Map And/Or In Field) Present?	Yes=3		No=0	

**PRIMARY GEOMORPHOLOGY INDICATOR POINTS: 15**

II. Hydrology	Absent	Weak	Moderate	Strong
1) Is There A Groundwater Flow/Discharge Present?	0	1	2	3

**PRIMARY HYDROLOGY INDICATOR POINTS: 2**

III. Biology	Absent	Weak	Moderate	Strong
1) Are Fibrous Roots Present In Streambed?	3	2	1	0
2) Are Rooted Plants Present In Streambed?	3	2	1	0
3) Is Periphyton Present?	0	1	2	3
4) Are Bivalves Present?	0	1	2	3

**PRIMARY BIOLOGY INDICATOR POINTS: 3**

**Secondary Field Indicators:** (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Head Cut Present In Channel?	0	.5	1	1.5
2) Is There A Grade Control Point In Channel?	0	.5	1	1.5
3) Does Topography Indicate A Natural Drainage Way?	0	.5	1	1.5

**SECONDARY GEOMORPHOLOGY INDICATOR POINTS: 3.5**

23.5

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**II. Hydrology**

	Absent	Weak	Moderate	Strong
1) Is This Year's (Or Last Year's) Leaf litter Present In Streambed?	1.5	1	.5	0
2) Is Sediment On Plants (Or Debris) Present?	0	1	1	1.5
3) Are Wrack Lines Present?	0	.5	1	1.5
4) Is Water In Channel And >48 Hrs. Since Last Known Rain? (*NOTE: If Ditch Indicated In #9 Above Skip This Step And #5 Below*)	0	.5	1	1.5
5) Is There Water In Channel During Dry Conditions Or In Growing Season?	0	.5	1	1.5
6) Are Hydric Soils Present In Sides Of Channel (Or In Headcut)?		Yes=1.5		No=0

**SECONDARY HYDROLOGY INDICATOR POINTS: 3**

**III. Biology**

	Absent	Weak	Moderate	Strong		
1) Are Fish Present?	0	.5	1	1.5		
2) Are Amphibians Present?	0	.5	1	1.5		
3) Are Aquatic Turtles Present?	0	.5	1	1.5		
4) Are Crayfish Present?	0	.5	1	1.5		
5) Are Macroinvertebrates Present?	0	.5	1	1.5		
6) Are Iron Oxidizing Bacteria/Fungus Present?	0	.5	1	1.5		
7) Is Filamentous Algae Present?	0	.5	1	1.5		
8) Are Wetland Plants In Streambed?	SAV 2	Mostly OBL 1	Mostly FACW .75	Mostly FAC .5	Mostly FACU 0	Mostly UPL 0

**SECONDARY BIOLOGY INDICATOR POINTS: 5**

**TOTAL POINTS (Primary + Secondary) = 27** (If Greater Than Or Equal To 19 Points The Stream Is At Least Intermittent)

Notes: **INTERMITTENT STREAM**



MOST  
WEST CHANNEL I (UPSTREAM OF EXISTING DRAIN)  
(60)

## NCDWQ Stream Classification Form

Project Name: Creekside River Basin: MORGAN County: ORANGE Evaluator: FR  
 DWQ Project Number: Nearest Named Stream: Latitude: Signature: [Signature]  
 Date: 2/3/03 USGS QUAD: Longitude: Location/Directions:

**\*PLEASE NOTE:** If evaluator and landowner agree that the feature is a man-made ditch, then use of this form is not necessary. Also, if in the best professional judgement of the evaluator, the feature is a man-made ditch and not a modified natural stream—this rating system should not be used\*

**Primary Field Indicators:** (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Riffle-Pool Sequence?	0	1	2	3
2) Is The USDA Texture In Streambed Different From Surrounding Terrain?	0	1	2	3
3) Are Natural Levees Present?	0	1	2	3
4) Is The Channel Sinuous?	0	1	2	3
5) Is There An Active (Or Relic) Floodplain Present?	0	1	2	3
6) Is The Channel Braided?	0	1	2	3
7) Are Recent Alluvial Deposits Present?	0	1	2	3
8) Is There A Bankfull Bench Present?	0	1	2	3
9) Is a Continuous Bed & Bank Present?	0	1	2	3
(*NOTE: If Bed & Bank Caused By Ditching And WITHOUT Sinuosity Then Score=0*)				
10) Is a 2 <sup>nd</sup> Order Or Greater Channel (As Indicated On Topo Map And/Or In Field) Present?	Yes=3		No=0	

