



1 of 1

PROJECT # AND NAME: Clinton Creek. 16-240.3. Water Program

Date and Time (24hr) AUG 20 2016 Field Staff GR + NB
 Site ID E1(H) Prop # 1 Type of meter used SWOFFER
 Station UTMs 0512850 7147423 Datum NAD 83
 Left Bank (m)' 13.18 Calibration No. 605
 Right Bank (m)' 0.78 Start Time (24 hr) 1042
 Wetted Width (m) 12.40 End Time (24 hr) 1123
 Staff Gauge (start) 0.851 m Staff Gauge (end) 0.851
 Field Photo # 7182-7187

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	13.18	0.5	∅			
2	12.58	9	0.20			ON A ROCK
11.96 3	11.96	18	0.26			
11.34 4	11.34	28.5	0.30			
10.72 5	10.72	40	0.36			
10.10 6	10.10	48	0.26			
9.48 7	9.48	49	0.36			
8.86 8	8.86	51	0.35			
8.24 9	8.24	47	0.36			
7.62 10	7.62	49	0.35			
7.00 11	7.00	46.5	0.36			ON A ROCK
6.38 12	6.38	54	0.40			
5.76 13	5.76	53	0.35			
5.14 14	5.14	50	0.35			
4.52 15	4.52	45.5	0.29			
3.90 16	3.90	40	0.29			
3.38 17	3.38	31	0.27			
2.76 18	2.76	22	0.06			GETTING INTO SLACK WATER
2.14 19	2.14	14	∅			SLACK WATER
1.52 20	1.52	8	∅			" "
RB →	0.81	∅	∅			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.81	∅	∅			
1.43 2	1.43	5.5	∅			SLACK WATER
2.05 3	2.05	12	∅			" "
2.67 4	2.67	22.5	0.04			" "
3.29 5	3.29	30	0.28			
3.81 6	3.81	39.5	0.27			
4.43 7	4.43	45	0.28			
5.05 8	5.05	49	0.33			
5.67 9	5.67	54	0.34			
6.29 10	6.29	53	0.40			ON A ROCK
6.81 11	6.81	50.5	0.38			
7.48 12	7.48	47.5	0.36			
8.10 13	8.10	45.5	0.34			
8.72 14	8.72	50.5	0.34			
9.34 15	9.34	49	0.32			
9.98 16	9.98	49	0.20			
10.60 17	10.60	41	0.35			
11.22 18	11.22	31.5	0.19			
11.84 19	11.84	19	0.27			
12.46 20	12.46	15	0.14			
LB	13.18	∅	∅			

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)

PROFILE



Calculations (e.g., wetted width / 20 = panel width):
 $12.40 / 20 = \sim 0.62$



PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) AUG 17 2016

Site ID E2 Prop # 1

Station UTM's 0514168 7147077

Left Bank (m)' 8.77

Right Bank (m)' 0.64

Wetted Width (m) 8.13

Staff Gauge (start) N/A

Field Photo # 7103 - 7107

Field Staff GRT + NB

Type of meter Used SWAFFER

Datum NAD 83

Calibration No. 605

Start Time (24 hr) 1445

End Time (24 hr) 1537

Staff Gauge (end) N/A

Method Summary

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB RB 1	0.64	3	0			
2	1.02	9	0.03			
443	1.44	22	0.08			
844	1.84	32	0.34			
2245	2.24	40	0.55			
646	2.64	41	0.68			
3047	3.05	43	0.63			
468	3.46	26	0.79			ON A ROCK
869	3.86	41	0.69			
4210	4.26	45	1.03			
6811	4.68	53	0.98			
50812	5.08	49	1.20			
14813	5.48	41	0.93			
8814	5.88	39	0.98			
63015	6.30	35	0.88			
67016	6.70	30	0.75			
71017	7.10	25	0.64			
75218	7.52	21	0.47			
79219	7.92	13	0.22			
83420	8.34	5.5	0.09			
21	8.74	0	0			

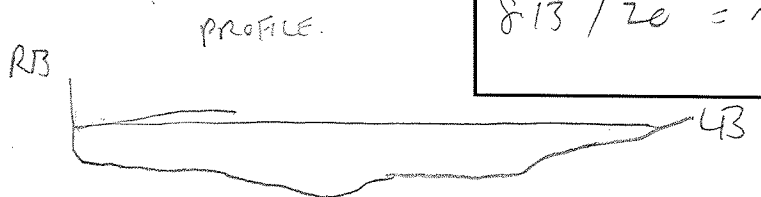
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	8.74	0	0			
2	8.34	6	0.08			
792 3	7.92	12	0.23			
752 4	7.52	22	0.44			
710 5	7.10	25	0.68			
670 6	6.70	31	0.69			
628 7	6.28	35	0.83			
588 8	5.88	40	1.02			
548 9	5.48	41	0.98			
506 10	5.06	48	1.16			
466 11	4.66	45	1.16			ON A ROCK
426 12	4.26	46	1.03			
384 13	3.84	40	0.72			ON A ROCK
344 14	3.44	25.5	0.78			ON A ROCK
304 15	3.04	43	0.67			
262 16	2.64	43	0.57			
222 17	2.22	39	0.43			
180 18	1.80	34	0.20			
138 19	1.38	16	0.09			
100 20	1.00	10	0.01			
RB 21	0.64	2	0			

Notes:

- Left bank and right bank are always based on looking downstream.
- ¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.
- ² Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

8.13 / 20 = ~40cm.





PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) AUG 16 2016
 Site ID E3(H) Prop # 1
 Station UTMs 07W 0514183 747592
 Left Bank (m) 6.72
 Right Bank (m) 0.79
 Wetted Width (m) 5.93
 Staff Gauge (start) 0.530
 Field Photo # 7038 - 7040

Field Staff GR + NB
 Type of meter Used SWOFFER
 Datum NAD 83
 Calibration No. 605
 Start Time (24 hr) 0935
 End Time (24 hr) 1039
 Staff Gauge (end) 0.495

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.789	0	0			
2	1.09	24	0.02			TOO TURBID - CAN'T SEE PRCP
3	1.388	31	0.68			
4	1.67	25.5	0.38			ON A ROCK
5	1.96	28	0.73			
6	2.24	28	1.12			
7	2.53	25	0.87			
8	2.82	20	0.90			
9	3.11	18	0.92			
10	3.40	15	1.05			
11	3.79	13	0.95			
12	4.08	13	0.55			
13	4.37	11.5	0.66			
14	4.66	10	0.39			
15	4.95	9	0.35			
16	5.24	7	0.11			
17	5.53	4.5	0			BEHIND EMERGING SUBSTRATE
18	5.82	4	0			" " "
19	6.11	6.5	0.43			
20	6.40	5	0.24			
LB 21	6.68	0	0			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	6.68	0	0			
2	6.39	5.5	0.23			
3	6.10	6	0.40			
4	5.81	5	0			BEHIND EMERGING SUBSTRATE
5	5.52	4	0			" " "
6	5.23	7	0.11			
7	4.94	9.5	0.25			
8	4.65	6	0.47			ON A ROCK
9	4.36	11	0.67			
10	4.07	15	0.66			
11	3.78	15	0.95			
12	3.49	15	0.95			
13	3.21	17	1.02			
14	2.92	20	0.94			
15	2.63	22	0.86			
16	2.34	25	1.04			
17	2.05	27	0.82			
18	1.76	26	0.53			
19	1.47	29	0.65			
20	1.18	29	0.18			
RB 21	0.79	0	0			

Notes:

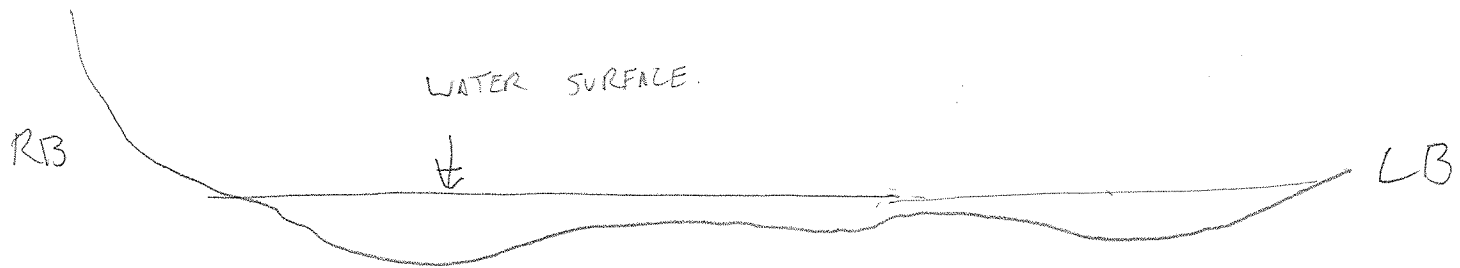
Left bank and right bank are always based on looking downstream.
¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.
² Depth is measured from the water surface down (top to bottom, not bottom to top)

MORE WATER THAN
 IN SEPTEMBER 2016.

Calculations (e.g., wetted width / 20 = panel width):
 ~ 0.29 m

SECTIONS ~ 0.29 m
 RTHA. FLOW BY.

2/2.



MORE WATER THAN SEPTEMBER 2016
SUSPENDED SOLIDS GETTING INTO SPINDLE. SOMETIMES
JAMMING - PARTICULARLY AT LOW FLOWS.



Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek, 16-240.4, Water Program

Date and Time (24hr) AUG 18 2016

Field Staff GR + NB

Site ID E4

Prop # 1

Type of meter Used SWOFFER

Station UTMs 05159457745283

Datum NAD 83

Left Bank (m) 9.72

Calibration No. 604

Right Bank (m) 2.00

Start Time (24 hr) 15:33

Wetted Width (m) 7.72

End Time (24 hr) 16:18

Staff Gauge (start) N/A

Staff Gauge (end) N/A

Field Photo # 7124 - 7128

Method Summary

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	2.00	0.0	0.00			
2	2.40	5.0	0.00			Slack water
3	2.80	14.0	0.19			
4	3.20	25.0	0.31			
5	3.60	28.0	0.45			
6	4.00	34.0	0.48			
7	4.40	45.0	0.17			
8	4.80	42.5	0.76			on a rock
9	5.20	44.0	0.79			
10	5.60	36.0	0.99			
11	6.00	42.0	0.73			
12	6.40	40.0	1.11			
13	6.80	41.5	1.00			
14	7.20	47.0	0.85			
15	7.60	52.0	1.01			
16	8.00	48.0	0.81			
17	8.40	49.0	0.89			
18	8.80	44.5	0.74			
19	9.20	44.0	0.70			
20	9.50	49.0	0.62			
21	9.72	47.0	0.15			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	9.72	46.0	0.12			
2	9.32	46.0	0.72			
3	8.92	44.0	0.81			
4	8.52	45.0	0.85			
5	8.12	48.0	0.94			
6	7.72	50.0	0.89			
7	7.32	45.0	0.79			
8	6.92	46.0	0.93			
9	6.52	40.5	1.10			
10	6.12	43.0	0.83			
11	5.72	41.0	0.91			
12	5.32	44.0	0.89			
13	4.92	44.0	0.84			
14	4.52	44.0	0.17			
15	4.12	34.0	0.52			
16	3.72	30.0	0.54			
17	3.32	25.5	0.34			
18	2.92	20.5	0.17			
19	2.52	10.0	0.11			
20	2.24	4.0	0.02			Slack water
21	2.00	0.0	0.00			

Notes:

⊗ Water turbid; prop not seen

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):

7.72 / 20 = ~40 cm





Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek 16-240.4 Water Program

Date and Time (24hr) AUG 18 2016
 Site ID E7 Prop # 1
 Station UTM's 0519358 / 7142050
 Left Bank (m)' 14.71
 Right Bank (m)' 1.28
 Wetted Width (m) 13.43
 Staff Gauge (start) N/A
 Field Photo # _____

Field Staff GR + MB
 Type of meter Used SNOWFEET
 Datum NAD 83
 Calibration No. 605
 Start Time (24 hr) 11:48
 End Time (24 hr) 12:36
 Staff Gauge (end) N/A

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	1.28	0.0	0.00			
2	1.98	28.0	0.04			Can't see prop in the water
3	2.68	41.0	0.29			
4	3.38	41.5	0.37			
5	4.08	46.0	0.44			
6	4.78	45.0	0.56			
7	5.48	47.0	0.60			
8	6.18	38.0	0.62			
9	6.88	44.0	0.64			on a rock
10	7.58	48.0	0.53			
11	8.28	56.0	0.73			
12	8.98	52.0	0.70			
13	9.68	46.0	0.76			
14	10.38	46.0	0.62			
15	11.08	48.0	0.82			
16	11.78	49.0	0.68			
17	12.48	51.0	0.67			
18	13.18	46.0	0.46			
19	13.88	42.0	0.24			
20	14.36	34.0	0.00			still water
	14.71	0.0	0.00			

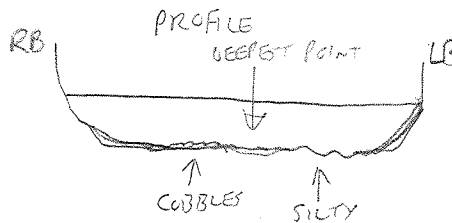
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	14.71	0.0	0.00			
2	14.01	40.0	0.06			
3	13.31	44.0	0.42			
4	12.61	52.0	0.56			
5	11.91	49.0	0.70			
6	11.21	50.0	0.60			
7	10.51	48.5	0.84			
8	9.81	52.0	0.61			
9	9.11	59.0	0.78			
10	8.41	54.5	0.69			
11	7.71	49.0	0.63			
12	7.01	47.0	0.59			
13	6.31	44.0	0.55			
14	5.61	46.0	0.56			
15	4.91	46.0	0.60			
16	4.21	46.5	0.46			
17	3.51	43.0	0.42			
18	2.81	40.0	0.32			
19	2.11	31.0	0.03			
20	1.26	0.0	0.00			

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):
 $13.43 / 20 = \approx 67 \text{ cm (70 cm)}$



Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) Aug 18 2016

Field Staff GR + NBS

Site ID GWCC-5

Prop # 1

Type of meter Used SWOFFER

Station UTM's 05739841 7142128

Datum NAD 83

Left Bank (m)' 3.42

Calibration No. 604

Right Bank (m)' 1.22

Start Time (24 hr) 17:09

Wetted Width (m) 2.20

End Time (24 hr) 17:27

Staff Gauge (start) N/A

Staff Gauge (end) N/A

Field Photo # 7129-7132

Method Summary

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	1.22	0.0	0.00			
2	1.41	5.0	0.00			
3	1.60	5.5	0.12			
4	1.79	9.5	0.18			Main flow
5	1.98	8.0	0.20			
6	2.17	7.5	0.07			
7	2.36	7.0	0.08			
8	2.55	5.5	0.00			Behind rocks
9	2.74	5.0	0.00			slack water
10	2.93	5.5	0.00			— —
11	3.12	6.0	0.00			—u—
12	3.31	5.0	0.00			—u—
13	3.42	0.0	0.00			—u—
14						
15						
16						
17						
18						
19						
20						

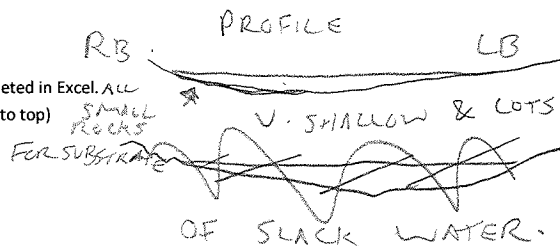
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	3.42	0.0	0.00			
2	3.23	5.5	0.00			slack water
3	3.04	6.0	0.00			—u—
4	2.85	5.5	0.00			—u—
5	2.66	5.0	0.00			—u—
6	2.47	4.5	0.01			
7	2.28	6.0	0.06			
8	2.09	9.0	0.11			
9	1.90	9.0	0.17			
10	1.71	8.5	0.02			
11	1.52	5.0	0.00			slack water
12	1.33	3.0	0.00			slack water
13	1.22	0.0	0.00			
14						
15						
16						
17						
18						
19						
20						

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel. All

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):

$$2.20 / 20 = \approx 19 \text{ cm}$$

MEASUREMENT TAKEN ABOUT 20 m DOWNSTREAM OF GWCC-5 SIGN. ON STRAIGHT SECTION AND AWAY FROM ALGAE



Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) AUG 19 2016 Field Staff NB + GR
 Site ID R1 Prop # 1 Type of meter Used SWOFFER
 Station UTM's 0510604 7147490 (0W) Datum NAD 83
 Left Bank (m)' 0.74 Calibration No. 605
 Right Bank (m)' 8.0 Start Time (24 hr) 1510
 Wetted Width (m) 7.26 End Time (24 hr) 1553
 Staff Gauge (start) N/A Staff Gauge (end) N/A
 Field Photo # 7161 - 7164

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.74	7	∅			CAN'T SEE PROP. TURBID.
2	1.30	14	0.04			SLACK WATER
1.46 3	1.46	32.5	0.24			V. SOFT SUBSTRATE
82 4	1.82	32	0.65			SANDY SUBSTRATE
2.18 5	2.18	31	0.75			
2.44 6	2.44	29	0.69			
2.80 7	2.80	25.5	0.67			
3.16 8	3.16	24	0.67			
3.52 9	3.52	22	0.69			
3.88 10	3.88	21	0.68			SPOTS OF RAIN
4.24 11	4.24	21	0.73			
4.60 12	4.60	21	0.71			
4.96 13	4.96	19	0.68			
5.32 14	5.32	21	0.69			NO RAIN
5.68 15	5.68	19	0.66			
6.04 16	6.04	16	0.53			
6.40 17	6.40	16	0.55			
6.76 18	6.76	15	0.54			
7.12 19	7.12	14	0.38			
7.48 20	7.48	15	0.22			
RB 21	8.0	3	∅			SLACK WATER

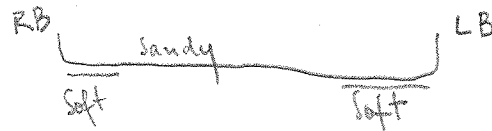
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	8.0	3	∅			SLACK WATER.
2	7.64	12.5	0.17			
7.28 3	7.28	14	0.38			
6.92 4	6.92	14.5	0.48			
6.56 5	6.56	15	0.56			
6.20 6	6.20	15.5	0.60			
5.84 7	5.84	16	0.62			
5.48 8	5.48	21	0.67			
5.12 9	5.12	20	0.68			
4.76 10	4.76	19	0.71			
4.40 11	4.40	20	0.72			
4.04 12	4.04	20.5	0.69			
3.68 13	3.68	22	0.68			
3.32 14	3.32	24	0.69			EROSION UNDER FEET + ROD
2.96 15	2.96	26	0.64			
2.60 16	2.60	31	0.65			
2.24 17	2.24	31	0.71			
1.88 18	1.88	32	0.67			
1.52 19	1.52	34	0.28			SOFT SUBSTRATE
1.26 20	1.26	26	0.16			
1.00	1.00	15.5	0.02			
LB	0.74	5	∅			SLACK WATER

