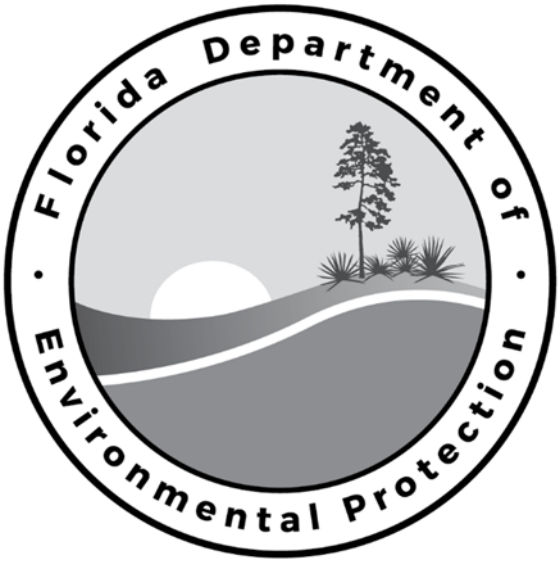


Biological Assessment of

Brittany Estates Mobile Home Park WWTF

Alachua County

NPDES # FL0040215

Sampled December 2, 2015

June 2016

Biology Program

FDEP Laboratory

Division of Environmental Assessment and Restoration

FDEP Laboratory Quality Manual

NELAC Certification No. E31780

CONTENTS

Facility Overview

Methods

Results

Conclusion

Literature Cited

Tables

Table 1. Effluent limits, Class III Freshwater Criteria and field parameters, analytical water chemistry, analytical organic and pesticide data, and microbiological data

Table 2. Effluent limits, Class III Freshwater Criteria and analytical metals data

Table 3. Measured and predicted freshwater algal growth potential (AGP)

Appendices

Appendix A. Map of facility

Appendix B. Facility Summary

Appendix C. Explanation of measurements

Appendix D. Chain of Custody

Appendix E. Physical/Chemical and Habitat Assessment field sheets

Appendix F. Chemical analyses of effluent and receiving water

EPA End Sheet

The purpose of this investigation was to determine the discharge's effects on the biota of the receiving waters. Biological assessments are prepared by FDEP staff to provide information for review of NPDES permit renewal applications. Biological assessments, in conjunction with other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions.

Facility Overview

The Brittany Estates Mobile Home Park Wastewater Treatment Facility (WWTF) discharges effluent into Little Hatchet Creek, a Class III Fresh Water (see map Appendix A). The permitted capacity of the wastewater system is 0.06 million gallons per day (MGD). The annual daily average flow for December 2014 to November 2015 for Outfall D-001 (monitoring location EFD-1) was 0.030 MGD. The plant discharges continuously, and the flow reported during this survey was 0.016 MGD.

See the Facility Summary (Appendix B) for a description of the facility, summary of permit limits, Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information.

Methods

Effluent samples for biological and chemical analyses were collected as grab samples from NPDES monitoring location EFD-1. Habitat and biological assessments were made and chemical and biological samples collected in Little Hatchett Creek within a 100m length Control Site (beginning 10 meters (m) and ending 110 m upstream of the point of discharge) and a 100m length Test Site (beginning 110 m and ending 10 m downstream of the point of discharge).

All field and laboratory methods followed FDEP Standard Operating Procedures (see http://www.dep.state.fl.us/labs/library/lab_sops.htm and http://www.dep.state.fl.us/water/sas/sop/sops.htm for details) and met DEP quality assurance/quality control standards (see http://www.dep.state.fl.us/water/sas/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix C.

The following were involved in this investigation: Brian Davis, Jann Gruentzel, Amy Kalmbacher, Patrick O'Connor, Jeremy Parrish, and Sharon Piltz, and FDEP Laboratory in Tallahassee. The report was reviewed by District representatives and the Point Source Studies Review Committee (Mike Tanski, Andrew Tintle, and Jennifer Walters).

Results

Physical and Chemical Parameters (See Table 1 and Appendices D, E, and F)

- Habitat Assessment scores were similar at the Test Site (85) and Control Site (81), which places both sites on the lower end of the suboptimal category. Bank stability, riparian width, and riparian vegetation quality was generally marginal.
- The pH (Standard Units) of the effluent was slightly below the Class III Freshwater Quality Criteria (62-302.530(51)(c), F.A.C.) and effluent permit limits, representing an exceedance of each. The pH of the Control Site and Test Site, and the specific conductance (µmhos/cm) and dissolved oxygen (mg/L and % saturation) of the effluent, Control Site, and Test Site complied with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and effluent permit limits.

Organic Constituents (See Appendix F)

- No organic constituents were detected in the effluent.
- Di-n-butyl phthalate was detected between the method detection limit and the practical quantitation limit (MDL and PQL) in the field blank, but was not detected in the effluent or instream site samples.

Nutrients (See Table 1 and Appendix F)

- Little Hatchett Creek falls within the Peninsular Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). For this region, the NNC thresholds, expressed as annual geometric means, are 0.12 mg/L total phosphorus and 1.54 mg/L total nitrogen. This FYI event can only provide single sample results, therefore, compliance should be determined with additional sampling events.
- Effluent nutrient levels complied with permit limits and the Class III Freshwater Quality Criteria (62-302.530, F.A.C.).

- Ortho-phosphate, total phosphorus, and total ammonia were detected in the greatest amounts in the effluent grab samples and showed elevated concentrations in the Test Site samples compared to the Control Site samples. Detected amounts of total Kjeldahl nitrogen, organic nitrogen, nitrate+nitrite, and total nitrogen were similar between the effluent and the Test Site samples, while there were lower amounts of each detected in the Control Site sample.
- Total ammonia was detected between the MDL and the PQL in the field blank.

Analytical Water Chemistry (See Table 1 and Appendix F)

- The amount of total residual chlorine (TRC; mg/L) measured in the effluent after facility dechlorination complied with the effluent permit limits.
- Total suspended solids (TSS; mg/L) and carbonaceous biochemical oxygen demand (CBOD; mg/L) of the effluent complied with permit limits.
- Chlorophyll *a* (corrected) was detected in the effluent grab sample in an amount 3.5 times higher than in the Test Site sample and was not detected in the Control Site sample.

Microbiology (See Table 1 and Appendix F)

- Fecal coliform analyses were performed by ALS Environmental, Jacksonville, FL using standard method SM 9222 D.
- Fecal coliforms were detected in the effluent sample at a level which complied with Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.) and facility permit limits.
- Fecal Coliforms were detected in the Test Site and Control Site samples at levels that exceeded the Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.).

Metals (See Table 2 and Appendix F)

- All metals detected in the effluent grab, Test Site, and Control Site samples were present at levels that complied with effluent permit limits and/or Class III Freshwater Quality Criteria (62-302.530, F. A. C.).
- No metals were detected in the field blank.

Algal Growth Potential (See Table 3 and Appendix F)

- The AGP values in the effluent, Test Site, and Control Site samples using the freshwater species, *Pseudokirchneriella subcapitata,* were similar. The analytical chemistry suggests that the effluent is nitrogen-limited, the Test Site is nitrogen-phosphorus co-limited, and the Control Site is phosphorus-limited.

Bioassessment

Periphyton (See Appendix D)

- The Rapid Periphyton Surveys (RPS) conducted at the Test Site and the Control Site showed no filamentous mat-forming algae at any of the sampled points at either in-stream site. The densitometer readings taken at the center points of the stream indicate that the sites are moderate to heavily-shaded.

Macroinvertebrates

- Due to the shallowness of the stream, stream condition index (SCI) sampling for macroinvertebrates was not conducted.

Conclusion

The pH (Standard Units) of the effluent was slightly below the Class III Freshwater Quality Criteria (62-302.530(51)(c), F.A.C.) and effluent permit limits, representing an exceedance of each. Test and Control Site fecal coliforms exceeded the Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.), though the fecal coliforms in the effluent grab sample complied with criterion and with effluent permit limits. Nutrients in the effluent complied with the permit limits and the Class III Freshwater Quality Criteria (62-302.530, F.A.C.). Higher amounts of phosphorus and nitrogen detected in the effluent grab sample appear to be elevating the Test Site nutrient levels to various degrees when compared to the Control Site samples.

