



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2016

PAGE 1 OF 2

Check box if data
qualified

STORET Station Name: Davenport Creek East of SR 545 Date: 1/5/16
(mm/dd/yyyy)
STORET Station ID: G4CE0023 ORG ID: 21FLCEN Latitude: 28.2713
(Decimal Degrees)
WBID: 3170K RQ-2016-01-04-28 Field ID: G4CE0023-01052016 Longitude: -81.5904
(STORET_mmdyyy) (Decimal Degrees)
Sampling Agency: FDEP CEROC County: Osceola Receiving Body of Water: _____

Sampling Team Members					WQ Measurements	Documentation	Sample Collection	Preservation	Preservation Check
Kalina Warren					✓				
Natalie Ayala							✓	✓	
Katie Williams						✓			

Sampling Equipment				
☒ Sample Container	☐ Van Dorn			
☐ Pole	☒ Syringe			
☐ Other _____				

Collection Method				
☒ Wading	Via Boat			
☐ From Shore	☐ Canoe/Kayak			
☐ Other	☐ Electric Motor			
	☐ Gasoline Motor			

Water Level: Dry / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI

Meter ID# Betty Boop Tide: Falling Yes / No N/A

Time Zone	Time	Total	Total Depth (m)	Temp (°C)	DO (mg/L)	DO (%SAT)	COND (µmhos/cm)	Salinity (ppt)	pH	Secchi Disk (m)	Field Blank	Duplicate	Photos
<u>EST</u>	<u>1341</u>	<u>0.5</u>	<u>0.3</u>	<u>15.9</u>	<u>10.6</u>	<u>100</u>	<u>211</u>	<u>0.1</u>	<u>7.5</u>	<u>0.13(s)</u>	<u>Y</u>	<u>top</u>	<u>Yes</u>
	mid	mid	mid	mid	<u>8.8</u>	<u>89</u>	mid	mid	mid	mid	mid	mid	
	<u>CST</u>	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom

Biological Samples Collected: None HA SCI LVS RPS LVI Other _____

Parameter Suite	Parameter Methods					Preservation	Acid Lot#	Expiration	pH Check	
Preserved Nutrients	☒ TKN	☒ TP	☒ NOx	☒ NH3	☒ TOC	☐ Other _____	☒ Ice	☒ H2SO4	<u>9/16</u>	☒ < 2
Metals	☐ W-ICPMS	☐ W-ICP					☐ Ice	☐ HNO3		☐ < 2
Filtered Nutrients	☒ oP					☒ Field Filtered 0.45 µm Filter	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC					☐ Ice	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Entero ☐ QPCR					☐ Ice				
Periphyton	☐ ALGAE-ID					☐ Ice				
Pesticides	☐ W-PSNP-TQ ☐ W-PC-AA-SF ☐ W-AHERB-AA ☐ W-UHERB-AA					☐ Ice				
Other	☐ All Other Samples Unless Otherwise Noted					☐ Ice				

Contains
1:1
Sulfuric Acid
SA-5259020
EXP: 09/16/16
Warning!
See MSDS

Notes:

no LVS, < 2m²

Date: 01/05/16

Time:

G4CE0023 01052016



Field ID ↑

STORET ↓

RQ-2015-01-04-28



G4CE0023

Name: Katie Williams Signature: K Williams Date: 1/5/16

Field Parameters Entered into LIMS: ☒ By: MKL Date: 1/12/16

Field Parameters QC in LIMS: ☒ By: TR Date: 1/14/16

uploaded 1/29/16 kmw



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PAGE 2 OF 2

Check box if data
qualified

STORET Station Name: Field Blank Date: 1/5/16
(mm/dd/yyyy)
STORET Station ID: Field Blank ORG ID: 21FCEN Latitude: n/a
(Decimal Degrees)
WBID: n/a RQ-2016-01-04-28 Field ID: Field Blank Longitude: n/a
(STORET_mmdyyyyy) (Decimal Degrees)
Sampling Agency: n/a County: _____ Receiving Body of Water: n/a

Sampling Team Members					WQ Measurements	Documentation	Sample Collection	Preservation	Preservation Check
<u>Natalee Ayala</u>									
<u>Katie Williams</u>									

Sampling Equipment	
☒ Sample Container	☐ Van Dorn
☐ Pole	☒ Syringe
☒ Other <u>carbony</u>	

