



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2017

PAGE 1 OF

Data Qualified?

Yes / No

STORET Station Name: C-25 Canal East @ 25th St.

Date: 02/09/2017
(mm/dd/yyyy)

STORET Station ID: G2SE0003

WBID: 3163B

Latitude: 27.468912°

County: St. Lucie RQ - 2017-02-06-18

ORG ID: 21FLWPB

Longitude: -80.349608°

(Decimal Degrees)

(Decimal Degrees)

Receiving Body of Water: IRL - F.P.

Field ID: G2SE0003

Sampling Team Members

J. SKAGGS

M. Sewell

D. Liddick

Sampling Equipment

☒ Sample Container ☒ Van Dorn ☐ Pole
☐ Carboy ☐ Syringe
☐ Dipper ☐ Other

Equipment ID 5-5

Collection Method

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

Water Level: Dry / Pooled / Low / Normal / High / Flooded

Matrix: Fresh / Marine / DI

Meter ID# AE3 Photos: Yes / No

Tide Falling: Yes / No / NA

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°)
EST	10:10	0.3	3.7	8.6	98	8.1	0.55	2.3	1110	20.9
CEN	10:12	3.2		8.4	93	8.1	0.55		1099	20.4

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other

SBIO ID Numbers: SBIO-ID: RPS-ID: Macrophyte-ID: LIMS#:

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	6242080	08/29/17	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☐ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CL-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☐ E Coli ☐ F Coli ☐ Enteroc ☐ PCR-FILTER	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PCL-SQ-R ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			

Place Preservative Sticker(s) Here
(If Available)

Notes: MAT ✓

Place Label Here
(If Available)

Signature: [Signature]

Date: 02/09/17

Field Parameters Entered into LIMS: 3/16/17 (Initials/Date)

Field Parameters QC in LIMS: 3/22/17 [Signature] (Initials/Date)

Date Migrated to STORET:

Field Sheets Scanned/Saved: 4/12/17 [Signature] (Initials/Date)

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

SAMPLE ID <u>G2SE0003</u>	ORG ID <u>21FWPB</u>	LATITUDE <u>27.468912</u>
COUNTY <u>St. Louis</u>	STORET # <u>G2SE0003</u>	LONGITUDE <u>-80.349608</u>
DATE <u>2/9/17</u>	TIME <u>1010</u>	SAMPLING AGENCY <u>21FWPB</u>
SITE NAME <u>C-25 Canal East @ 25th St.</u>		
FIELD ID/NAME <u>G2SE0003</u>		RECEIVING BODY OF WATER <u>JRL</u>