Literature Cited

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Stevenson, R. J. and L. L. Bahls. 1999. Periphyton protocols. Pp. 6.1-6.22 in: Rapid bioassessment protocols for use in wadeable streams and rivers. 2nd edition. By: M. T. Barbour, J. Gerritsen, B. D. Snyder and J. B. Stribling. EPA 841-B-99-002. U. S. Environmental Protection Agency, Office of Water, Washington, D. C.

USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

Table 1. Effluent limits, Class III Freshwater Criteria and field parameters, analytical water chemistry, analytical organic and pesticide data, and microbiological data

Brittany Estates Mobile Home Park WWTF	Units	Class III Criteria	Effluent Permit Limits	Effluent EFD-1 (Grab)	Test Site	Control Site	Field Blank
Field Parameters							
Sample Depth	m	-	-	0.27	0.1	0.05	-
Temperature	C	-	-	23.5	21.7	20.3	-
pH	SU	6.0 - 8.5	6.0 - 8.5	5.9 e	7.0	7.3	-
Specific Conductance	µmhos/cm	≤ 1,275	-	554	336	228	-
Salinity	ppth	-	-	0.3 c	0.2 c	0.1 c	-
Dissolved Oxygen	% saturation	-	-	87.5 c	74.0 c	74.0 c	-
Dissolved Oxygen	mg/L	-	≥ 6.0	7.4	6.5	6.7	-
Analytical Organic and Pesticide Data							
Di-n-butyl phthalate	-	-	-	1.9 U	2.0 U	2.0 U	2.8 I
Analytical Water Chemistry							
Ortho-phosphate	mg P/L	-	-	0.46	0.023	0.010	0.004 U
Total Phosphorus	mg P/L	-	Report	0.55	0.065	0.017	0.002 U
Total Ammonia	mg N/L	-	4.8	0.069	0.015	0.012	0.004 I
Un-ionized Ammonia (calculated salinity)	-	≤ 0.02 c	-	< 0.02 c	< 0.02 c	< 0.02 c	-
Nitrate and Nitrite	mg N/L	-	-	0.076	0.018	0.020	0.004 U
Total Kjeldahl Nitrogen	mg N/L	-	-	0.61	0.65	0.44	0.080 U
Organic Nitrogen	mg N/L	-	6.4	0.54 c	0.64 c	0.43 c	0.036 c
Total Nitrogen	mg N/L	-	Report	0.69 c	0.67 c	0.46 c	0.042 c
Total Organic Carbon	mg C/L	-	-	4.5 A	14	13	0.50 U
Chlorophyll *a* - Corrected	µg/L	-	-	6.8	1.9	0.55 U	-
Phaeophytin	µg/L	-	-	1.9	1.3	0.40 U	-
CBOD, 5 day, N - inhibited	mg/L	-	16.0	1.4 IJ	1.3 IJ	0.54 IJ	-
Total Residual Chlorine	-	-	≤ 0.01	≤ 0.01	-	-	-
Total Suspended Solids	mg/L	-	60.0	2 I	11	3 I	-
Turbidity	NTU	< 29 t	-	2.4 A	9.7	5.1	0.10 U
Color (true)	PCU	-	-	2.7 I	120	110 A	2.5 U
Alkalinity	-	≥ 20	-	59	0.65 U	0.65 U	0.65 U
Chloride	mg Cl/L	-	-	59 A	16	15 A	0.20 U
Fluoride	mg F/L	≤ 10.0	-	0.38	0.20	0.19	0.035 U
Sulfate	mg SO4/L	-	-	160 A	29	25 A	0.20 U
Microbiology							
Fecal Coliforms [1]	cfu/100 mL	≤ 400 sx	800	15 B	3600 e	3200 e	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
e -Value exceeds the Class III Water Quality Criteria or permit limits
s - Single sample
t - Shall not exceed 29 NTUs above background
x - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptance range
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
1 - Fecal coliform analyses were performed by ALS Environmental, Jacksonville, FL using standard method SM 9222 D.

Table 2. Effluent limits, Class III Freshwater Criteria and analytical metals data

Brittany Estates Mobile Home Park WWTF	Units	Effluent Permit Limits	Effluent EFD-1 (Grab) Class III Criteria	Effluent EFD-1 (Grab)	Test Site Class III Criteria	Test Site	Control Site Class III Criteria	Control Site
Hardness	mg/L	-	-	98 c	-	101 c	-	98.3 c
Aluminum	µg/L	-	-	32.1	-	419	-	265
Arsenic	µg/L	-	-	0.34	≤ 50	0.88	≤ 50	0.77
Cadmium	µg/L	-	≤ 0.267 b	0.020 U	≤ 0.272 b	0.020 U	≤ 0.267 b	0.020 U
Calcium	mg/L	-	-	22.6	-	25.5	-	24.8
Chromium, Total [g]	µg/L	-	≤ 84.8 b	0.31	≤ 86.8 b	0.96	≤ 85 b	0.76
Copper	µg/L	-	≤ 9.17 b	0.50	≤ 9.39 b	0.53	≤ 9.2 b	0.30 I
Iron	µg/L	-	≤ 1,000	110 I	≤ 1,000	1,000	≤ 1,000	730
Lead	µg/L	-	≤ 3.1 b	0.092 I	≤ 3.21 b	0.37	≤ 3.11 b	0.20
Magnesium	mg/L	-	-	10.1	-	9.02	-	8.84
Nickel	µg/L	-	≤ 51.3 b	0.41	≤ 52.5 b	0.48	≤ 51.4 b	0.41
Potassium	mg/L	-	-	5.4	-	0.92 I	-	0.81 I
Selenium	µg/L	-	≤ 5.0	0.20 U	≤ 5.0	0.20 U	≤ 5.0	0.20 U
Silver	µg/L	-	≤ 0.07	0.0050 U	≤ 0.07	0.0050 U	≤ 0.07	0.0050 U
Sodium	mg/L	-	-	69.3	-	9.0	-	7.6
Zinc	µg/L	-	≤ 118 b	24	≤ 121 b	5.0 U	≤ 118 b	5.0 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.

b - Value is calculated based on hardness, (62-302.530(3))

c - Value is calculated

g - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

U - Material analyzed for but not detected; value reported is the method detection limit

Table 3. Measured and predicted algal growth potential (AGP; mg dry weight/L) using the freshwater test species *Pseudokirchneriella subcapitata* for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus

Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent EFD-1 (Grab)	2.68 A	5.5 ± 1.1	not applicable [2]	26.1 ± 5.2	not applicable [2]	0.3	1.2
Test Site	3.15	1.3 ± 0.3	9.9 ± 2.0	25.4 ± 5.1	28 ± 5.6	1.4	10.3
Control Site	1.52	not applicable [3]	4.3 ± 0.9	not applicable [3]	7.3 ± 1.5	3.2	27.1

