



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

February 2016

PAGE 1 OF

Date Qualified?
Yes / No

DO

STORET Station Name: Harbinwood Estates Drain

Date: 05/11/2016

(mm/dd/yyyy)

STORET Station ID: G1WA0034

Latitude: 30.5193

(Decimal Degrees)

WBID: 746A

RQ: 2016-05-09-75

ORG ID: 21FLWQA

Longitude: -84.3357

(Decimal Degrees)

Receiving Body of Water: Gulf of Mexico CM Lake Jackson Field ID: G1WA0034

County: Gadsden Leon

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Duplicate Collection	Blank Collection
Curtis Musson			✓					
Robert Wiwi		✓		✓	✓	✓		

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Equipment ID		

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

Water Level: Dry / Low / <u>Normal</u> / High / Flooded	Matrix: <u>Fresh</u> / Marine / DI
Meter ID# Biology <u>2</u>	Photos: Yes / <u>No</u>
	Tide Falling: Yes / No / <u>NA</u>

Field Sample

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (µmhos/cm)	Temp. (C°)
<u>EST</u>	<u>11:35</u>	<u>0.05</u>	<u>0.1</u>	<u>8.75</u>	<u>104.8</u>	<u>6.91</u>	<u>0.05</u>	<u>V0B</u>	<u>104</u>	<u>24.35</u>
CEN										

Biological Samples Collected:	None	<u>HA</u>	SCI	<u>LVS</u>	<u>RPS</u>	LVI	Other
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Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	SA 5259020	09/16/2016	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	NA 5259030	09/16/2016	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Kit A/C)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B/D)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

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

Contains
1:1
Nitric Acid
NA-5259030
EXP: 09/16/16
Warning!
See MSDS

QA/QC Sample Information

Duplicate

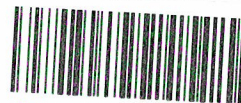
Time Zone: EST CEN		Sample Depth (m): _____		Field ID: _____	
Time: _____		Total Depth (m): _____			
Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☐ W-NH3 / ☐ W-NO2NO3 / ☐ W-TKN / ☐ W-TOC / ☐ W-S-A-TP	☐ Ice ☐ H ₂ SO ₄	SA 5259020	09/16/2016	☐ < 2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO ₃	NA 5259030	09/16/2016	☐ < 2
Filtered Nutrients	☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☐ Ice	Place Preservative Sticker(s) Here (If Available)		
Chlorophyll	☐ CHLSUITE-W	☐ Ice			
Physical/Aggregate (Kit A/C)	☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice			
Physical/Aggregate (Kit B/D)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other _____			

Blank

Time Zone: EST CEN		Time: _____		Field ID: G1WA0042B CM		Location: Oohleekonee River 350m upstream of SR 12 CM	
☐ Field Blank ☐ Equipment Blank ☐ Field Cleaned Equipment Blank		Equipment ID: _____					
Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check		
Preserved Nutrients	☐ W-NH3 / ☐ W-NO2NO3 / ☐ W-TKN / ☐ W-TOC / ☐ W-S-A-TP	☐ Ice ☐ H ₂ SO ₄	SA 5259020	09/16/2106	☐ < 2		
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice	NA 5259030	09/16/2016	☐ < 2		
Filtered Nutrients	☐ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☐ Ice	Place Preservative Sticker(s) Here (If Available)				
Chlorophyll	☐ CHLSUITE-W	☐ Ice					
Physical/Aggregate (Kit A/C)	☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☐ Ice					
Physical/Aggregate (Kit B/D)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice					
Microbiology	☐ E Coli ☐ F Coli ☐ Enterococcus ☐ QPCR	☐ Ice					
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other _____					

Notes:

Do did not Pass CCV "J"
 SBFO: 76092 Vascular ID: 9752
 RPSID: 8036



G1WA0034 11 May 2016
 HARBINWOOD ESTATES DRAIN

Signature: _____

Chris Hunt

Date: _____

5-11-16

Field Parameters Entered into LIMS: _____

CM 5-12-16

(Initials/Date)

Field Parameters QC in LIMS: _____

Date Migrated to STORET: _____

(Initials/Date)

Field Sheets Scanned/Saved: _____

5-12-16

(Initials/Date)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Harbinwood Estate Drain