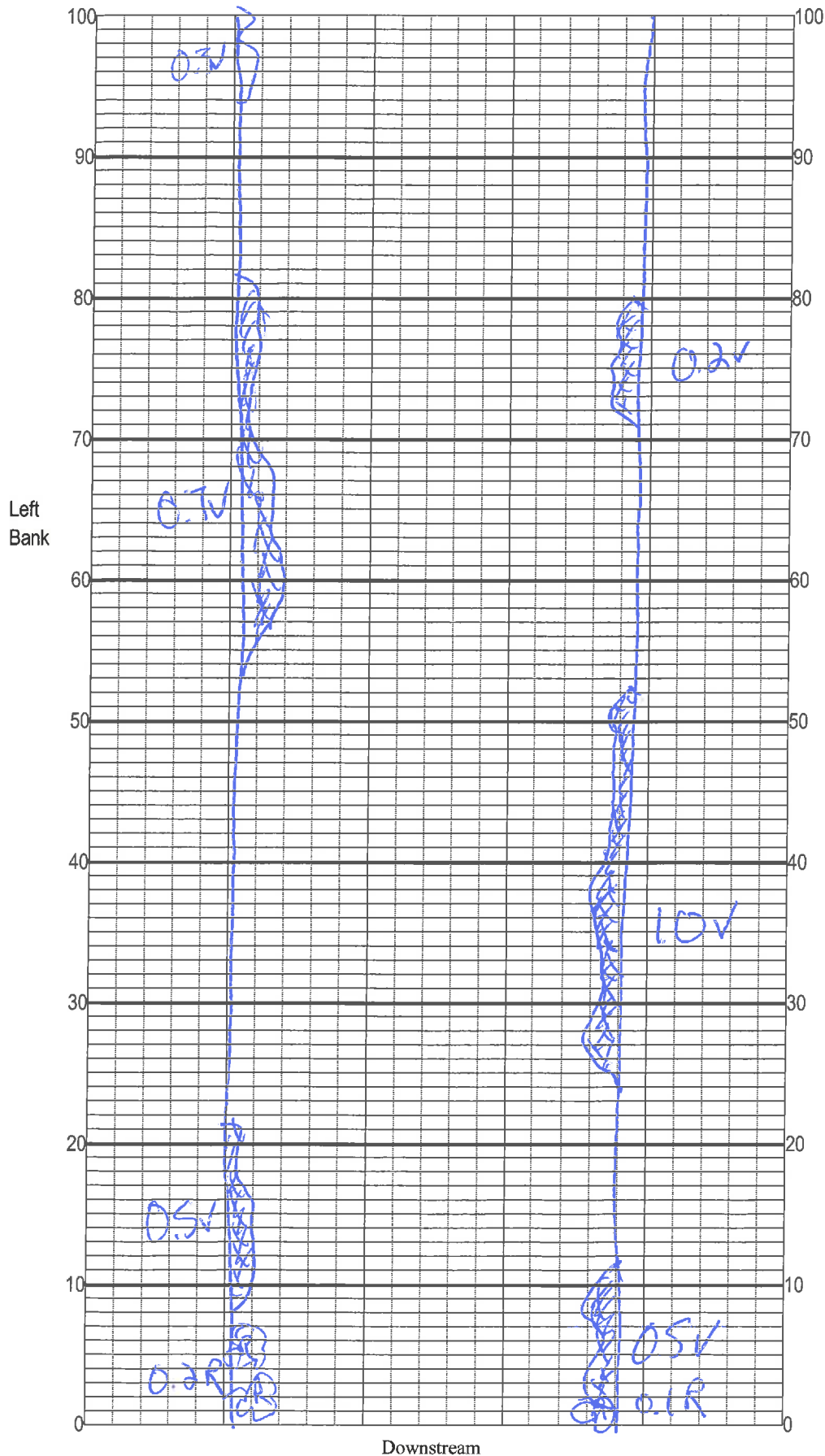
RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☒ Industry ☒ Other (Specify) ☐		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 <u>40</u> m wide ☐ m/s <u>0.02</u> m/s ☐ m/s ☐ m deep <u>3.7</u> m deep ☐ m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>0</u> Right Bank: <u>0</u> Hydrologic Modification Score (per FT 3101) ☐		
High Water Mark: <u>0.5</u> + <u>3.7</u> = <u>4.2</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><u>1</u></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	<u>1</u>	☐	☐	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>6.3</u></td> <td><u>20.9</u></td> <td><u>8.1</u></td> <td><u>8.8</u></td> <td><u>98</u></td> <td><u>1110</u></td> <td><u>0.55</u></td> <td><u>2.3</u></td> </tr> <tr> <td>Mid:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Bottom:</td> <td><u>3.2</u></td> <td><u>20.4</u></td> <td><u>8.1</u></td> <td><u>8.4</u></td> <td><u>93</u></td> <td><u>1099</u></td> <td><u>0.55</u></td> <td><u>3.7</u></td> </tr> </tbody> </table> Meter ID: <u>AE3</u> Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>6209120</u> Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☒ No Lot Number: _____ Exp: _____				Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	<u>6.3</u>	<u>20.9</u>	<u>8.1</u>	<u>8.8</u>	<u>98</u>	<u>1110</u>	<u>0.55</u>	<u>2.3</u>	Mid:	☐	☐	☐	☐	☐	☐	☐	☐	Bottom:	<u>3.2</u>	<u>20.4</u>	<u>8.1</u>	<u>8.4</u>	<u>93</u>	<u>1099</u>	<u>0.55</u>	<u>3.7</u>
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System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☒ <u>canal</u>			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																																																														
SAMPLING TEAM <u>Sewell</u> <u>Shiga S</u>			SIGNATURE: <u>maul</u>		DATE: <u>2/9/17</u>																																																																												

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: C-25 @ 25th
Date: 02/09/17
Sampler: Sewell