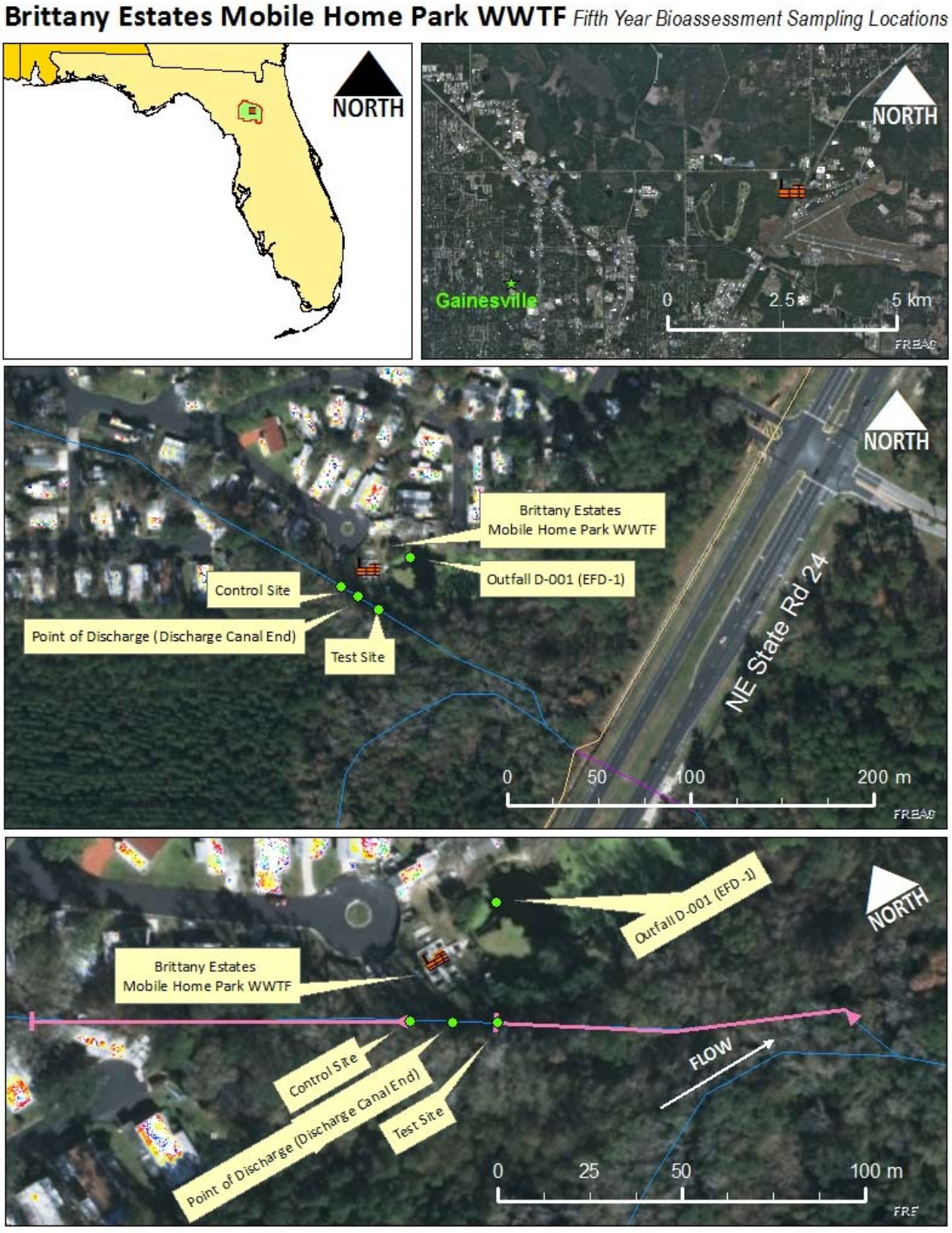
A - Value reported is the mean of two or more determinations

2 – Not applicable to nitrogen-limited freshwaters

3 – Not applicable to phosphorus-limited freshwaters

Appendix A

Map of Facility



Appendix B

Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event

Prepared By: Ginny Montoya	**Contact Number:** (904) 256-1632
Facility Name (as it appears on permit): Brittany Estates Mobile Home Park WWTF	**Former Names:** N/A
NPDES Permit Number: FL0040215	**Permit Expiration Date:** August 28, 2016
Physical Address: 5010 Northeast Waldo Road, Lot 2, Gainesville, FL 32609	
District: Northeast District	**County:** Alachua
Function of Facility: Activated sludge domestic wastewater treatment facility discharging to Little Hatchet Creek	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD):** 0.06 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 0.0311 MGD Aug 2014- Aug 2015	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
Description of type of Discharge: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): **Outfall D-001:** EFD-1: Final WWTF discharge following post aeration CAL-1: Calculated value EFA-1: Discharge from chlorine contact chamber prior to dechlorination	
Description of Permitted Outfall(s): **Surface Water Discharge D-001** An existing 0.060 MGD AADF discharge to Little Hatchet Creek, Class III fresh waters, (WBID# 2695) which is approximately 2 feet in length and discharges at a depth of approximately 1 feet. The point of discharge is located approximately at latitude 29°41' 58" N, longitude 82°16' 53" W.	

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility):

Wastewater Treatment System:
A 0.06 million gallons per day (MGD) annual average daily flow (AADF) activated sludge wastewater treatment facility (WWTF) capable of operating in the extended aeration mode for average daily flows less than 0.03 MGD AADF or the contact stabilization mode for average daily flows up to 0.06 MGD AADF.
-1 influent pumping station
-6 aeration basins (5,000 gallons each)
-2 secondary clarifiers (5,200 gallons each)
-1 chlorine contact chamber (1,500 gallons) using hypochlorination
-1 post-aeration basin (3,700 gallons)
-dechlorination systems
Discharge goes to Little Hatchet Creek

Biosolids are stored and thickened in a sludge holding tank (5,000 gallons) and transported by American Pie and Tabk Inc., for further treatment and disposal to Central Process or 412 Biosolids Processing.

Modification of the Wastewater Treatment System:
-correction of flow meter location and transfer of ownership of WWTF from Oak Pond, LLC to Brittany Estates Group, LLC

PART I: Continued

List <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under
(Leave cell blank if not applicable)

Surface Water Discharge (D-001): Little Hatchet Creek

Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Flow	MGD	Max Max Max	0.06 Report Report	Annual Average Monthly Average Quarterly Average	5 Days/Week	Meter	EFD-1
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	CAL-1
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max	8.0 10.0 16.0	Annual Average Monthly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Solids, Total Suspended	mg/L	Max Max Max	20.0 30.0 60.0	Annual Average Monthly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Grab	EFD-1
Coliform, Fecal	#/100mL	Max Max Max	200 200 800	Annual Average Monthly Geometric Mean Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	5 Days/Week	Grab	EFA-1
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Nitrogen, Organic, Total (as N)	mg/L	Max Max Max Max	3.2 4.0 4.8* 6.4	Annual Average Monthly Average Weekly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Nitrogen, Nitrate, Total (as N)	mg/L	Max	12.0	Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Nitrogen, Ammonia, Total (as N)	mg/L	Max Max Max Max	2.4 3.0 3.6* 4.8	Annual Average Monthly Average Weekly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1

Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Oxygen, Dissolved (DO)	mg/L	Min	6.0	Single Sample	5 Days/Week	Grab	EFD-1
Nitrogen, Total	mg/L	Max Max	Report Report	Monthly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Nitrogen, Total (Mass Load)	lb/year	Max	3,104	Annual Total	Bi-weekly; every 2 weeks	Calculated	CAL-1
Nitrogen, Total (Mass Load)	lb/month	Max	Report	Monthly Total	Bi-weekly; every 2 weeks	Calculated	CAL-1
Phosphorus, Total (as P)	mg/L	Max Max	Report Report	Monthly Average Single Sample	Bi-weekly; every 2 weeks	Grab	EFD-1
Phosphorus, Total (as P) (Mass Load)	lb/year	Max	386	Annual Total	Bi-weekly; every 2 weeks	Calculated	CAL-1
Phosphorus, Total (as P) (Mass Load)	lb/month	Max	Report	Monthly Total	Bi-weekly; every 2 weeks	Calculated	CAL-1

Other Limitations and Monitoring and Reporting Requirements

			Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Monthly	Grab	INF-1	See I.0.**Error! Reference source not found.**
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Monthly	Grab	INF-1	See I.0.**Error! Reference source not found.**

List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year:

Date	Parameter and Units	Result	Limit
8/31/2014	Nitrogen, Nitrate, Total (as N) (mg/L) Max	16	12.0
5/31/2015	BOD, Carbonaceous 5 day (mg/L) Max	22	16.0
5/31/2015	BOD, Carbonaceous 5 day (mg/L) Monthly Average	11.5	10.0
6/30/2015	Coliform, Fecal (#/100 ml)	20000	800.0

Describe previous FYI and WQBEL study:
No FYI sampling has been conducted.
No WQBEL study on file.