County: Leon

Date: 5/11/2016

Investigators: Curtis Mussen

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	6			60	1	6		
	2	6				2	6		
	3	2				3			
	4	6				4			
	5	6		84		5			35
	6	6				6			
	7	6				7			
	8	6				8			
	9	6				9			
10	1	6			70	1	6		
	2					2	6		
	3					3	6		
	4					4	2		
	5			26		5	6		34
	6					6	6		
	7					7	6		
	8					8	6		
	9					9	6		
20	1	6			80	1	6		
	2					2			
	3					3			
	4					4			
	5			95		5			80
	6					6			
	7					7			
	8					8			
	9					9			
30	1	6			90	1	X		
	2	6				2	X		
	3	6				3	X		
	4	2				4	X		
	5	2		96		5	6		38
	6	6				6	2		
	7	6				7	6		
	8	6				8	2		
	9	6				9	6		
40	1	6			100	1	X		
	2					2			
	3					3			
	4					4			
	5			81		5			NA
	6					6			
	7					7			
	8					8			
	9					9			
50	1	6				1			
	2					2			
	3					3			
	4					4			
	5			72		5			
	6					6			
	7					7			
	8					8			
	9					9			

STORET Station Number:

SIWA 0034

Secchi depth

VOP

Estimated?

no

points ranked 4-6

81

total points assessed

86

% points ranked 4-6

94

Check accompanying data collected at same site/date.

Algal mat sample

X

Linear Veg Survey

X

Habitat Assessment

X

SCI/Biorecon

X

Water sample

X

RQ- 2016-05-09-75

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

SB to ID: 76092

RPS ID: 8036

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 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: Florida Department of Environmental Protection		STORET STATION NUMBER: <u>GIWA0034</u>	DATE (MM/DD/YY): <u>5-11-2016</u>	RECEIVING BODY OF WATER: <u>Lake Jackson</u>
REMARKS: <u>SMP</u>	COUNTY: <u>Levy</u>	LOCATION: <u>Harbinwood Estates Drain</u>		FIELD ID/NAME: <u>GIWA0034</u>

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Snag Leaf Root Rock Aquatic Vegetation	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>4</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 <u>4</u> 3 2 1
Substrate Availability <u>17</u> <u>56</u> %	Greater than 30% major productive habitat present at site (100% 83% 66% <u>48%</u> 30.5%) 20 19 18 <u>17</u> 16	16% to 30% major productive habitat, by aerial extent (30.4% 27% 23% 20% 16%) 15 14 13 12 11	6% to 15% major productive habitat (15% 13% 11% 9% 6%) 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>0.05</u> <u>0.10</u> m/s	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 <u>5</u> 4 3 2 1
Habitat Smothering <u>2</u> ----- Primary Score <u>28</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 <u>3</u> <u>2</u> 1
Secondary Habitat Components Artificial Channelization <u>3</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (> 25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 <u>3</u> <u>2</u> 1
Bank Stability Right Bank <u>5</u> Left Bank <u>6</u> If Banks are Pipe Clay, Bed Rock or Concrete at Bank full: Optimal	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>1</u> Left Bank <u>1</u>	Width of vegetation greater than 18 m 10 9	Width of vegetation > 12 to 18 m 8 7 6 (18m 15m 12m)	Width of vegetation 6 to 12 m. human activities close to system 5 4 (9m)	Less than 6 m of buffer zone due to intensive human activities 3 2 <u>1</u> (6-5m) (4-3m) (< 2m)
Riparian Zone Vegetation Quality Right Bank <u>3</u> Left Bank <u>2</u> ----- Secondary Score <u>21</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 <u>1</u>