Collection Method	
☐ Wading	☐ Via Boat
☐ From Shore	☐ Canoe/Kayak
☒ Other	☐ Electric Motor
<u>from carbony</u>	☐ Gasoline Motor

Water Level: Dry / Low / Normal / High / Flooded Matrix: Fresh / Marine DI

Meter ID# _____ Tide: Falling Yes / No n/a

Time Zone	Time	Total	Total Depth (m)	Temp (°C)	DO (mg/L)	DO (%SAT)	COND (µmhos/cm)	Salinity (ppt)	pH	Secchi Disk (m)	Field Blank	Duplicate	Photos
<u>EST</u>	<u>1319</u>	top	top	top	top	top	top	top	top	top	☒	top	Yes
	mid	mid	mid	mid	mid	mid	mid	mid	mid	mid	mid	mid	
CST	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	bottom	No

Biological Samples Collected: None HA SCI LVS RPS LVI Other _____

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ TKN ☒ TP ☒ NOx ☒ NH3 ☒ TOC ☐ Other _____	☒ Ice ☒ H2SO4	<u>SA 5259020</u>	<u>9/16</u>	☒ < 2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ < 2
Filtered Nutrients	☒ oP ☒ Field Filtered 0.45 µm Filter	☒ Ice			
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Pesticides	☐ W-PSNP-TQ ☐ W-PC-AA-SF ☐ W-AHERB-AA ☐ W-UHERB-AA	☐ Ice ☐ Other _____			
Other	☐ All Other Samples Unless Otherwise Noted	☐ Ice			

Place Preservative Sticker(s) Here

Notes: _____ Date: 01/05/16
Time: _____
Field Blank
Field ID ↑
STORET ↓
RQ-2015-01-04-28
Field Blank

Name: Katie Williams Signature: K Williams Date: 1/5/16

Field Parameters Entered into LIMS: ☒ By MKL Date 1/12/16

Field Parameters QC in LIMS: ☐ By _____ Date _____

uploaded 1/29/16 kmw

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID 75443 ORG ID _____ LATITUDE _____
COUNTY Osceola STORET # 64CE0033 LONGITUDE _____
DATE 1/5/16 TIME _____ SAMPLING AGENCY _____
SITE NAME Davenport Creek E of SR 545
FIELD ID/NAME _____ RECEIVING BODY OF WATER Kissimmee

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>50</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential <u>25</u> Commercial _____ Industry _____ Other (Specify) <u>golf 25</u>								Landscape Development Intensity Index (LDI) _____
Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect _____ m wide _____ m/s <u>0.25</u> m/s _____ m/s _____ m deep <u>0.3</u> m deep _____ m deep				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) _____				
High Water Mark: <u>1</u> + <u>0.3</u> = <u>1.3</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☐ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☒ Moderate Shaded (46-80%)				

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____			Smothering of Substrates Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐																																																																											
SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☐ LVS ☐ LCI ☐ BioRecon <table border="1"> <thead> <tr> <th></th> <th>% Coverage</th> <th>INVERT # Times Sampled</th> <th>PERI # Times Sampled</th> </tr> </thead> <tbody> <tr><td>Woody Debris (Snags)</td><td></td><td></td><td></td></tr> <tr><td>Undercut Banks / Roots</td><td></td><td></td><td></td></tr> <tr><td>Leaf Packs or Mat</td><td></td><td></td><td></td></tr> <tr><td>Aquatic Vegetation</td><td></td><td></td><td></td></tr> <tr><td>Rock or Shell Rubble..</td><td></td><td></td><td></td></tr> <tr><td>Sand.....</td><td></td><td></td><td></td></tr> <tr><td>Mud / Muck / Silt</td><td></td><td></td><td></td></tr> <tr><td>Other</td><td></td><td></td><td></td></tr> <tr><td>Other</td><td></td><td></td><td></td></tr> </tbody> </table>				% Coverage	INVERT # Times Sampled	PERI # Times Sampled	Woody Debris (Snags)				Undercut Banks / Roots				Leaf Packs or Mat				Aquatic Vegetation				Rock or Shell Rubble..				Sand.....				Mud / Muck / Silt				Other				Other				WATER QUALITY <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr><td>Top:</td><td><u>0.15</u></td><td><u>15.9</u></td><td><u>7.5</u></td><td><u>8.8</u></td><td><u>89</u></td><td><u>211</u></td><td><u>0.1</u></td><td></td></tr> <tr><td>Mid:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>☒ VOB</td></tr> <tr><td>Bottom</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> Meter ID: <u>Betty Boop</u> TOTAL DEPTH <u>0.3</u>				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	<u>0.15</u>	<u>15.9</u>	<u>7.5</u>	<u>8.8</u>	<u>89</u>	<u>211</u>	<u>0.1</u>		Mid:								☒ VOB	Bottom								
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Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐																																																																														
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																																																														
Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐																																																																														
ABUNDANCE <table border="1"> <thead> <tr> <th></th> <th>Not Obs</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr><td>Periphyton:</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>Fish:</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td></tr> <tr><td>Aquatic Plants:</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> <tr><td>Iron/Sulfur Bacteria:</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr> </tbody> </table>				Not Obs	Rare	Common	Abundant	Periphyton:	☒	☐	☐	☐	Fish:	☐	☒	☐	☐	Aquatic Plants:	☐	☐	☐	☐	Iron/Sulfur Bacteria:	☐	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐																																																					
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AMBIENT FIELD CONDITIONS / NOTES: <u>no LVS</u> ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																																	

