



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

STRATEGIC MONITORING PLAN Field Sheet

July 2022

Meter
Passed End
of Day CCV☒ Yes / ☐ No

WIN Station Name:		EAST CANAL ON CONE RANCH				Sample Date:		10/18/2023	
WIN / Field ID:	G2SW0171	ORG ID:	21FLTPA	ENR:	-	Latitude:	28.10146		
County:	HILLSBOROUGH	WBID:	1518	STREAM	3F	Longitude:	-82.11306		
Receiving Body of Water:		Itchepackesassa Creek				RQ-	2023-10-30-45		

Sampling Team Members	WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Ben Paswater		x		x	
Ken Turman	x		x		x

Sampling Equipment			
x	Sample Container		Carboy
	Dipper		Van Dorn
	Syringe		Pole
Syringe Lot#		2153759	Filter Lot# 17756911
Secchi Equipment ID:		Secchi #2	
Collection Method			
x	Wading		Canoe/Kayak
	From Shore		Electric Motor
			Gasoline Motor
Depth Measured With		Secchi	

Water Level:	Normal
Flow:	Flowing
Matrix:	Fresh
Tide Stage:	
High Tide:	
Low Tide:	
Photos:	Yes
Meter ID:	Leia
Depth Gauge ID:	depth_gauge

Time Zone	Time	Total Depth (m)	Sample Depth (m)	DO (mg/L)	DO (%SAT)	Temp. (°C)	pH	Secchi Disk (m)	Sp COND (µmhos/cm)	Salinity (PPT)
EST	1240	0.4	0.2	8.24	97.9	23.9	7.97	0.4	966	0.48

Biological Samples Collected: HA LVS RPS SCI

SBIO Visit ID: 88095 HA ID: 18703 RPS ID: 10194 Macrophyte ID: 12610 LIMS Sample ID In The Macrophyte Module: 2446087

Parameter Suite	Parameter Methods (LIMS Test Codes)			Preservation				
	Type	Lot#	Expiration Date	pH Check				
Microbiology	E. coli			ICE				
Chlorophyll	CHLSUITE-W			ICE				
Physical/Aggregate Nutrients	ALKALINITY, TURBIDITY, W-F, W-TSS			ICE				
	W-CL-IC, W-COLOR, W-SO4-IC, W-TDS			ICE				
Filtered Nutrients	W-PO4-F	Field Filtered 0.45 µm Filter		ICE	Syringe Lot#:2153759 ; Filter Lot#:17756911			
Acid Preserved Nutrients	W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP			ICE	H2SO4*	SA3013020	01/25/2024	H2SO4 pH<2
Metals	W-ICPMS	W-ICP	W-HARD	ICE	HNO3**	NA3123030	05/10/2024	HNO3 pH<2
Organics (LC)	W-E8321-DI	W-E8321-MS						
Macroinvertebrates	MI-FW-QLDC			Formalin		10.01070522 TR		
Organics (GC)	W-PSNP-TQ	W-TR-SQ-R		Ice	*2.0 ml of H2SO4 Used Unless Noted Otherwise **2.0 ml of HNO3 Used Unless Noted Otherwise			
Molecular								
Periphyton								
Phytoplankton								
BOD								
DOC					SyringeLot#		FilterLot#	
Other(s)								
Field Comments:	/ SCI Collection Time: 1300							
Comments on COC:								
Relinquish Date:	10/18/2023	Signature:						

LIMS EVENT ID: SW-DIST-2023-10-19-01

WIN Import ID: 45315

Enter Field Parameters, Verify Station ID In LIMS DMT: DM 11/8/2023

QC Station ID, Field Parameters In LIMS DMT: MM 12/19/2023

Save Field Sheets on Network: MM 2/1/2024 (Initials/Date)

Migrate Data to WIN: MM 2/1/2024 (Initials/Date)

(Initials/Date)

(Initials/Date)



DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

Site Name: **East Canal on Cone Ranch**

STORET STATION NUMBER:		DATE (MM/DD/YY):	SAMPLING AGENCY:
FIELD ID/NAME:		COUNTY:	RECEIVING BODY OF WATER:
10/18/23		Hillsborough	FDEP SWROC Hillsborough River

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>20</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>7</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>15</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>8</u> ----- Primary Score <u>50</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization <u>10</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank <u>10</u> Left Bank <u>10</u>	LR 10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank <u>10</u> Left Bank <u>10</u>	LR 10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank <u>5</u> Left Bank <u>5</u> ----- Secondary Score <u>60</u>	10 9	8 7 6	LR 5 4	3 2 1

TOTAL SCORE

Date:

10/18/2023

Analyst:

Ben Paswater
Ken Turman

Signature:

Ben Paswater



DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD

Site Name: **East Canal on Cone Ranch**County: *Hillsborough*Waterbody: **See Sticker**Date: *10/18/2023*Signature: *Ben Parmer*Analyst: *Ben Parmer*

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names. **BOLD is exotic invasive**

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana (Lemon)												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nitella sp.											
Centella asiatica												Nuphar luteum											
Ceratophyllum demersum												Orontium aquaticum											
Chara sp.												Panicum hemitomon											
Cicuta maculata												Panicum repens											
Cladium jamaicense												Panicum rigidulum											
Colocasia esculenta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Pistia stratioides											
Commelina diffusa												Polygonum glabra											
Commelina virginica												Polygonum hydropiperoides											
Crinum americanum												Polygonum punctatum											
Cyperus												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex (Mex Petunia)				✓	✓	✓	✓	✓	✓	✓	
Eleocharis (wispy viviparous)												Sacciolepis striata											
Fontinalis sp. (Aquatic Moss)												Sagittaria kurziana											
Fraxinus caroliniana												Sagittaria lancifolia											
Hydrilla verticillata	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Sagittaria latifolia											
Hydrocotyle sp.												Salvinia minima											
Hygrophila polysperma												Samolus parviflora											
Hymenachne amplexicaulis	✓											Saururus cernuus											
Hymenocallis												Sparganium americanum											
Lachnanthes caroliniana												Schoenoplectus americanus											
Landoltia punctata												Sphagneticola trilobata (Wedelia)											
Lemna sp.												Typha sp.											
Limnophila sessiflora												Urochloa mutica (Brachiaria)											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓													
>5 and ≤10% Macrophyte Coverage																							
>10 and ≤25% Macrophyte Coverage																							
>25 and ≤50% Macrophyte Coverage																							
> 50% Macrophyte Coverage																							

Site Name: East Canal on Cone Ranch

21FLTPA

LATITUDE

LONGITUDE

SAMPLING AGENCY FDEP SW ROC

RECEIVING BODY OF WATER

Hillsborough

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):								Landscape Development Intensity Index (LDI)	
Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)		
50		50							
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect	
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy								2 m wide	
Width of Riparian Vegetation (m) on Each Buffer Side				Hydrologic Modification Score (per FT 3101)					
Left Bank: 218		Right Bank: 218		5					
High Water Mark: 2.6 + 0.4 = 1.0				Artificially Impounded					
(m) (above present water level) (present depth) (above bed)				☐ Yes ☒ No					
Artificially ☐ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%)					
Channelized: ☒ Some recovery ☐ Recent, severe				☒ Heavily Shaded ☒ Moderate Shaded (46-80%)					