Describe previous or current Enforcement Actions (including WLs):
N/A

Describe any violations or problems noted in previous inspection:
The last inspection was conducted August 2013. The facility was in-compliance.

Discuss whether DMR trends within previous five years are improving or declining:
There are no noticeable trends in the parameter levels from the effluent.

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

PART II: Sampling Event Information	
Date(s) sample collected: **12/2/15**	**Sampler(s):** **J. Gruentzel/ A. Kalmbacher**
Temperature (Deg C): **23.53**	**pH (SU):** **5.88**
Dissolved Oxygen (mg/L): **7.42**	**Conductivity (umhos/cm):** **554**
Total Residual Chlorine (mg/L): **0.0**	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination: **Sodium hypochloride**	**Method of De-chlorination:** **Sodium bisulfate**
Flow During Sample Collection for each outfall(MGD): **0.016**	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day): **0.0299**	
Describe Discharge during Sampling Event: **☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix C

Explanation of Measurements

(1) Quality Assurance and Quality Control

FDEP's quality assurance requirements for analytical laboratories and field activities are codified in Chapter 62-160, F.A.C., Quality Assurance (QA Rule) and in internal Standard Operating Procedures (FDEP SOPs). Methods for all analyses are on file at the FDEP Central Laboratory in Tallahassee and may be viewed on the web at http://www.dep.state.fl.us/labs/library/lab_sops.htm and/or http://www.dep.state.fl.us/water/sas/qa/index.htm.

(2) Chemical Analyses of the Effluent

The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following FDEP SOPs. The results from these analyses were compared with Water Quality Criteria (62-302, F.A.C.) and facility permit limits.

(3) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or facility permit limits. Fecal coliform and enterococci results often are based on colony counts outside the acceptable range (B-qualifier). The dilutions performed on the sample did not yield results within the method acceptable range of 20- 60 colony forming units per plate. The B-qualifier does not affect data quality.

(4) Habitat Assessment

Habitat assessment is used to evaluate the physical structure and extent of disturbance in a waterbody. Eight aspects are ranked, with 20 possible points for each aspect (QA Rule SOP FT 3100). The Habitat Assessment score includes types and amounts of benthic substrates, water velocity, amount of sand or silt accumulation, extent of artificial channelization, bank stability, and riparian zone width and vegetation type. All scores are summed to yield an overall Habitat Assessment score. Habitat Assessment score ranges from 11-160 and overall habitat quality is assigned to one of four categories: Optimal (120-160 points), Suboptimal (80-119 points), Marginal (40-79 points), and Poor (11-39 points).

(5) Algal Growth Potential (AGP)

The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. High AGP values may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(b), F.A.C..

The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of $\pm$ 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater, phosphorus limitation is likely (USEPA 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(61), F.A.C.

(6) Rapid Periphyton Survey

Rapid Periphyton Survey (RPS) is a rapid method to quantify the extent and abundance of attached algae (periphyton) in a stream or river. A total of 99 points are assessed within a 100m area of sampling reach, 9 equidistant points along 11 cross-section transects spaced 10 m apart, If greater than 20% of sampled points have algal lengths greater than 6mm, a sample is collected and the autecological information associated with the dominant algae is evaluated (see FDEP SOP FS 7230 Rapid Periphyton Survey). This method could be used to determine floral health associated with Chapter 62-302.531, F.A.C..

(7) Definition of Qualifiers

A - Value reported is the mean of two or more determinations

B - Results based on colony counts outside the acceptable range.

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

J - Estimated value

K - Actual value is known to be less than value given
L - Actual value is known to be greater than value given
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate
Z - Colonies were too numerous to count (TNTC)

Appendix D

Chain of Custody

Request Number: RQ-2015-11-23-11

FYI5 Brittany Estates Mobile Home Park WWTF Sampling Inspection

Customer: NE-DIST

Project ID: FYI5

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 5

last revised Nov 10, 2015

Requester: Adrienne E. Pennington

Field Report Prepared By: J. Geventzel

Collected By: P. OConnor, B. Davis, J. Parrish, S. Piltz, A. Palmbacher, J. Geventzel

Sampling Agency: FDEP NE ROC

Location: Brittany Est Upstream of Eff Discharge	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 12/2/2015	Time 1050	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc): Fresh	Diss. Oxygen 6.7 mg/L, 74.3 % sat	Total Res. Chlorine (mg/L)								
STORET #	Temp (C) 20.3	pH 7.3	Sample Depth 0.05 ☐ ft ☑ m	Sp. Conductance (umho/cm) 228			B				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) 0.11	Comments								
Location: Brittany Est Eff Discharge	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 12/2/2015	Time 1055	Eastern Central	Composite end Date	Time	Bottle Group(s)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc): Effluent	Diss. Oxygen 7.42 mg/L, 87.0 % sat	Total Res. Chlorine (mg/L)								
STORET #	Temp (C) 23.53	pH 5.88	Sample Depth 0.27 ☐ ft ☑ m	Sp. Conductance (umho/cm) 554			A				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) 0.26	Comments								
Location: Brittany Est Downstream of Discharge	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 12/2/2015	Time 1215	Eastern Central	Composite end Date	Time	Bottle Group(s)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc): Fresh	Diss. Oxygen 6.5 mg/L, 74.0 % sat	Total Res. Chlorine (mg/L)								
STORET #	Temp (C) 21.7	pH 6.97	Sample Depth 0.1 ☐ ft ☑ m	Sp. Conductance (umho/cm) 336			B				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) 0.16	Comments								
Location: Field Blank	☐ Comp ☐ Grab	Collection (comp begin or grab) Date 12/2/2015	Time 1115	Eastern Central	Composite end Date	Time	Bottle Group(s)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)								
STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)			D				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								

Relinquished By:	Date/Time	Shipping Method	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	12/2/15	FedEx	MPB	12-3-15 0941				

Appendix E

Physical/Chemical and Habitat Assessment field sheets

FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID _____ LATITUDE _____

COUNTY Alachua STORET # _____ LONGITUDE _____

DATE 12/2/2015 TIME 1215 SAMPLING AGENCY FDEP NE ROC

SITE NAME Brittany Estates WWTF Downstream of Eff

FIELD ID/NAME _____ RECEIVING BODY OF WATER Little Hatchett Creek

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)
410							

Landscape Development Intensity Index (LDI): _____

Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank: >18m Right Bank: 6m

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: 1.0 (m) + 0.1 (above present water level) = 1.1 (present depth) (above bed)

Artificially Impounded: ☐ Yes ☒ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: 2.5 m wide

_____ m/s	0.2 m/s	_____ m/s
_____ m deep	0.1 m deep	_____ m deep

Artificially Channelized: ☐ No ☐ Some recovery ☒ Mostly recovered, more sinuous ☐ 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

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☒	☐
Silt Smothering:	☐	☒	☐	☐
Algae Smothering:	☒	☐	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☐ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	1.4		
Undercut Banks / Roots	1.7		
Leaf Packs or Mat	1.6		
Aquatic Vegetation			
Rock or Shell Rubble			
Sand	93.3		
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.1	21.7	6.97	6.5	74	336	0.16	>0.1
Mid:								☒ VOB
Bottom								TOTAL DEPTH
								0.1

Meter ID: YSI 556

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

	Not Obs.	Rare	Common	Abundant
Periphyton:	☒	☐	☐	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☒	☐	☐
Iron/Sulfur Bacteria:	☐	☒	☐	☐