SAMPLING TEAM

Kalina Warren, Natalie Ayala,

SIGNATURE:

K Williams

DATE:

1/5/16

Katie Williams

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

SAMPLING AGENCY:		STORET STATION NUMBER: <u>G4CE0023</u>	DATE (MM/DD/YY): <u>1/5/16</u>	RECEIVING BODY OF WATER: <u>Kissimmee</u>
REMARKS:	COUNTY: <u>Osceola</u>	LOCATION: <u>Davenport Creek</u>	FIELD ID/NAME: <u>G4CE0023-01052016</u>	

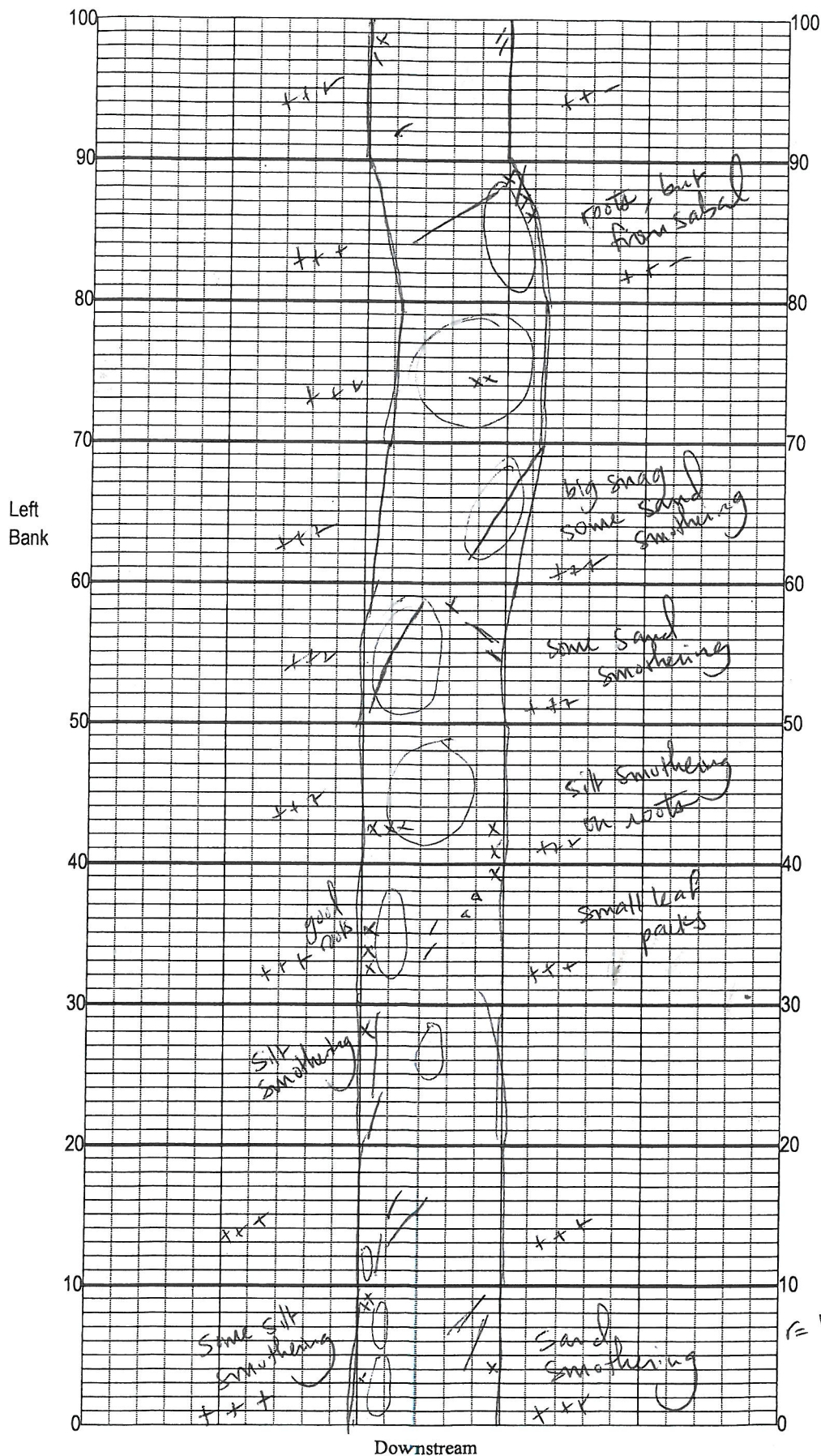
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock]	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>10</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>4</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>13</u> ----- Primary Score <u>42</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>17</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability Right Bank <u>7</u> Left Bank <u>9</u>	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. 10 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>5</u> Left Bank <u>8</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>9</u> Left Bank <u>9</u> ----- Secondary Score <u>64</u>	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. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