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):

$$7.26 / 20$$

$$\sim 0.36$$



Hydrology Field Sheet

~18°C

PROJECT # AND NAME: Clinton Creek, 16-240.4, Water Program

Date and Time (24hr) AUG 19 2016

Field Staff GR + NB

Site ID R2

Prop # 1

Type of meter Used SWOFFER

Station UTMs 0512028 7148062

Datum NAD 83

Left Bank (m) 0.51

Calibration No. 605

Right Bank (m) 3.23

Start Time (24 hr) 1652

Wetted Width (m) 2.72

End Time (24 hr) 1722

Staff Gauge (start) N/A

Staff Gauge (end) N/A

Field Photo # 7168-7171

Method Summary

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

LINE PUT IN BY MISTAKE (GML)

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.51	20.5	0.46			
0.69	0.69	33	0.37			
0.87	0.87	34	0.49			
1.05	1.05	35	0.64			MAIN FLOW
1.23	1.23	33	0.58			
1.41	1.41	30	0.49			
1.59	1.59	26.5	0.41			
1.77	1.77	22	0.46			
1.95	1.95	18	0.40			
2.13	2.13	15	0.35			
2.31	2.31	13	0.30			
2.49	2.49	10	0.21			
2.67	2.67	9	0.15			
2.85	2.85	5.5	0.10			
3.03	3.03	4.0	0.09			
RB 16	3.24	∅	∅			

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	3.24	∅	∅			
2	3.06	4	0.04			
2.88	2.88	5.5	0.15			
2.70	2.70	9	0.17			
2.52	2.52	9.5	0.22			
2.24	2.24	12	0.32			
2.06	2.06	15.5	0.36			
1.88	1.88	19	0.40			
1.70	1.70	24	0.42			
1.52	1.52	27.5	0.42			
1.34	1.34	32	0.47			
1.16	1.16	32.5	0.56			
0.98	0.98	34	0.55			
0.80	0.78	34	0.55			
LB 15	0.54	4	0.42			

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):

2.72 / 15 = 0.18



Hydrology Field Sheet

PROJECT # AND NAME: **Clinton Creek. 16-240.4. Water Program**

Date and Time (24hr) Aug 16 2016 Field Staff GR + NB
 Site ID R3 Prop # 1
 Station UTM's 0513948 7148677 Type of meter Used SWOFFER
 Left Bank (m)¹ 3.610 Datum NAD 83
 Right Bank (m)¹ 1.00 Calibration No. 605
 Wetted Width (m) 2.610 Start Time (24 hr) 14:30
 Staff Gauge (start) N/A End Time (24 hr) 15:09
 Field Photo # 7053-7056 Staff Gauge (end) N/A

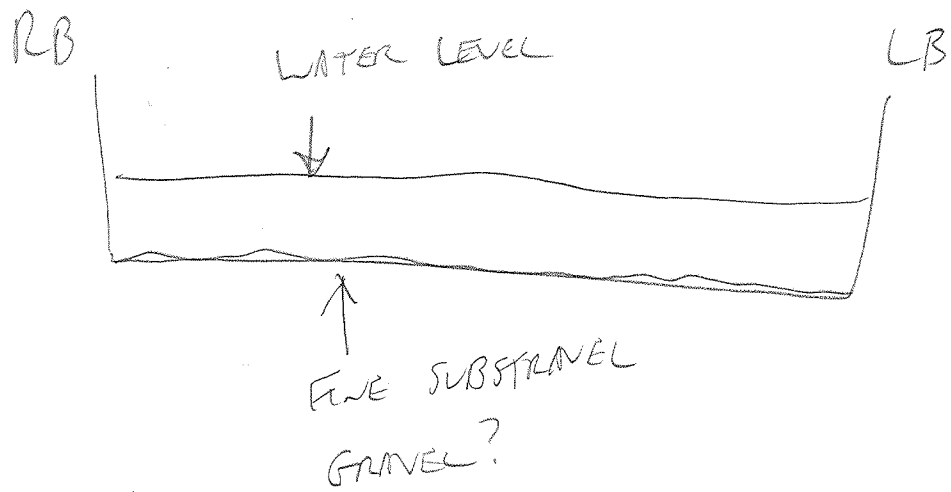
Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	1.00	24.0	0.65			
2	1.17	24.0	0.44			
3	1.34	23.5	0.54			
4	1.51	25.0	0.52			
5	1.68	26.0	0.59			
6	1.85	26.5	0.68			
7	2.02	26.5	0.61			
8	2.19	26.0	0.79			
9	2.36	27.0	0.85			
10	2.53	27.0	0.80			
11	2.70	26.0	0.75			
12	2.87	25.5	0.67			
13	3.04	23	0.68			
14	3.21	23.5	0.41			
15	3.38	29.0	0.13			
16	3.57	28.0	0.06			
17	[Diagram: A triangle representing a cross-section of the stream with a peak at 1.00m distance and a base from 1.00m to 3.57m]					
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	3.57	27.5	0.04			
2	3.40	29.0	0.08			
3	3.23	24.5	0.32			
4	3.06	23.5	0.55			
5	2.89	25.5	0.67			
6	2.72	26.5	0.80			
7	2.55	27.5	0.84			
8	2.38	27.5	0.80			
9	2.21	27.0	0.77			
10	2.04	26.0	0.75			
11	1.87	26.0	0.68			
12	1.70	26.5	0.61			
13	1.53	25.0	0.49			
14	1.36	23.0	0.55			
15	1.19	23.5	0.45			
16	1.00	23.0	0.04			
17	[Diagram: A triangle representing a cross-section of the stream with a peak at 1.00m distance and a base from 1.00m to 3.57m]					
18						
19						
20						