**PRIMARY GEOMORPHOLOGY INDICATOR POINTS:** 5

II. Hydrology	Absent	Weak	Moderate	Strong
1) Is There A Groundwater Flow/Discharge Present?	0	1	2	3

**PRIMARY HYDROLOGY INDICATOR POINTS:** 1

III. Biology	Absent	Weak	Moderate	Strong
1) Are Fibrous Roots Present In Streambed?	3	2	1	0
2) Are Rooted Plants Present In Streambed?	3	2	1	0
3) Is Periphyton Present?	0	1	2	3
4) Are Bivalves Present?	0	1	2	3

**PRIMARY BIOLOGY INDICATOR POINTS:** 1

**Secondary Field Indicators:** (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Head Cut Present In Channel?	0	.5	1	1.5
2) Is There A Grade Control Point In Channel?	0	.5	1	1.5
3) Does Topography Indicate A Natural Drainage Way?	0	.5	1	1.5

**SECONDARY GEOMORPHOLOGY INDICATOR POINTS:** 2

9

(61)

**II. Hydrology**

	Absent	Weak	Moderate	Strong
1) Is This Year's (Or Last Year's) Leaf litter Present In Streambed?	1.5	1	.5	0
2) Is Sediment On Plants (Or Debris) Present?	0	.5	1	1.5
3) Are Wrack Lines Present?	0	.5	1	1.5
4) Is Water In Channel <i>And</i> >48 Hrs. Since Last <i>Known</i> Rain? (*NOTE: If Ditch Indicated In #9 Above Skip This Step And #5 Below*)	0	.5	1	1.5
5) Is There Water In Channel During Dry Conditions <i>Or</i> In Growing Season)?	0	.5	1	1.5
6) Are Hydric Soils Present In Sides Of Channel (Or In Headcut)?		Yes=1.5		No=0

**SECONDARY HYDROLOGY INDICATOR POINTS: 4.5**

**III. Biology**

	Absent	Weak	Moderate	Strong		
1) Are Fish Present?	0	.5	1	1.5		
2) Are Amphibians Present?	0	.5	1	1.5		
3) Are Aquatic Turtles Present?	0	.5	1	1.5		
4) Are Crayfish Present?	0	.5	1	1.5		
5) Are Macroinvertebrates Present?	0	.5	1	1.5		
6) Are Iron Oxidizing Bacteria/Fungus Present?	0	.5	1	1.5		
7) Is Filamentous Algae Present?	0	.5	1	1.5		
8) Are Wetland Plants In Streambed?	SAV	Mostly OBL	Mostly FACW	Mostly FAC	Mostly FACU	Mostly UPL
(* NOTE: If Total Absence Of All Plants In Streambed As Noted Above Skip This Step UNLESS SAV Present*)	2	1	.75	.5	0	0

**SECONDARY BIOLOGY INDICATOR POINTS: .5**

**TOTAL POINTS (Primary + Secondary) = 14** (If Greater Than Or Equal To 19 Points The Stream Is At Least Intermittent)

Notes: **ETHYMEREAL CHANNEL**

West Channel II (Just upstream of existing origin)

(62)

# NCDWQ Stream Classification Form

Project Name: Clock Side River Basin: MORGAN County: ORANGE Evaluator: FR  
 DWQ Project Number: Nearest Named Stream: Latitude: Signature: [Signature]  
 Date: USGS QUAD: Longitude: Location/Directions:

**\*PLEASE NOTE: If evaluator and landowner agree that the feature is a man-made ditch, then use of this form is not necessary. Also, if in the best professional judgement of the evaluator, the feature is a man-made ditch and not a modified natural stream—this rating system should not be used\***