SEDIMENT / SUBSTRATE

Sediment Oils			Sediment Odors			Smothering of Substrates					
☒ Absent ☐ Slight			☒ Normal ☐ Sewage ☐ Petroleum			Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
☐ Moderate ☐ Profuse			☐ Chemical ☐ Anaerobic			Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
			☐ Other (Specify):			Algae Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐					
SUBSTRATE TYPE			WATER QUALITY								
Assessment Tool: ☐ SCI ☐ RPS ☐ LVS			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M)								
☐ LCI ☐ BioRecon			Top: 0.2 23.9 7.97 8.24 97.9 966 0.48 0.4								
			Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB								
			Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ TOTAL DEPTH								
			0.4								
			Meter ID: Leig								
Woody Debris (Snags) 2.8 5.4			Water Odors Normal ☒ Petroleum ☐						Water Surface Oils Normal ☒ Sheen ☐		
Undercut Banks / Roots 2.1 5.4			Sewage ☐ Chemical ☐ Other ☐						Globs ☐ Slick ☐ Other ☐		
Leaf Packs or Mat few 2.2			Water Sample Taken? ☒ Yes ☐ No						Color Tannic ☐ Green (Algae) ☐		
Aquatic Vegetation 1.9 5.4			Sample Preserved? ☒ Yes ☐ No						Clear ☒ Other (Specify) ☐		
Rock or Shell Rubble.. 2.0 5.4			Lot Number: see Water Datasheet								
Sand.....			Algae Sample Taken? ☐ Yes ☒ No						Clarity Clear ☒ Slightly Turbid ☐		
Mud / Muck / Silt			Sample Preserved? ☐ Yes ☐ No						Turbid ☐ Opaque ☐		
Other			Lot Number: Exp:								
Other			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐								
ABUNDANCE			AMBIENT FIELD CONDITIONS / NOTES:								
Not Obs. Rare Common Abundant			☒ The antecedent hydrologic conditions have been met to my best knowledge.								
Periphyton: ☐ ☐ ☒ ☐											
Fish: ☐ ☐ ☒ ☐											
Aquatic Plants: ☐ ☐ ☒ ☐											
Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐											
SAMPLING TEAM			SIGNATURE:						DATE:		
Ben Paswater, Ken Turm			Ben Paswater						10/18/2023		



Site Name: East Canal on Cone Ranch

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sh

Investigators: BP, K T

County: Hillsborough

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1				60	1			
	2					2			
	3					3			
	4	N	N			4	N		
	5			16		5			52
	6					6			
	7					7			
	8					8			
	9					9			
10	1				70	1			
	2					2			
	3					3			
	4					4			
	5			64		5			60
	6					6			
	7					7			
	8					8			
	9					9			
20	1				80	1			
	2					2			
	3					3			
	4					4			72
	5			80		5			
	6					6			
	7					7			
	8					8			
	9					9			
30	1				90	1			
	2					2			
	3					3			
	4					4			
	5			84		5			72
	6					6			
	7					7			
	8					8			
	9					9			
40	1				100	1			
	2					2			
	3					3			
	4					4			
	5			72		5			76
	6					6			
	7					7			
	8					8			
	9					9			
50	1					1			
	2					2			
	3					3			
	4					4			
	5			78		5			
	6					6			
	7					7			
	8					8			
	9					9			

STORET Station Number: see label

 Secchi depth 44
 Estimated? No

 # points ranked 4-6 0
 total points assessed 99
 % points ranked 4-6 0

Check accompanying data collected at same site/date.

 Algal mat sample No
 Linear Veg Survey ✓
 Habitat Assessment ✓
 SCI/Biorecon ✓
 Water sample ✓

RQ- 2023-10-30-45

Algal Thickness Rank

N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.



DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Site Name: **East Canal on Cone Ranch**Location: see labelDate: 10/18/2023Sampler: Bentho water100 m: Latitude 28.10067Longitude -82.1127990 m: Latitude 28.10138Longitude -82.11294