Notes:
 Left bank and right bank are always based on looking downstream.
¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.
² Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):
2.610 / 20 = ~ 13





PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) 10/18/2016 Field Staff GRL+MJB
 Site ID R4 Prop # 1 Type of meter Used SWOFFER
 Station UTM's 0515985/7145352 Datum NAD 83
 Left Bank (m)¹ 2.46 Calibration No. 604605
 Right Bank (m)¹ 0.40 Start Time (24 hr) 14:18
 Wetted Width (m) 2.06 End Time (24 hr) 14:52
 Staff Gauge (start) N/A Staff Gauge (end) N/A
 Field Photo # 7119-7123

Method Summary

Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.40	15.5	0.26			
2	0.55	19.0	0.84			
3	0.69	24.0	0.40			
4	0.83	25.5	0.98			
5	0.97	22.5	1.42			On a rock
6	1.11	21.5	1.21			
7	1.25	20.5	1.44			
8	1.39	18.0	1.07			
9	1.53	18.0	1.04			
10	1.67	18.0	1.04			
11	1.81	17.0	0.72			
12	1.95	16.0	0.70			
13	2.09	19.5	0.49			
14	2.23	16.0	0.42			
15	2.37	14.0	0.48			
16	2.44	0.0	0.00			
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	2.44	0.0	0.00			
2	2.30	15.5	0.52			
3	2.16	18.0	0.42			
4	2.02	18.0	0.51			
5	1.88	16.5	0.81			
6	1.74	17.5	0.77			
7	1.60	20.0	1.18			Pebbles hitting rod
8	1.46	16.0	1.20			
9	1.32	19.0	1.31			
10	1.18	21.0	1.15			
11	1.04	25.0	1.42			
12	0.90	25.0	1.44			
13	0.76	24.5	1.03			
14	0.62	18.0	0.71			
15	0.45 ¹	18.0	0.74			
16	0.40	19	0.45			
17						
18						
19						
20						

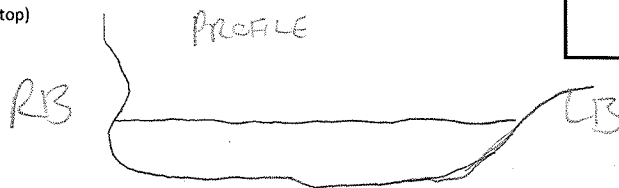
Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)

Note: Small pebbles are hitting the rod due to fast current



Calculations (e.g., wetted width / 20 = panel width):

2.06 / 20 = ~ 14 cm



Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) AUG 17 2016
 Site ID R7 Prop # 1
 Station UTM's 0513003 7145649
 Left Bank (m)¹ 1.28
 Right Bank (m)¹ 0.47
 Wetted Width (m) 0.81
 Staff Gauge (start) N/A
 Field Photo # 7081 - 7083

Field Staff GR + NB
 Type of meter Used SWOFFER
 Datum NAD 83
 Calibration No. 605
 Start Time (24 hr) 10:11
 End Time (24 hr) 10:39
 Staff Gauge (end) N/A

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	0.46	0.0	0.00			
2	0.54	10.5	0.00			
3	0.62	16.0	0.00			Water too turbid to see prop.
4	0.70	21.0	0.03			
5	0.78	25.0	0.01			Main flow
6	0.86	25.0	0.19			
7	0.94	31.0	0.30			
8	1.02	36.0	0.28			
9	1.10	32.0	0.09			
10	1.18	25.0	0.03			
11	1.27	0.0	0.00			
12						
13						
14						
15						
16						
17						
18						
19						
20						