## Primary Field Indicators: (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Riffle-Pool Sequence?	0	1	2	3
2) Is The USDA Texture In Streambed Different From Surrounding Terrain?	0	1	2	3
3) Are Natural Levees Present?	0	1	2	3
4) Is The Channel Sinuous?	0	1	2	3
5) Is There An Active (Or Relic) Floodplain Present?	0	1	2	3
6) Is The Channel Braided?	0	1	2	3
7) Are Recent Alluvial Deposits Present?	0	1	2	3
8) Is There A Bankfull Bench Present?	0	1	2	3
9) Is a Continuous Bed & Bank Present?	0	1	2	3
(*NOTE: If Bed & Bank Caused By Ditching And WITHOUT Sinuosity Then Score=0*)				
10) Is a 2 <sup>nd</sup> Order Or Greater Channel (As Indicated On Topo Map And/Or In Field) Present?	Yes=3		No=0	

**PRIMARY GEOMORPHOLOGY INDICATOR POINTS: 9**

II. Hydrology	Absent	Weak	Moderate	Strong
1) Is There A Groundwater Flow/Discharge Present?	0	1	2	3

**PRIMARY HYDROLOGY INDICATOR POINTS: 0**

III. Biology	Absent	Weak	Moderate	Strong
1) Are Fibrous Roots Present In Streambed?	3	2	1	0
2) Are Rooted Plants Present In Streambed?	3	2	1	0
3) Is Periphyton Present?	0	1	2	3
4) Are Bivalves Present?	0	1	2	3

**PRIMARY BIOLOGY INDICATOR POINTS: 3**

## Secondary Field Indicators: (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Head Cut Present In Channel?	0	.5	1	1.5
2) Is There A Grade Control Point In Channel?	0	.5	1	1.5
3) Does Topography Indicate A Natural Drainage Way?	0	.5	1	1.5

**SECONDARY GEOMORPHOLOGY INDICATOR POINTS: 3**

15

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**II. Hydrology**

	Absent	Weak	Moderate	Strong
1) Is This Year's (Or Last Year's) Leaf litter Present In Streambed?	1.5	1	.5	0
2) Is Sediment On Plants (Or Debris) Present?	0	.5	1	1.5
3) Are Wrack Lines Present?	0	.5	1	1.5
4) Is Water In Channel And >48 Hrs. Since Last Known Rain? (*NOTE: If Ditch Indicated In #9 Above Skip This Step And #5 Below*)	0	.5	1	1.5
5) Is There Water In Channel During Dry Conditions Or In Growing Season?	0	.5	1	1.5
6) Are Hydric Soils Present In Sides Of Channel (Or In Headcut)?		Yes=1.5		No=0

**SECONDARY HYDROLOGY INDICATOR POINTS:** 1

**III. Biology**

	Absent	Weak	Moderate	Strong		
1) Are Fish Present?	0	.5	1	1.5		
2) Are Amphibians Present?	0	.5	1	1.5		
3) Are Aquatic Turtles Present?	0	.5	1	1.5		
4) Are Crayfish Present?	0	.5	1	1.5		
5) Are Macroinvertebrates Present?	0	.5	1	1.5		
6) Are Iron Oxidizing Bacteria/Fungus Present?	0	.5	1	1.5		
7) Is Filamentous Algae Present?	0	.5	1	1.5		
8) Are Wetland Plants In Streambed?	SAV	Mostly OBL	Mostly FACW	Mostly FAC	Mostly FACU	Mostly UPL
(* NOTE: If Total Absence Of All Plants In Streambed As Noted Above Skip This Step UNLESS SAV Present*)	2	1	.75	.5	0	0

**SECONDARY BIOLOGY INDICATOR POINTS:** 0

**TOTAL POINTS (Primary + Secondary) =** 16 (If Greater Than Or Equal To 19 Points The Stream Is At Least Intermittent)

Notes: EPHMERAL CHANNEL

WEST CHANNEL III (DOWNSTREAM OF EXISTING ORIGIN)

(64)

# NCDWQ Stream Classification Form

Project Name: CROCKETTSIDE River Basin: MORRIS County: ORANGE Evaluator: FR

DWQ Project Number: \_\_\_\_\_ Nearest Named Stream: \_\_\_\_\_ Latitude: \_\_\_\_\_ Signature: \_\_\_\_\_

Date: 2/3/03 USGS QUAD: \_\_\_\_\_ Longitude: \_\_\_\_\_ Location/Directions: \_\_\_\_\_