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

AMBIENT FIELD CONDITIONS / NOTES:

cloudy, overcast

no aquatic veg RQ-2015-11-23-11

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

SAMPLING TEAM J.Greenzel, A.Kalmbacher, S.Pitts, J.Parrish

SIGNATURE: _____ DATE: 12/2/2015

Revision Date: September 19, 2012

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

SAMPLING AGENCY:	STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
FDEP NEROC		12/02/15	Little Hatchett Cr
REMARKS: / COUNTY: Alachua	LOCATION: Brittany Est. WWTF Downstream of Eff		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 11	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 3 2 1
Substrate Availability 5	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 14	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 13 Primary Score 43	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 **Artificial Channelization** 11	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 1
Bank Stability Right Bank 3 Left Bank 3	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 5 Left Bank 10	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 5 Left Bank 5 Secondary Score 42	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

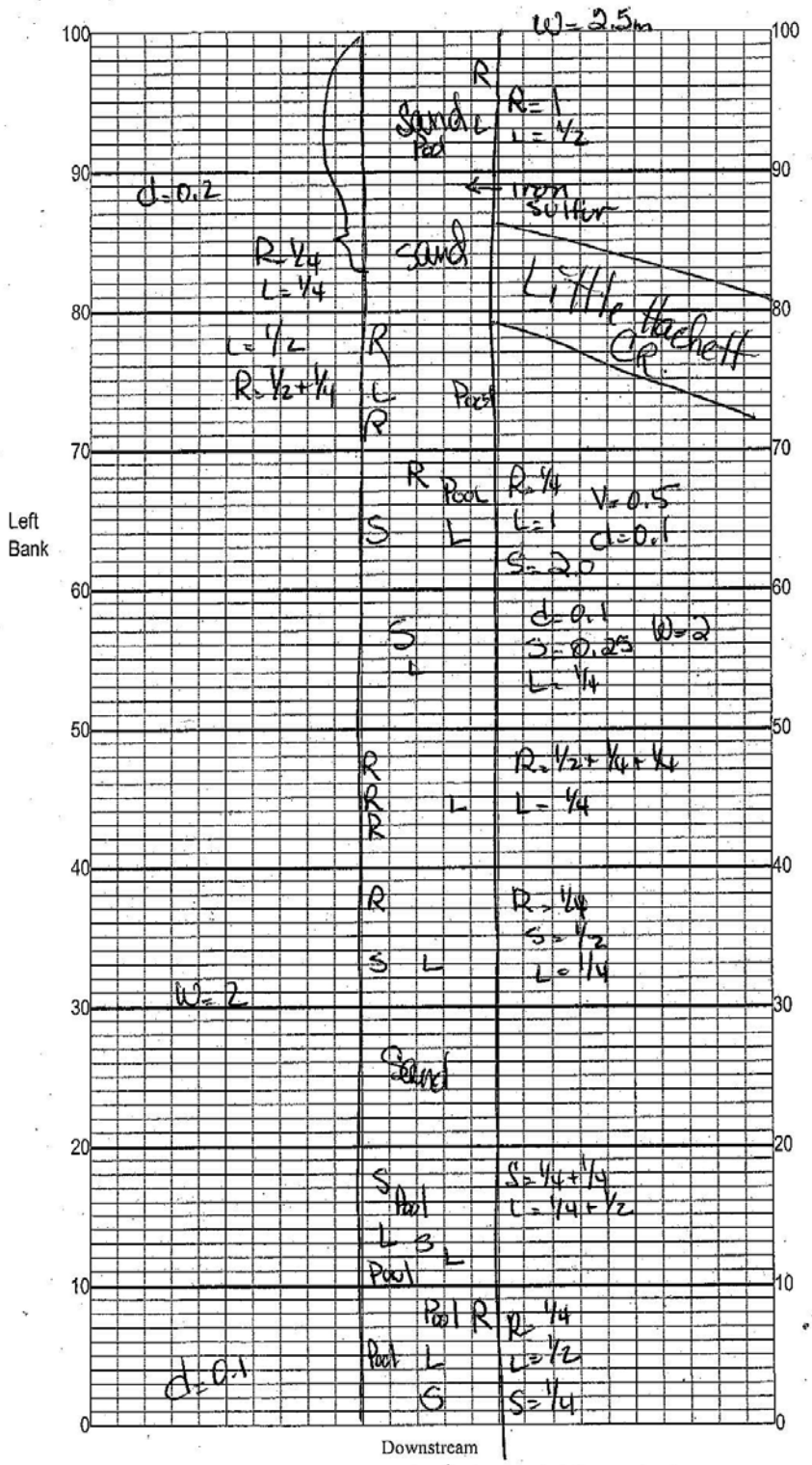
85 **TOTAL SCORE**

Date:	Analyst:	Signature:
12/2/2015	J. Gruentzel, S. Piltz, A. Kalmbacher	

62-160.800, F.A.C.

Revision Date: March 1, 2014

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).

Brittany Est WWTF

Location: Downstream of Eff

Date: 12/2/2015

Sampler: K. Kalmbacher, J. Gravenkel

100 m:	Latitude	
	Longitude	
0 m:	Latitude	
	Longitude	

Substrates: Code key, draw proportionate habitat abundance.

			%
S	Snags	3.5	1.4
R	Roots/undercut banks	4.25	1.7
L	Leaf packs (or mats)	4.0	1.6
	Aquatic Macrophytes		
	sand		93.3
Pool	Pools	total # observed = 6 # range expected = 5	

Average width 2.5 m

Average depth 0.1 m

Velocity measured at ~~0.5~~ 50 meter mark.

WQ & chemistry taken at 20 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:

Effluent

.27m 554 µm/cm .26 ppt
87% 7.42 mg/L
23.53° 5.88 pH

62-160.800, F.A.C

Revision Date: March 1, 2014

Brittany Estates WWTF

FDEP FORM 9000-25: RAPID PERIPHYTON SURVEY FIELD SHEET

Site: Downstream Eff | County: Alachua | Date: 12/2/2015 | Investigators: J Schuntzel, A Kalmbacher

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			75
	6			
	7			
	8			
	9			
10	1	N		
	2			
	3			
	4			
	5			72
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			70
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			75
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
40	1	N		
	2			
	3			
	4			
	5			65
	6			
	7			
	8			
	9			
50	1	N		
	2			
	3			
	4			
	5			78
	6			
	7			
	8			
	9			
60	1	N		
	2			
	3			
	4			
	5			70
	6			
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			72
	6			
	7			
	8			
	9			

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
80	1	N		
	2			
	3			
	4			
	5			68
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			
	5			72
	6			
	7			
	8			
	9			
100	1	N		
	2			
	3			
	4			
	5			75
	6			
	7			
	8			
	9			

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

Secchi depth: <0.1

Check accompanying data collected at same site/date.	
Algal mat sample	
Habitat Assessment	✓
Linear Veg. Survey	
SCI/Biorecon (circle 1)	
Water sample	
RQ:	

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%.

Revision Date: September 19, 2012

DEP-SOP-001/01: Form FD 9000-3 (3/8/13)

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID _____ LATITUDE 29 41 57.5

COUNTY ALACHUA STORET # _____ LONGITUDE 82 16 54.4

DATE 12/2/15 TIME 1050 SAMPLING AGENCY DEAR NED Rx

SITE NAME Little Hatchet Creek Above Brithany Est Rd

FIELD ID/NAME _____ RECEIVING BODY OF WATER Hatdet Cr

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
40				10			40 Prairies Pk

Landscape Development Intensity (LDI)

Local Watershed Erosion (select one): ☐ None ☐ Slight ☒ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☒ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: 10 Right Bank: 5

Hydrologic Modification Score (per FT 3101)

High Water Mark: 1.0 (m) + 0.1 (above present water level) = 1.1 (present depth) (above bed)

Artificially Impounded ☐ Yes ☒ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

1.5 m wide

	m/s	0.2	m/s		m/s
	m deep	0.1	m deep		m deep

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☒ 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):

Sediment Deposition

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	6		
Undercut Banks / Roots	1.5		
Leaf Packs or Mat	6		
Aquatic Vegetation			
Rock or Shell Rubble..			
Sand.....	80		
Mud / Muck / Silt	5+		
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :								VOB
Mid:	0.05	20.3	7.3	6.7	74.3	228	0.11	☒ VOB
Bottom								