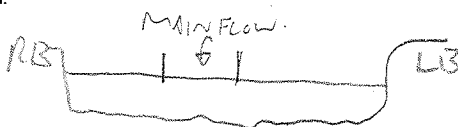
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	1.27	0.0	0.00			
2	1.19	26.0	0.03			
3	1.11	33.0	0.17			
4	1.03	36.0	0.28			
5	0.95	35.0	0.27			
6	0.87	25.0	0.23			
7	0.79	24.5	0.12			
8	0.71	24.0	0.07			
9	0.63	16.0	0.00			
10	0.47	0.0	0.00			
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):
 $0.81 / 20 = \sim 0.04 \text{ cm}$



Hydrology Field Sheet

1 of 1

PROJECT # AND NAME: Clinton Creek. 16-240.4. Water Program

Date and Time (24hr) Aug 19 2016

Field Staff GR + NB

Site ID R8 Prop # 1

Type of meter Used SWOFFER

Station UTMs 0511894 7147906 SW

Datum NAD 83

Left Bank (m) 1.93

Calibration No. 604

Right Bank (m) 0.93

Start Time (24 hr) 1757

Wetted Width (m) 1

End Time (24 hr) 1819

Staff Gauge (start) N/A

Staff Gauge (end) N/A

Field Photo # 7172-7176

Method Summary

Measure the width of the wetted cross section of the stream (m)
Divide the wetted width by 20 to establish the width of each flow gauging panel
If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.93	0	0			
2	1.01	2.5	∅			SLACK WATER
1.09 3	1.09	4	0.02			
1.18 4	1.18	10	0.05			STARTED TO RAIN.
1.26 5	1.26	11	0.06			
1.35 6	1.35	12	0.15			
1.43 7	1.43	14	0.22			
1.52 8	1.52	14	0.32			ON A ROCK
1.60 9	1.60	14	0.41			
1.68 10	1.68	14.5	0.52			MAIN FLOW
1.77 11	1.77	13	0.31			
1.85 12	1.85	12.5	0.04			
LB 13	0.93	11	0.02			
14						
15						
16						
17						
18						
19						
20						

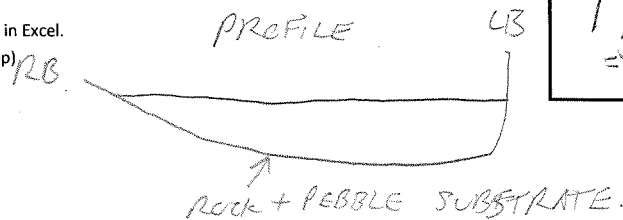
Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB/RB 1	0.93	11	0.02			RAIN (HEAVY)
2	1.85	13	0.10			
1.77 3	1.77	14	0.38			
68 4	1.68	15	0.51			
60 5	1.60	14	0.40			
52 6	1.52	14	0.34			LIGHT RAIN
44 7	1.43	14	0.21			
34 8	1.34	12.5	0.14			
26 9	1.26	11.5	0.02			
17 10	1.17	10	0.02			
1.09 11	1.09	5.5	0.01			
1.01 12	1.01	2.5	∅			SLACK WATER
RB 13	0.93	∅	∅			
14						
15						
16						
17						
18						
19						
20						

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):

$$1 / 12 = 0.0833 \text{ m}$$



Hydrology Field Sheet

PROJECT # AND NAME: **Clinton Creek. 16-240.4. Water Program**

Date and Time (24hr) Aug 20, 2016

Site ID R9 Prop # _____

Station UTM's 0512344 / 7146751

Left Bank (m) 3.04

Right Bank (m) 1.76

Wetted Width (m) 1.28

Staff Gauge (start) N/A

Field Photo # 6442 / 7177-7181

Field Staff GR/NE

Type of meter Used SWOFFER

Datum NAD 83

Calibration No. 605

Start Time (24 hr) 9.02

End Time (24 hr) 9.26

Staff Gauge (end) N/A

Method Summary

Measure the width of the wetted cross section of the stream (m)

Divide the wetted width by 20 to establish the width of each flow gauging panel

If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)

If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only

If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB (RB) 1	1.76	0.0	0.00			
2	1.93	3.0	0.01			
3	2.06	8.0	0.12			
4	2.16	10.5	0.28			
5	2.26	11.0	0.36			
6	2.36	12.5	0.60			
7	2.46	12.0	0.66			Main flow
8	2.56	14.0	0.42			
9	2.66	15.0	0.64			
10	2.76	16.5	0.41			
11	2.86	18.0	0.17			
12	3.04	0.00	0.00			
13						
14						
15						
16						
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB (RB) 1	3.05	0.0	0.00			
2	2.95	10.0	-0.08			Backflow (whirlpool)
3	2.85	16.0	0.12			
4	2.75	16.0	0.52			
5	2.65	15.0	0.60			Spots of rain
6	2.55	14.5	0.44			
7	2.45	13.0	0.68			Main flow
8	2.35	13.0	0.52			
9	2.25	11.5	0.33			
10	2.15	10.5	0.24			
11	2.05	8.0	0.11			
12	1.95	4.0	0.02			
13	1.76	0.0	0.00			
14						
15						
16						
17						
18						
19						
20						

Notes:

Left bank and right bank are always based on looking downstream.

¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.

² Depth is measured from the water surface down (top to bottom, not bottom to top)



Calculations (e.g., wetted width / 20 = panel width):

$3.04 - 1.76 = 1.28 / 20 = \sim 0.064 \text{ m}$



Hydrology Field Sheet

PROJECT # AND NAME: Clinton Creek, I6-240.4, Water Program

Date and Time (24hr) Aug 16 2016 Field Staff GR + NIS
 Site ID R11(A) Prop # 1
 Station UTM: 07W 0514161 71407784 Type of meter Used SWOFFERL
 Left Bank (m) 2.41 Datum NAD 83
 Right Bank (m) 0.48 Calibration No. 605
 Wetted Width (m) 1.93 Start Time (24 hr) 11:48
 Staff Gauge (start) N/A End Time (24 hr) 12:19
 Field Photo # 7022 - 7045 Staff Gauge (end) N/A

Method Summary
 Measure the width of the wetted cross section of the stream (m)
 Divide the wetted width by 20 to establish the width of each flow gauging panel
 If the width of each panel is less than 6 cm you can reduce the number of panels (and increase the width of each panel)
 If the stream is less than 0.75 m deep take the average flow readings at 60% of the depth only
 If the stream is more than 0.75 m deep (at least one location) then take readings at 80% and 20% depths only

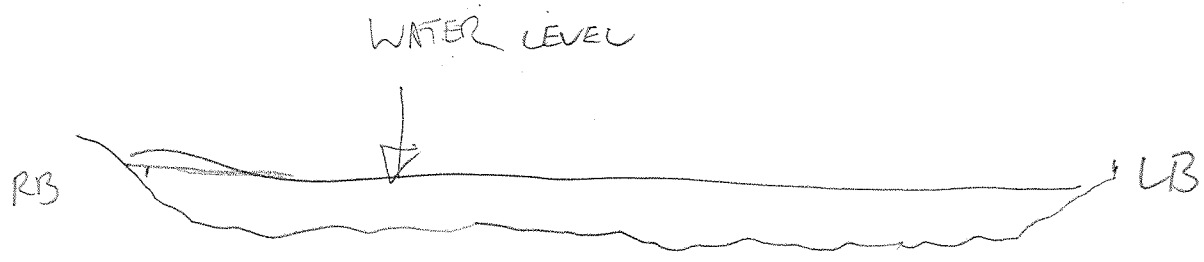
Crossing No. 1	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	2.41	∅	∅			
-26 2	2.26	14	0.04			TOO TURBID TO SEE PRO.
-48 3	2.11	13	0.19			
1-96 4	1.96	11	0.46			
1-81 5	1.81	14	0.67			
-66 6	1.66	14	0.71			
-51 7	1.51	14	0.82			
-36 8	1.36	15	0.85			
.21 9	1.21	17	0.85			
-06 10	1.06	17	0.98			ON A ROCK
0.91 11	0.91	20	0.95			
0.76 12	0.76	17	0.65			
0.61 13	0.61	13	0.42			HAD TO CLEAR SOME VEG AT BOTTOM
14	0.49	∅	∅			
15						
16						
17						
18						
19						
20						

Crossing No. 2	Distance (m)	Depth (cm)	Velocity (m/s) @ 60% depth ²	Velocity (m/s) @ 80% depth ² (2 x depth)	Velocity (m/s) @ 20% depth ² (0.5 x depth)	Comments
LB / RB 1	0.49	∅	∅			
2	0.64	14	0.41			
-74 3	0.79	16	1.02			
94 4	0.94	16	1.05			
1-09 5	1.09	16	1.03			
1-24 6	1.24	15	0.73			
1-39 7	1.39	11	0.93			
1-54 8	1.54	10	0.87			
1-69 9	1.69	10	0.69			
1-84 10	1.84	10	0.77			
1-99 11	1.99	10	0.66			
2-14 12	2.14	14	0.50			
13	2.39	∅	∅			
14						
15						
16						
17						
18						
19						
20						

Notes:
 Left bank and right bank are always based on looking downstream.
¹ Use the width on the tape. No need to start at 0 m. Calculations will be completed in Excel.
² Depth is measured from the water surface down (top to bottom, not bottom to top)

Calculations (e.g., wetted width / 20 = panel width):
 $1.93 / 13 = 0.15 \text{ m}$

2/2



Rocky SUBSTRATE. WATER IS HIGHER THAN SEPT 2016 EVENT.