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 _____
☒	<u>Rock</u> _____
☐	_____
☐	Pools
total # observed = <u>0</u>	
# range expected = <u>2</u>	
Average width <u>40</u> m	
Average depth <u>3.5</u> m	
Velocity measured at <u>0</u> meter mark.	
WQ & chemistry taken at <u>0</u> 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:

P. stca
C. sp. 5
torp
Phrag
H. mutum

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

SAMPLING AGENCY: <u>SE ROC</u>		STORET STATION NUMBER: <u>G2SE0003</u>	DATE (MM/DD/YY): <u>02/09/17</u>	RECEIVING BODY OF WATER: <u>IRL</u>
REMARKS:	COUNTY: <u>St. Louis</u>	LOCATION: <u>C-25 @ 25th St</u>	FIELD ID/NAME: <u>G2SE0003</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>3</u>	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 <u>3</u> 2 1
Substrate Availability <u>2</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 <u>2</u> 1
Water Velocity <u>3</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 <u>3</u> 2 1
Habitat Smothering <u>11</u> ----- Primary Score _____	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 <u>11</u>	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 Artificial Channelization <u>1</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 3 2 <u>1</u>
Bank Stability Right Bank <u>4</u> Left Bank <u>4</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 <u>4</u>	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 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 <u>1</u>
Riparian Zone Vegetation Quality Right Bank <u>1</u> Left Bank <u>1</u> ----- Secondary Score _____	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>

32 TOTAL SCORE

Date: <u>2/9/17</u>	Analyst: <u>Sewell</u>	Signature: <u>mail</u>
---------------------	------------------------	------------------------

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: C-25 canal @ 25th St County: St. Lucie Date: 2/2/17 Investigators:

Transect (m) Point 1=right 9=left Algal Thickness Rank (N-6, X) Estimated Canopy Cover

STORET Station Number: G2SE0003

0 1 N Y 60 1 N Y

Secchi depth 2.3
Estimated? 7

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

Check accompanying data collected at same site/date.

Algal mat sample
Linear Veg Survey ☒
Habitat Assessment ☒
SCI/Biorecon
Water sample ☒

RQ- 2017-0206-K8

10 1 N Y 70 1 N Y

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

20 1 N Y 80 1 N Y

30 1 N Y 90 1 N Y

40 1 N Y 100 1 N Y

50 1 N Y

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 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: C-25 Canal	Date: 2/1/17	County: St Louis	Storet Number: 628003
Analyst: Sewell	Signature: Matt Sel		
Comments: vegetation managed by SFWMD			

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.

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	
Alternanthera philoxeroides		✓			✓	✓				✓		Micranthemum glomeratum									
Bacopa caroliniana												Micranthemum umbrosum									
Bacopa monneri												Myriophyllum aquaticum									
Bidens mitis												Najas guadelupensis									
Boehmeria cylindrica												Nuphar luteum									
Centella asiatica												Orontium aquaticum									
Ceratophyllum demersum												Panicum hemitomon	✓	✓		✓	✓		✓	✓	✓
Chara												Panicum repens	✓	✓		✓	✓		✓	✓	✓
Cicuta maculata												Panicum rigidulum									
Cladium jamaicense												Pistia stratioides	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colocasia esculenta												Polygonum glabra									
Commelina diffusa												Polygonum hydropiperoides									
Commelina virginica												Polygonum punctatum									
Crinum americanum												Pontedaria cordata									
Diodia virginiana												Potamogeton illinoensis									
Eichhornia crassipes		✓		✓	✓	✓		✓	✓			Ruellia simplex									
Eleocharis (wispy viviparous)												Sacciolepis striata									
Hydrilla verticillata												Sagittaria kurziana									
Hydrocotyle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Sagittaria lancifolia									
Hygrophila polysperma												Sagittaria latifolia									
Hymenocallis												Salvinia minima									
Lachnanthes caroliniana												Samolus parviflora									
Landoltia punctata												Saururus cernuus									
Lemna												Sparganium americanum									
Limnophila sessiflora												Typha									
Ludwigia leptocarpa												Vallisneria americana									
Ludwigia palustris												Zizania aquatica									
Ludwigia peruviana												Annora Globby	✓	✓							
Ludwigia repens																					