Meter ID: YSI 556 #1

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: SA5113230 Exp: 4-23-16

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 ☐

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

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☒	☐	☐
Fish:	☐	☒	☐	☐
Aquatic Plants:	☒	☐	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☐	☐

WEATHER CONDITIONS / NOTES:

Cloudy Overcast

RQ-2015-11-23-11

HN03 Lot# 5113210 X 4-23-16

NO AQUATIC Veg

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

SAMPLING TEAM B. DAVIS, J. PARRISH, P O'Connor

SIGNATURE: P O'Con

DATE: 12/2/15

Revision Date: March 8, 2013

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

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
DEAR NED ROC			12/02/15	Hatchett Cr
REMARKS:	COUNTY: ALACHUA	LOCATION: C. Hatchett Creek Above Brittany Est. POD		FIELD ID/NAME:

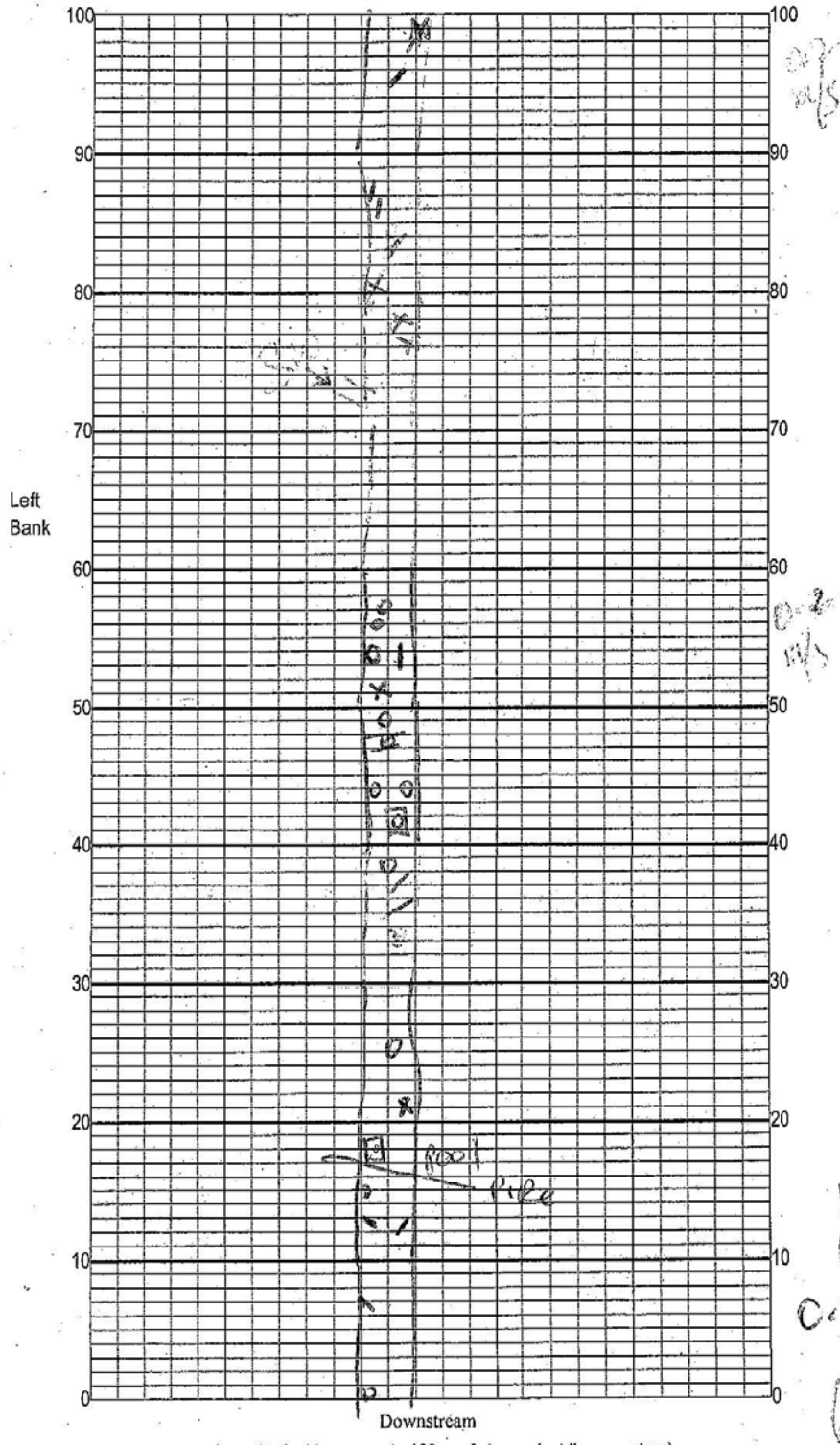
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 11	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. 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 3 2 1
Substrate Availability 9	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 13	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 9 Primary Score 42	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 **Artificial Channelization** 9	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 1
Bank Stability Right Bank 5 Left Bank 5	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful 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 5 Left Bank 5	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 5 Left Bank 5 Secondary Score 39	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

81 **TOTAL SCORE**

Date: 12/2/15	Analyst: PD Conn	Signature: Patrick D Conn

62-160.800, F.A.C. Revision Date: March 1, 2014

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).

1.5m wide

Location: Little Hatchet Cr Above Britt Est. POD

Date: 12/2/15

Sampler: PDenn

100 m: Latitude	
Longitude	
0 m: Latitude	
Longitude	

Substrates: Code key, draw proportionate habitat abundance. %

/	Snags	
X	Roots/undercut banks	
O	Leaf packs (or mats)	
R	Rock ~~Aquatic Macrophytes~~	
V	AQuatic Mcro	
	Pools total # observed = ____ # range expected = ____	

Average width _____ m

Average depth _____ m

Velocity measured at _____ meter mark.

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.

Plants observed / other notes:

1.5% Roots
6% leaf
0.2 m/s
0 m² AQUatic Veg

62-160.800, F.A.C

Revision Date: March 1, 2014

Little Hatchett Cr. Above Brittany Estates POD

FDEP FORM 9000-25: RAPID PERIPHYTON SURVEY FIELD SHEET

Site: L. Hatchett Cr Above Britt. Est Rd County: Alachua Date: 12/2/15 Investigators: Bowles, Jharrish, Pollonio

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6, X)	Estimated	Canopy Cover
0	1	N		
	2			
	3			
	4			
	5			94
	6			
	7			
	8			
	9			
10	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
20	1	N		
	2			
	3			
	4			
	5			96
	6			
	7			
	8			
	9			
30	1	N		
	2			
	3			
	4			
	5			88
	6			
	7			
	8			
	9			
40	1	N		
	2			
	3			
	4			
	5			88
	6			
	7			
	8			
	9			
50	1	N		
	2			
	3			
	4			
	5			92
	6			
	7			
	8			
	9			
60	1	N		
	2			
	3			
	4			
	5			88
	6			
	7			
	8			
	9			
70	1	N		
	2			
	3			
	4			
	5			84
	6			
	7			
	8			
	9			
80	1	N		
	2			
	3			
	4			
	5			88
	6			
	7			
	8			
	9			
90	1	N		
	2			
	3			
	4			76
	5			
	6			
	7			
	8			
	9			
100	1	N		
	2			
	3			
	4			
	5			82
	6			
	7			
	8			
	9			

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

Secchi depth:

Check accompanying data collected at same site/date.

Algal mat sample	
Habitat Assessment	
Linear Veg. Survey	
SCI/Biorecon (circle 1)	
Water sample	
RQ:	

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%.