**\*PLEASE NOTE:** If evaluator and landowner agree that the feature is a man-made ditch, then use of this form is not necessary. Also, if in the best professional judgement of the evaluator, the feature is a man-made ditch and not a modified natural stream—this rating system should not be used\*

## Primary Field Indicators: (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Riffle-Pool Sequence?	0	1	5	3
2) Is The USDA Texture In Streambed Different From Surrounding Terrain?	0	1	2	3
3) Are Natural Levees Present?	0	1	2	3
4) Is The Channel Sinuous?	0	1	2	3
5) Is There An Active (Or Relic) Floodplain Present?	0	1	2	3
6) Is The Channel Braided?	0	1	2	3
7) Are Recent Alluvial Deposits Present?	0	1	2	3
8) Is There A Bankfull Bench Present?	0	1	2	3
9) Is a Continuous Bed & Bank Present?	0	1	2	3
<i>(*NOTE: If Bed &amp; Bank Caused By Ditching And WITHOUT Sinuosity Then Score=0*)</i>				
10) Is a 2 <sup>nd</sup> Order Or Greater Channel (As Indicated On Topo Map And/Or In Field) Present?	Yes=3	No=0		

PRIMARY GEOMORPHOLOGY INDICATOR POINTS: 18

II. Hydrology	Absent	Weak	Moderate	Strong
1) Is There A Groundwater Flow/Discharge Present?	0	1	2	3

PRIMARY HYDROLOGY INDICATOR POINTS: 0

III. Biology	Absent	Weak	Moderate	Strong
1) Are Fibrous Roots Present In Streambed?	3	2	1	0
2) Are Rooted Plants Present In Streambed?	3	2	1	0
3) Is Periphyton Present?	0	1	2	3
4) Are Bivalves Present?	0	1	2	3

PRIMARY BIOLOGY INDICATOR POINTS: 2

## Secondary Field Indicators: (Circle One Number Per Line)

I. Geomorphology	Absent	Weak	Moderate	Strong
1) Is There A Head Cut Present In Channel?	0	.5	1	1.5
2) Is There A Grade Control Point In Channel?	0	.5	1	1.5
3) Does Topography Indicate A Natural Drainage Way?	0	.5	1	1.5

SECONDARY GEOMORPHOLOGY INDICATOR POINTS: 4.5

24.5

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II. Hydrology	Absent	Weak	Moderate	Strong
1) Is This Year's (Or Last Year's) Leaf litter Present In Streambed?	1.5	1	.5	0
2) Is Sediment On Plants (Or Debris) Present?	0	.5	1	1.5
3) Are Wrack Lines Present?	0	.5	1	1.5
4) Is Water In Channel And >48 Hrs. Since Last Known Rain? (*NOTE: If Ditch Indicated In #9 Above Skip This Step And #5 Below*)	0	.5	1	1.5
5) Is There Water In Channel During Dry Conditions Or In Growing Season?	0	.5	1	1.5
6) Are Hydric Soils Present In Sides Of Channel (Or In Headcut)?	Yes=1.5			No=0
<b>SECONDARY HYDROLOGY INDICATOR POINTS: 3.5</b>				

III. Biology	Absent	Weak	Moderate	Strong		
1) Are Fish Present?	0	.5	1	1.5		
2) Are Amphibians Present?	0	.5	1	1.5		
3) Are Aquatic Turtles Present?	0	.5	1	1.5		
4) Are Crayfish Present?	0	.5	1	1.5		
5) Are Macroinvertebrates Present?	0	.5	1	1.5		
6) Are Iron Oxidizing Bacteria/Fungus Present?	0	.5	1	1.5		
7) Is Filamentous Algae Present?	0	.5	1	1.5		
8) Are Wetland Plants In Streambed?	SAV	Mostly OBL	Mostly FACW	Mostly FAC	Mostly FACU	Mostly UPL
(* NOTE: If Total Absence Of All Plants In Streambed As Noted Above Skip This Step UNLESS SAV Present*)	2	1	.75	.5	0	0
<b>SECONDARY BIOLOGY INDICATOR POINTS: .75</b>						

**TOTAL POINTS (Primary + Secondary) = 28.75** (If Greater Than Or Equal To 19 Points The Stream Is At Least Intermittent)

Notes: INTERMITTENT STREAM.