49

TOTAL SCORE

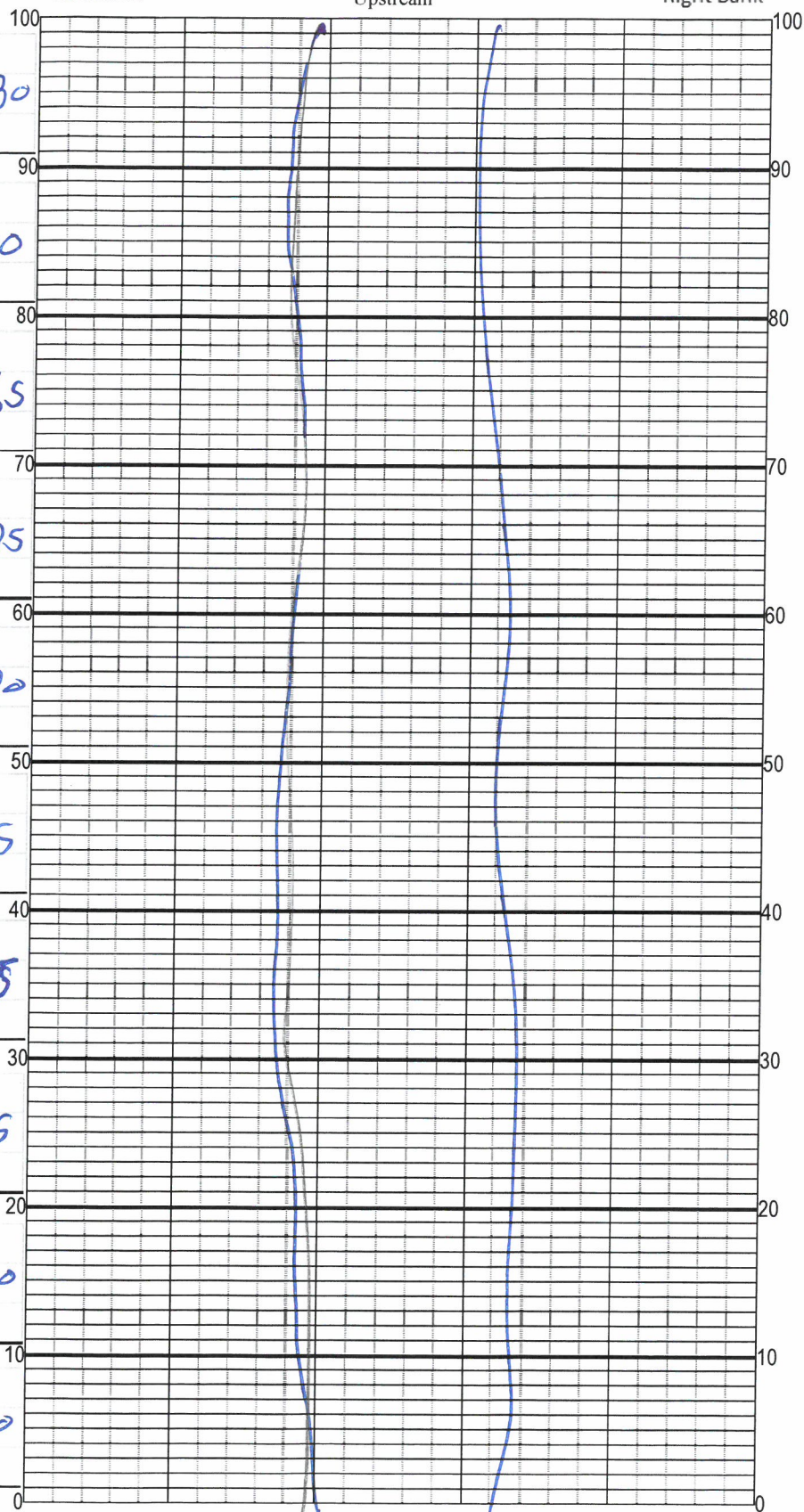
Date: <u>5-11-16</u>	Analyst:	Signature:
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Left Bank

Upstream

Right Bank



↓ Smothering Notes

Location: Harbinwood Estates Dr.

Date: 5/11/2016

Sampler:

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ S Snags _____
☐ R Roots/undercut banks _____
☐ L Leaf Packs (or mats) _____
☐ M Aquatic Macrophytes 56%
☐ Rock _____
☐ Pools total # observed = _____
range expected = _____

Average width _____ m

Average depth _____ m

Velocity measured at _____ meter mark.

Velocity _____ m/s

WQ & chemistry taken at _____ 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.

Notes/Plants Observed:

2m² = 16 Sweeps

# of Sweeps	Conversion	m ²	%
Snag	÷ 8	m ²	
Root	÷ 8	m ²	
Leaf	÷ 8	m ²	
Macrophyte	÷ 8	m ²	
Rock	÷ 8	m ²	
Total Available Habitat		m ²	
Total Area		m ²	
Total Unavailable Habitat		m ²	

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

Expected Number of Pools

$$\left(\frac{100}{12 \times \text{W}} \right) \times 1 =$$

$$\left(\frac{100}{12 \times \text{W}} \right) \times 2 =$$

Meter Mark	Depth (m)	Width (m)	Velocity Measurement (Sec)
Avg.			