Revision Date: September 19, 2012

Appendix F

Chemical analysis of effluent and receiving water

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:55	Effluent EFD-1 (Grab)	AGP/LN	Algal Growth Potential	2.68 A	mg DryWt/L	0.3	0.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.9	ug/L	0.4	1.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	6.8	ug/L	0.55	1.7
12/02/15 10:55	Effluent EFD-1 (Grab)	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.4 IJ	mg/L	0.2	2
12/02/15 10:55	Effluent EFD-1 (Grab)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	8.2	ug/L	0.4	1.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Chlorophyll/Grain Size/BOD	Chlorophyll/Phaeophytin Ratio	1.5		0	0
12/02/15 10:55	Effluent EFD-1 (Grab)	Overflow	Fecal Coliforms-Membrane Filter	15 B	cfu/100 mL	1.6	1.6
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Iron	110 I	ug/L	30	120
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Magnesium	10.1	mg/L	0.04	0.16
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Sodium	69.3	mg/L	0.5	2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Aluminum	32.1	ug/L	2	8
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Chromium	0.31	ug/L	0.05	0.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Arsenic	0.34	ug/L	0.05	0.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Copper	0.50	ug/L	0.1	0.4
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Lead	0.092 I	ug/L	0.05	0.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Silver	0.0050 U	ug/L	0.005	0.02
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Calcium	22.6	mg/L	0.075	0.3
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Potassium	5.4	mg/L	0.3	1.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Nickel	0.41	ug/L	0.05	0.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Metals	Zinc	24	ug/L	5	20
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	O-Phosphate-P	0.46	mg P/L	0.04	0.1
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	TSS	2 I	mg/L	2	10
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Fluoride	0.38	mg F/L	0.035	0.1
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Ammonia-N	0.069	mg N/L	0.002	0.005
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Sulfate	160 A	mg SO4/L	2	5
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Chloride	59 A	mg Cl/L	0.4	1
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Organic Carbon	4.5 A	mg C/L	0.5	1
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Kjeldahl Nitrogen	0.61	mg N/L	0.08	0.2
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Color (true)	2.7 I	PCU	2.5	6
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Turbidity	2.4 A	NTU	0.1	0.1
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	NO2NO3-N	0.076	mg N/L	0.004	0.01

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Total-P	0.55	mg P/L	0.005	0.05
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Ametryn	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Bromacil	0.045 UJ	ug/L	0.045	0.18
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Naled	0.045 U	ug/L	0.045	0.18
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Norflurazon	0.034 UJ	ug/L	0.034	0.14
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Acetaminophen	0.0040 U	ug/L	0.004	0.016
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Chlorpyrifos Methyl	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Fonofos	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Sucralose	19	ug/L	0.5	2.5
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Carbamazepine	0.13	ug/L	0.0004	0.002
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Primidone	1.6	ug/L	0.08	0.4
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Azinphos Methyl	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Ethion	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Metolachlor	0.068 U	ug/L	0.068	0.27
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Diuron	0.015	ug/L	0.002	0.01
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Atrazine	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Fenamiphos	0.034 UJ	ug/L	0.034	0.14
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Metribuzin	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Fluridone	4.0E-04 U	ug/L	0.0004	0.002
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Imidacloprid	0.11	ug/L	0.004	0.016
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Atrazine Desisopropyl	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Butylate	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Chlorpyrifos Ethyl	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Ethoprop	0.0057 U	ug/L	0.0057	0.023
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Malathion	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Mevinphos	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Parathion Ethyl	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Prometon	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Alachlor	0.068 U	ug/L	0.068	0.27
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Demeton	0.027 U	ug/L	0.027	0.11
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Metalaxyl	0.045 UJ	ug/L	0.045	0.18
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Simazine	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Fenuron	0.0080 U	ug/L	0.008	0.04
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Disulfoton	0.0057 U	ug/L	0.0057	0.023
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Hexazinone	0.034 UJ	ug/L	0.034	0.14
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Phorate	0.0057 U	ug/L	0.0057	0.023
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Prometryn	0.023 U	ug/L	0.023	0.091
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Linuron	0.0040 U	ug/L	0.004	0.02

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Atrazine Desethyl	0.011 UJ	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Diazinon	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Pesticides	Parathion Methyl	0.011 U	ug/L	0.011	0.045
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2-Nitrophenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Pentachlorophenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	1,4-Dioxane	0.43	ug/L	0.02	0.1
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	58
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2-Chlorophenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Diethyl phthalate	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Dimethyl phthalate	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	58
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzidine	97 U	ug/L	97	390
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Butyl benzyl phthalate	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Isophorone	0.97 U	ug/L	0.97	3.9

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Naphthalene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Phenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39 U	ug/L	39	160
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Di-n-octyl phthalate	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Hexachlorobenzene	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.8
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,4-Dichlorophenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.78
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2,4-Dimethylphenol	9.7 U	ug/L	9.7	39
12/02/15 10:55	Effluent EFD-1 (Grab)	Priority Organic Pollutants	2-Chloronaphthalene	0.97 U	ug/L	0.97	3.9
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Temperature	23.53	C		
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Dissolved Oxygen	7.42	mg/L		
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Sample Depth	0.27	m		
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	Specific Conductance	554	umhos/cm		
12/02/15 10:55	Effluent EFD-1 (Grab)	Nutrients	pH	5.88			
12/02/15 12:15	Test Site	AGP/LN	Algal Growth Potential	3.15	mg DryWt/L	0.3	0.9
12/02/15 12:15	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll/Phaeophytin Ratio	1.4		0	0
12/02/15 12:15	Test Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.3	ug/L	0.4	1.2
12/02/15 12:15	Test Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.3 IJ	mg/L	0.2	2
12/02/15 12:15	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	2.7	ug/L	0.4	1.2
12/02/15 12:15	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.9	ug/L	0.55	1.7
12/02/15 12:15	Test Site	Overflow	Fecal Coliforms-Membrane Filter	3600	cfu/100 mL	100	100
12/02/15 12:15	Test Site	Metals	Magnesium	9.02	mg/L	0.04	0.16
12/02/15 12:15	Test Site	Metals	Arsenic	0.88	ug/L	0.05	0.2
12/02/15 12:15	Test Site	Metals	Lead	0.37	ug/L	0.05	0.2
12/02/15 12:15	Test Site	Metals	Sodium	9.0	mg/L	0.5	2
12/02/15 12:15	Test Site	Metals	Nickel	0.48	ug/L	0.05	0.2
12/02/15 12:15	Test Site	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/02/15 12:15	Test Site	Metals	Calcium	25.5	mg/L	0.075	0.3

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 12:15	Test Site	Metals	Potassium	0.92 I	mg/L	0.3	1.2
12/02/15 12:15	Test Site	Metals	Aluminum	419	ug/L	2	8
12/02/15 12:15	Test Site	Metals	Copper	0.53	ug/L	0.1	0.4
12/02/15 12:15	Test Site	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/02/15 12:15	Test Site	Metals	Iron	1.0E+03	ug/L	30	120
12/02/15 12:15	Test Site	Metals	Silver	0.0050 U	ug/L	0.005	0.02
12/02/15 12:15	Test Site	Metals	Zinc	5.0 U	ug/L	5	20
12/02/15 12:15	Test Site	Metals	Chromium	0.96	ug/L	0.05	0.2
12/02/15 12:15	Test Site	Nutrients	Sulfate	29	mg SO4/L	0.2	0.5
12/02/15 12:15	Test Site	Nutrients	Total-P	0.065	mg P/L	0.005	0.05
12/02/15 12:15	Test Site	Nutrients	O-Phosphate-P	0.023	mg P/L	0.004	0.01
12/02/15 12:15	Test Site	Nutrients	Fluoride	0.20	mg F/L	0.035	0.1
12/02/15 12:15	Test Site	Nutrients	TSS	11	mg/L	2	10
12/02/15 12:15	Test Site	Nutrients	NO2NO3-N	0.018	mg N/L	0.004	0.01
12/02/15 12:15	Test Site	Nutrients	Ammonia-N	0.015	mg N/L	0.002	0.005
12/02/15 12:15	Test Site	Nutrients	Total Alkalinity	59	mg CaCO3/L	0.65	2.5
12/02/15 12:15	Test Site	Nutrients	Color (true)	120	PCU	2.5	6
12/02/15 12:15	Test Site	Nutrients	Organic Carbon	14	mg C/L	0.5	1
12/02/15 12:15	Test Site	Nutrients	Turbidity	9.7	NTU	0.1	0.1
12/02/15 12:15	Test Site	Nutrients	Chloride	16	mg Cl/L	0.2	0.5
12/02/15 12:15	Test Site	Nutrients	Kjeldahl Nitrogen	0.65	mg N/L	0.08	0.2
12/02/15 12:15	Test Site	Pesticides	Sucralose	0.29	ug/L	0.01	0.05
12/02/15 12:15	Test Site	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	61
12/02/15 12:15	Test Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.81