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags	<u>2.8</u>
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☒ R	Roots/undercut banks	<u>2.1</u>
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☒ L	Leaf Packs (or mats)	<u>4.2</u>
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☒ V	Aquatic Macrophytes	<u>1.9</u>
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☒ O	ROCKS	<u>2.1</u>
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☐		
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☒ 3	Pools	total # observed = <u>3</u> # range expected = <u>+4</u>
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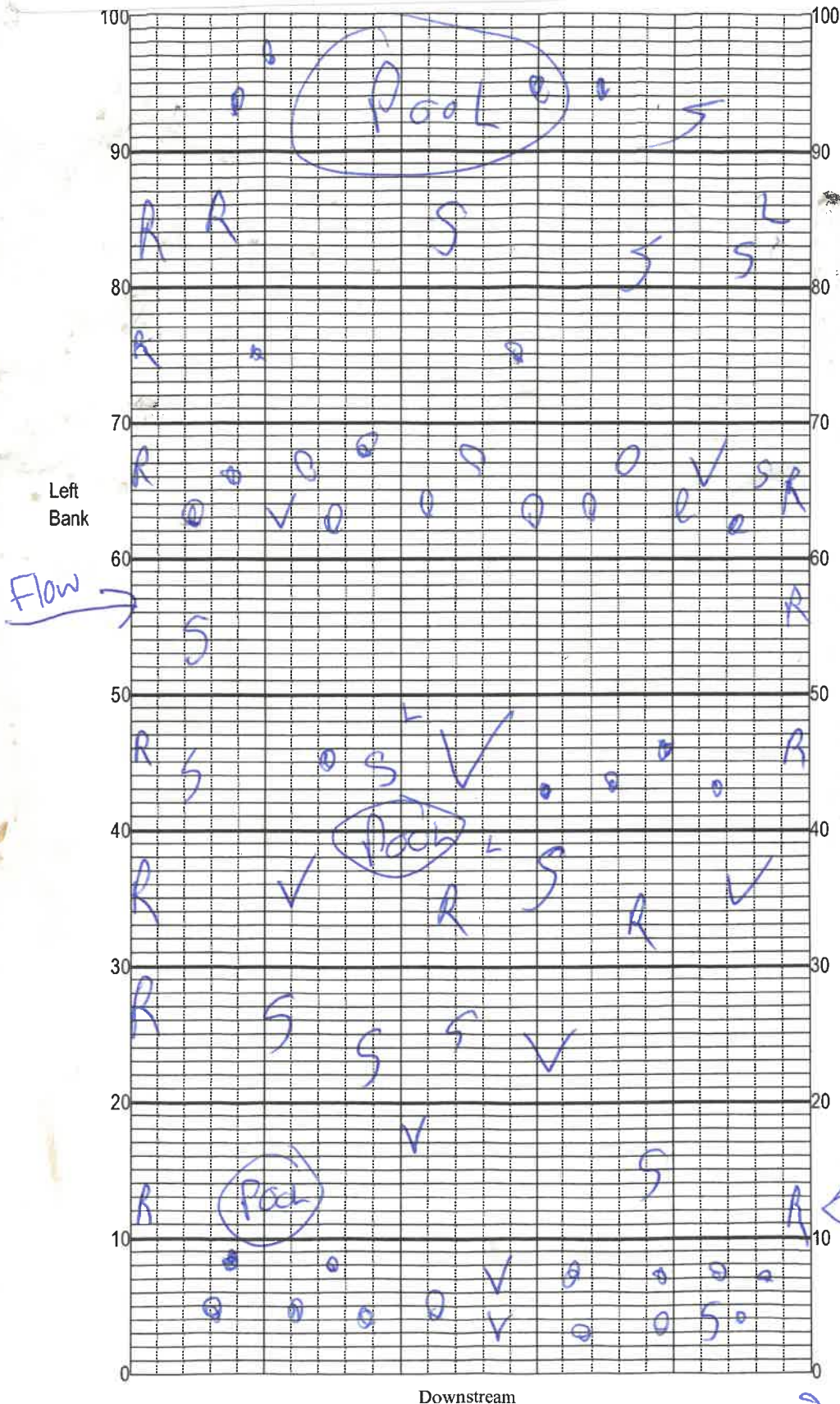
Average width 2 mAverage depth .4 mVelocity measured at 0.50/100 meter mark.WQ & chemistry taken at 0 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Pool flow

Rock 53/2500

Snag 72/2500

Veg 49/2500

Root 69/2500

2m