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody:		Date:		County:		Storet Number:																	
Analyst:				Signature:																			
Comments: SMP Sampling																							
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m ² 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.																							
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Myriophyllum heterophyllum											
Bacopa caroliniana												Najas guadelupensis											
Bacopa monnieri												Nuphar luteum											
Bidens mitis												Orontium aquaticum											
Boehmeria cylindrica												Panicum hemitomon											
Centella asiatica												Panicum repens											
Ceratophyllum demersum												Panicum rigidulum											
Chara												Pistia stratioides											
Cicuta maculata	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Polygonum glabra											
Cladium jamaicense	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Polygonum hydropiperoides					X				X		
Colocasia esculenta	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Polygonum punctatum											
Commelina diffusa												Pontedaria cordata				✓	✓	✓	✓	✓	✓		
Commelina virginica												Potamogeton illinoensis											
Crinum americanum												Rhynchospora inundata											
Diodia virginiana												Rosa palustris											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Rumex verticillatus		X	Y	X	Y	D	X	C			
Hydrilla verticillata												Sacciolepis striata									✓	✓	
Hydrocotyle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Sagittaria kurziana											
Hygrophila polysperma												Sagittaria lancifolia											
Hymenocallis												Sagittaria latifolia											
Lachnanthes caroliniana												Salvinia minima											
Landoltia punctata												Samolus parviflora											
Lemna												Saururus cernuus											
Limnophila sessiflora												Scirpus (schenoplectus) californicus											
Ludwigia leptocarpa												Sparganium americanum											
Ludwigia palustris												Typha											
Ludwigia peruviana												Vallisneria americana											
Ludwigia repens						✓						Zizania aquatica											
Luziola fluitans												Juncus megacephalus					X		X	X			
Micranthemum glomeratum (common)						✓						Wetzelia trilobata	✓	✓	✓								
Micranthemum umbrosum												Carex louisianica					X	X	X				
Mikania scandens																							
Myriophyllum aquaticum																							
If no Dominant or Co-Dominant were selected, indicate with "X"																							
Indicate % cover macrophytes per section																							
0-5% Macrophyte Coverage												sedge #1 Carex louisianica					✓	✓	✓	✓	X		
>5 and ≤10% Macrophyte Coverage	X											grass #1 Juncus megacephalus					✓		✓	✓	Y		
>10 and ≤25% Macrophyte Coverage					X							Polygonum sp (Hydropiperoides)					✓			✓	Y		
>25 and ≤50% Macrophyte Coverage	X		X	X	X							grass #1 (Sacciolepis)								✓	Y		
> 50% Macrophyte Coverage		X				X	X	X	X			Potamogeton (large)	✓	✓	✓	✓	D	✓	C				

SB to ID: 76092

Vascular ID: 9752

Rumex Verticillatus

Identified and Recorded above



Search Method

- ☒ Macrophyte ID
☐ Visit ID (SBIO Sample ID)
☐ STORET Station Number

Search:

9752

STORET Station:

Visit ID (SBIO Sample ID):

Macrophyte ID:

9752

Station Visit Information

Station: G1WA0034

Sample Date: 5/11/2016

Lead Sampler: Musson, Curtis

Macrophyte ID: 9752

SCINAME	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Cm
▶ <i>Alternanthera philoxeroides</i>	P	P	P	P	P	P	P	P	P	P	X
<i>Cicuta maculata</i>	P		P	P	P		D	C	D		X
<i>Colocasia esculenta</i>	D	D	D	D	D	P	P	P		P	X
<i>Hydrocotyle</i>		P	P		P	P	P	P	P	P	X
<i>Juncus megacephalus</i>						P			P	P	Y
<i>Ludwigia repens</i>						P					Y
<i>Micranthemum glomeratum</i>						P					Y
<i>Polygonum hydropiperoides</i>						P				P	Y
<i>Pontederia cordata</i>				P	P	P		P	P	P	X
<i>Rumex verticillatus</i>		P	P	P	P	D	P	C			Y
<i>Sagittaria striata</i>									P	P	Y
<i>Wedelia trilobata</i>	P	P	P								X