106 TOTAL SCORE

Date: <u>1/5/16</u>	Analyst: <u>N. Ayala, K. Warren, K. Williams</u>	Signature: <u>KWilliams</u>
---------------------	--	-----------------------------

Does not appear to be straightened, but there are some spoil banks presumably from very nearby construction in wetlands adjacent to stream

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



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

Location: _____

Date: _____

Sampler: _____

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.	%
---	---

☒ Snags

☒ Roots/undercut banks

 Leaf Packs (or mats)

☐ Aquatic Macrophytes _____

0 Pools total # observed = _____
range expected = _____

Average width 4 m
Average depth 0.5 m

Velocity measured at _____ meter mark.

WQ & chemistry taken at 100 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:

FDEP FORM 9000-25: RAPID PERIPHYTON SURVEY FIELD SHEET

Site: Davenport

County:

Date: 5/16

Investigators: Kahna Warren, Kate Williams

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	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
0	1	N			40	1	N			80	1	X		
	2	N	✓			2	N				2	X		
	3	N	✓			3	N				3	X		
	4	N				4	N				4	X		
	5	N		87		5	N	✓	80		5	X		
	6	N	✓			6	N	✓	96		6	X		
	7	N	✓			7	N	✓			7	X		
	8	N	✓			8	N	✓			8	X		
	9	N				9	N				9	X		
10	1	N			50	1	N			90	1	X		
	2	N				2	N				2	X		
	3	N				3	N				3	N		
	4	N				4	N				4	N		
	5	N		94		5	N		96		5	N		
	6	N				6	N				6	N		
	7	N	✓			7	N				7	N		
	8	N	✓			8	N	✓			8	N		
	9	N	✓			9	N				9	N		
20	1	N			60	1	N			100	1	N		
	2	N				2	N				2	N		
	3	N				3	N				3	N		
	4	N				4	N				4	N		
	5	N		84		5	N		80		5	N		
	6	N				6	N				6	N		
	7	N				7	N				7	N		
	8	N				8	N				8	N		
	9	N				9	N				9	N		
30	1	N			70	1	N				1	N		
	2	N				2	N				2	N		
	3	N				3	N				3	N		
	4	N				4	N				4	N		
	5	N		72		5	N		96		5	N		
	6	N	✓			6	N				6	N		
	7	N	✓			7	N				7	N		
	8	N				8	N				8	N		
	9	N				9	N				9	N		

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

Secchi depth: 0.4

Check accompanying data collected at same site/date.

Algal mat sample ☐

Habitat Assessment ☒

Linear Veg. Survey ☐

SCI/Biorecon (circle 1) ☒

Water sample ☒

RQ: 2016-01-04-28

Algal Thickness Rank

N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 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 an 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%.