S-12-2016

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

SAMPLE ID GIWA0034 ORG ID 21FLWQA LATITUDE 30.5193
 COUNTY Leon STORET # GIWA0034 LONGITUDE -84.3357
 DATE 5-11-2016 TIME 11:35 SAMPLING AGENCY FDEP
 SITE NAME Harbinwood Estates Drain
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Lake Jackson

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>30</u> Silviculture <u>2</u> Field/Pasture <u>—</u> Agricultural <u>—</u> Residential <u>63</u> Commercial <u>—</u> Industry <u>3</u> Other (Specify) <u>Water</u>								Landscape Development Intensity Index (LDI) <u>5.4</u>
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 <u>1.0</u> m wide <u>—</u> m/s <u>0.05</u> m/s <u>—</u> m/s <u>—</u> m deep <u>0.01</u> m deep <u>—</u> m deep		
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>1</u> Right Bank: <u>1</u>				Hydrologic Modification Score (per FT 3101) <u>9</u>				
High Water Mark: <u>0.1</u> + <u>0.3</u> = <u>0.4</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 ☒
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SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon % Coverage ☐ INVERT # Times Sampled ☐ PERI # Times Sampled			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: _____ Mid: <u>0.05</u> <u>24.35</u> <u>6.91</u> <u>8.75</u> <u>104.8</u> <u>104</u> <u>0.05</u> ☒ VOB Bottom: <u>0.1</u> _____ Meter ID: <u>Bidax #2</u> TOTAL DEPTH <u>0.1</u>							
Woody Debris (Snags) _____ Undercut Banks / Roots _____ Leaf Packs or Mat _____ Aquatic Vegetation <u>56</u> _____ Rock or Shell Rubble _____ Sand _____ Mud / Muck / Silt <u>44</u> _____ Other _____ Other _____			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: _____ Exp: _____				Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ 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	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☒
Fish:	☒	☐	☐	☐
Aquatic Plants:	☐	☐	☐	☒
Iron/Sulfur Bacteria:	☒	☐	☐	☐

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) _____

AMBIENT FIELD CONDITIONS / NOTES:

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Curtis Mussey

SIGNATURE:

Curtis Mussey

DATE:

5/11/2016

RQ-2016-05-09-75

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this name.

Meter ID: Biology #2Project: SMP

- Notes:** (1) Numbers ≤ 4 , are rounded down; numbers ≥ 5 are rounded up (e.g., 5.15 becomes 5.2).
 (2) Always wait for meter to stabilize before recording any readings.
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site _____

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification _____

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	5/11/16	0719	22.65	8.61	8.64	100.0	46.1	-	P	L
ICV	Curtis Musson	5/11/16	0720	22.66	8.61	8.64	100.0	46.1	-	P	L
CCV	Curtis Musson	5/11/16		23.32	8.53	14.76	173.0	51.2	-	F	L
CCV											

Report DO mg/L with one decimal figure and DO % saturation as a whole number with no decimals.

DO Acceptance criteria from Table ± 0.3 mg/L.**Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.**Optical:** DO gain range 0.85 to 1.15; DO charge N/A.**Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	5/11/16	0723	CC14162	10/15/16	996	996	P	L
ICV	Curtis Musson	5/11/16	0724	CC14162	10/15/16	996	996	P	L
CCV	Curtis Musson	5/11/16	15:01	CC13882	7/15/16	101.1	97	P	L
CCV									

Report specific conductance as a whole number with no decimal figure.

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Curtis Musson	5/11/16	0726	153035	07/20/17	7.0	7.00	10.4	P	L
Calibr.	Curtis Musson	5/11/16	0730	154634	07/20/17	4.0	4.00	165.3	P	L
Calibr.	Curtis Musson	5/11/16	0732	160330C	10/20/17	10.0	10.00	184.2	P	L
ICV	Curtis Musson	5/11/16	0735	154634	07/20/17	4.00	4.01	164.7	P	L
CCV	Curtis Musson	5/11/16	1504	153035	07/20/17	7.00	7.01	10.5	P	L
CCV										

Report pH with one decimal place; pH Acceptance criteria ± 0.2 SU; mV pH7 Range 0 $\pm$ 50;mV pH 4 Range +180 $\pm$ 50;mV pH 10 Range -180 $\pm$ 50;

Slope from 7 to 10 and 4 to 7 must be between 165 and 180 mV

Depth (Quarterly)

Date of Last Depth Verification _____

Depth Sensor (Daily)	Name	Date	Time CT-ET	Zero the Sensor	ICV Value	Pass / Fail	Lab / Field
Pressure mode in air				0.000			

ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater

Request Number: RQ-2016-05-09-75

Ochlockonee River, Harbinwood Estates Drain and
Chicken BranchFlorida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 3

last revised Apr 7, 2016

Customer: WQAP

Project ID: SMP

Requester: Benjamin Ralys

Field Report Prepared By:

Curtis Musson

Collected By: Curtis Musson / Robert Wiwi

Sampling Agency:

FDEP

Location				☐ Comp	Collection (comp begin or grab)		☒ Grab	Date	Time	☒ Eastern	Composite end	Bottle Group(s)
Field ID		G1WA0034 11 May 2016		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Date	Time	Central	Date	Time
STORET #		HARBINWOOD ESTATES DRAIN		Fresh		8.75		5-11-16	11:35			
Latitude		☐ dd	Longitude	☐ dd	Temp (C)	pH	Sample Depth	☐ ft	☒ m	Sp. Conductance (umho/cm)	Total Res. Chlorine (mg/L)	A, D
		☐ dms		☐ dms	24.35	6.91	0.3m			104		
Location				☐ Comp	Collection (comp begin or grab)		☒ Grab	Date	Time	☒ Eastern	Composite end	Bottle Group(s)
Field ID		G1WA0042 11 May 2016		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Date	Time	Central	Date	Time
STORET #		Ochlockonee River 350m upstream of SR 12		Fresh		11.24		5/11/16	13:05			
Latitude		☒ dd	Longitude	☒ dd	Temp (C)	pH	Sample Depth	☐ ft	☒ m	Sp. Conductance (umho/cm)	Total Res. Chlorine (mg/L)	A
30.6722		☐ dms	-84.3040	☐ dms	22.81	6.80	0.3m			116		
Location		Ochlockonee River 350m upstream of SR 12		☐ Comp	Collection (comp begin or grab)		☒ Grab	Date	Time	☒ Eastern	Composite end	Bottle Group(s)
Field ID		G1WA0042D		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Date	Time	Central	Date	Time
STORET #		G1WA0042		Fresh		11.24		5/11/16	13:05			
Latitude		☒ dd	Longitude	☒ dd	Temp (C)	pH	Sample Depth	☐ ft	☒ m	Sp. Conductance (umho/cm)	Total Res. Chlorine (mg/L)	A
30.6722		☐ dms	-84.3040	☐ dms	22.81	6.80	0.3			116		
Location				☐ Comp	Collection (comp begin or grab)		☒ Grab	Date	Time	☒ Eastern	Composite end	Bottle Group(s)
Field ID		G1WA0038 11 May 2016		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Date	Time	Central	Date	Time
STORET #		Ochlockonee River upstream of SR 12		Fresh		11.18		5/11/16	13:30			
Latitude		☒ dd	Longitude	☒ dd	Temp (C)	pH	Sample Depth	☐ ft	☒ m	Sp. Conductance (umho/cm)	Total Res. Chlorine (mg/L)	A
30.6702		☐ dms	-84.30511	☐ dms	22.87	6.80	0.3			116		

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Curtis Musson	5/11/16 1:45	DROPOFF	2	MUB	5/11/16 2:38pm

Curtis
MUB

Cooler Packing Worksheet for Request: RQ-2016-05-09-75
Ochlockonee River, Harbinwood Estates Drain and Chicken Branch

Ship Cooler On: 4/26/2016
Customer/Project: WQAP/SMP

Requester: Benjamin Ralys
Priority: 3

850-245-8443
2600 Blair Stone Rd
MS #3560
Tallahassee, FL 32399-2400

Attn: Benjamin Ralys

Comments:

No preservatives needed.

Bottle Group A: freshwater kits including metals (this bottle group also includes 1 Dup and 1 blank)

Bottle Group B: freshwater kits no metals

Bottle Group C: Biology (SCI)

Bottle Group D: Biology Algal ID

Please include enough DI water for 1 freshwater kit including metals.

Requested Analyses:

Bottle Group: A

of Sites: 5

Container ID: P-1L

Qty: 5 Preservation: ICE

Lot # 00064935

Description: Plastic Bottle 1L

Analysis

ALKALINITY

TURBIDITY

W-CL-IC

W-COLOR

W-F

W-TDS

W-TSS

Description

Alkalinity in aqueous matrices as mg CaCO₃/L

Turbidity in aqueous matrices

Chloride in aqueous matrices

True Color measured at 450 nm

Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)

Total Dissolved Solids in aqueous matrices

Total Suspended Solids in aqueous matrices

Container ID: BP-1L

Qty: 5 Preservation: ICE

Lot # 1170333

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry

Container ID: P-500ML

Qty: 5 Preservation: HNO3

Lot # 00064521

Description: Plastic Bottle 500 mL

Affix RED nitric acid dot to container.

Analysis

W-ICP

W-ICPMS

Description

Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects

Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

Container ID: P-500ML

Qty: 5 Preservation: ICE And H2SO4

Lot # 00064521

Description: Plastic Bottle 500 mL

Affix YELLOW sulfuric acid dot to container.

Analysis

W-NH3

W-NO2NO3

W-S-A-TP

W-TKN

W-TOC

Description

Ammonia in aqueous matrices as mg N/L

Nitrite/Nitrate in aqueous matrices as mg N/L

Total Phosphorus in aqueous matrices as mg P/L

Total Kjeldahl Nitrogen in aqueous matrices

Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML

Qty: 5 Preservation: ICE-FLTR

Lot # 00064520

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Bottle Group: B

of Sites: 1

Container ID: P-1L

Qty: 1 Preservation: ICE

Lot # 00064935

Description: Plastic Bottle 1L

Analysis

ALKALINITY

TURBIDITY

W-CL-IC

W-COLOR

W-F

W-TDS

W-TSS

Description

Alkalinity in aqueous matrices as mg CaCO3/L

Turbidity in aqueous matrices

Chloride in aqueous matrices

True Color measured at 450 nm

Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)

Total Dissolved Solids in aqueous matrices

Total Suspended Solids in aqueous matrices

Container ID: BP-1L

Qty: 1 Preservation: ICE

Lot # 1170333

Description: Brown Plastic Bottle 1L

Analysis

CHLSUITE-W

Description

Phytoplankton chlorophyll-a corrected, uncorrected, phaeophytin and ratio by spectrophotometry

Container ID: P-500ML

Qty: 1 Preservation: ICE And H2SO4

Lot # 00064521

Description: Plastic Bottle 500 mL

Affix YELLOW sulfuric acid dot to container.

Analysis

W-NH3

W-NO2NO3

W-S-A-TP

W-TKN

W-TOC

Description

Ammonia in aqueous matrices as mg N/L

Nitrite/Nitrate in aqueous matrices as mg N/L

Total Phosphorus in aqueous matrices as mg P/L

Total Kjeldahl Nitrogen in aqueous matrices

Nonpurgeable Organic Carbon in aqueous matrices

Container ID: P-125ML

Qty: 1 Preservation: ICE-FLTR

Lot # 000649
00064520

Description: Plastic Bottle 125 mL

Analysis

W-PO4-F

Description

Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L

Bottle Group: C

of Sites: 1

Container ID: PJ-2L

Qty: 2 Preservation: Formalin

Lot # BIO WASH

Description: Plastic Jar 2 L

Analysis

MI-FW-QLDC

Description

No. Taxa of FW macroinverts, qual samp, 20 dipnets.

Bottle Group: D

of Sites: 2

Container ID: PT-50ML

Qty: 2 Preservation: ICE

Lot # 430897

Description: Plastic Tube 50 mL

Analysis

ALGAL_ID

Description

Qualitative assessment of algal taxa present without counts

Cooler Packed By: SK Date: 5-9-16
DEP Cooler ID #(s): 2 Coolers

Kit must also include:

- ☒ Field Sheets
- ☒ Temperature Control Bottle (1 per cooler)
- ☐ FedEx Bills, if applicable (1 per cooler)
- ☒ Plastic Bags
- ☒ Zip Ties

If Preservation Included:

ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____
ID _____	Lot # _____

PLEASE RETURN ALL COOLERS FOR RQ-2016-05-09-75