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 12:15	Test Site	Priority Organic Pollutants	Diethyl phthalate	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
12/02/15 12:15	Test Site	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	61
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	400
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Pentachlorophenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	40
12/02/15 12:15	Test Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
12/02/15 12:15	Test Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	8.1
12/02/15 12:15	Test Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4
12/02/15 12:15	Test Site	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.81
12/02/15 12:15	Test Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 12:15	Test Site	Nutrients	Dissolved Oxygen	6.5	mg/L		
12/02/15 12:15	Test Site	Nutrients	Temperature	21.7	C		
12/02/15 12:15	Test Site	Nutrients	Sample Depth	0.1	m		
12/02/15 12:15	Test Site	Nutrients	pH	6.97			
12/02/15 12:15	Test Site	Nutrients	Specific Conductance	336	umhos/cm		
12/02/15 10:50	Control Site	AGP/LN	Algal Growth Potential	1.52	mg DryWt/L	0.3	0.9
12/02/15 10:50	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55 U	ug/L	0.55	1.7
12/02/15 10:50	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll/Phaeophytin Ratio	1.4		0	0
12/02/15 10:50	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40 U	ug/L	0.4	1.2
12/02/15 10:50	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.59 I	ug/L	0.4	1.2
12/02/15 10:50	Control Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.54 IJ	mg/L	0.2	2
12/02/15 10:50	Control Site	Overflow	Fecal Coliforms-Membrane Filter	3200	cfu/100 mL	100	100
12/02/15 10:50	Control Site	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/02/15 10:50	Control Site	Metals	Potassium	0.81 I	mg/L	0.3	1.2
12/02/15 10:50	Control Site	Metals	Arsenic	0.77	ug/L	0.05	0.2
12/02/15 10:50	Control Site	Metals	Silver	0.0050 U	ug/L	0.005	0.02
12/02/15 10:50	Control Site	Metals	Sodium	7.6	mg/L	0.5	2
12/02/15 10:50	Control Site	Metals	Zinc	5.0 U	ug/L	5	20
12/02/15 10:50	Control Site	Metals	Nickel	0.41	ug/L	0.05	0.2
12/02/15 10:50	Control Site	Metals	Copper	0.30 I	ug/L	0.1	0.4
12/02/15 10:50	Control Site	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/02/15 10:50	Control Site	Metals	Magnesium	8.84	mg/L	0.04	0.16
12/02/15 10:50	Control Site	Metals	Aluminum	265	ug/L	2	8
12/02/15 10:50	Control Site	Metals	Lead	0.20	ug/L	0.05	0.2
12/02/15 10:50	Control Site	Metals	Chromium	0.76	ug/L	0.05	0.2
12/02/15 10:50	Control Site	Metals	Calcium	24.8	mg/L	0.075	0.3
12/02/15 10:50	Control Site	Metals	Iron	730	ug/L	30	120
12/02/15 10:50	Control Site	Nutrients	Sulfate	25 A	mg SO4/L	0.2	0.5
12/02/15 10:50	Control Site	Nutrients	Kjeldahl Nitrogen	0.44	mg N/L	0.08	0.2
12/02/15 10:50	Control Site	Nutrients	Organic Carbon	13	mg C/L	0.5	1
12/02/15 10:50	Control Site	Nutrients	Color (true)	110 A	PCU	2.5	6
12/02/15 10:50	Control Site	Nutrients	NO2NO3-N	0.020	mg N/L	0.004	0.01
12/02/15 10:50	Control Site	Nutrients	Turbidity	5.1	NTU	0.1	0.1
12/02/15 10:50	Control Site	Nutrients	TSS	3 I	mg/L	2	10
12/02/15 10:50	Control Site	Nutrients	Total Alkalinity	58	mg CaCO3/L	0.65	2.5
12/02/15 10:50	Control Site	Nutrients	Fluoride	0.19	mg F/L	0.035	0.1
12/02/15 10:50	Control Site	Nutrients	Ammonia-N	0.012	mg N/L	0.002	0.005
12/02/15 10:50	Control Site	Nutrients	Total-P	0.017	mg P/L	0.002	0.005

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:50	Control Site	Nutrients	Chloride	15 A	mg Cl/L	0.2	0.5
12/02/15 10:50	Control Site	Nutrients	O-Phosphate-P	0.010	mg P/L	0.004	0.01
12/02/15 10:50	Control Site	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.05
12/02/15 10:50	Control Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Pentachlorophenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Diethyl phthalate	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
12/02/15 10:50	Control Site	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	61
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	400
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.81

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 10:50	Control Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
12/02/15 10:50	Control Site	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.81
12/02/15 10:50	Control Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	8.1
12/02/15 10:50	Control Site	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	40
12/02/15 10:50	Control Site	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	61
12/02/15 10:50	Control Site	Nutrients	Dissolved Oxygen	6.7	mg/L		
12/02/15 10:50	Control Site	Nutrients	Specific Conductance	228	umhos/cm		
12/02/15 10:50	Control Site	Nutrients	pH	7.3			
12/02/15 10:50	Control Site	Nutrients	Sample Depth	0.05	m		
12/02/15 10:50	Control Site	Nutrients	Temperature	20.3	C		
12/02/15 11:15	Field Blank	Metals	Cadmium	0.020 U	ug/L	0.02	0.08
12/02/15 11:15	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
12/02/15 11:15	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
12/02/15 11:15	Field Blank	Metals	Arsenic	0.050 U	ug/L	0.05	0.2
12/02/15 11:15	Field Blank	Metals	Nickel	0.050 U	ug/L	0.05	0.2
12/02/15 11:15	Field Blank	Metals	Copper	0.10 U	ug/L	0.1	0.4
12/02/15 11:15	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
12/02/15 11:15	Field Blank	Metals	Chromium	0.050 U	ug/L	0.05	0.2
12/02/15 11:15	Field Blank	Metals	Zinc	5.0 U	ug/L	5	20
12/02/15 11:15	Field Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
12/02/15 11:15	Field Blank	Metals	Aluminum	2.0 U	ug/L	2	8
12/02/15 11:15	Field Blank	Metals	Silver	0.0050 U	ug/L	0.005	0.02
12/02/15 11:15	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
12/02/15 11:15	Field Blank	Metals	Iron	30 U	ug/L	30	120

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 11:15	Field Blank	Metals	Lead	0.050 U	ug/L	0.05	0.2
12/02/15 11:15	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
12/02/15 11:15	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
12/02/15 11:15	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
12/02/15 11:15	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
12/02/15 11:15	Field Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
12/02/15 11:15	Field Blank	Nutrients	Ammonia-N	0.004 I	mg N/L	0.002	0.005
12/02/15 11:15	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
12/02/15 11:15	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
12/02/15 11:15	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
12/02/15 11:15	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
12/02/15 11:15	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
12/02/15 11:15	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
12/02/15 11:15	Field Blank	Pesticides	Alachlor	0.059 U	ug/L	0.059	0.24
12/02/15 11:15	Field Blank	Pesticides	Butylate	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Malathion	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Mevinphos	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.05
12/02/15 11:15	Field Blank	Pesticides	Fenuron	0.0080 U	ug/L	0.008	0.04
12/02/15 11:15	Field Blank	Pesticides	Metalaxyl	0.039 UJ	ug/L	0.039	0.16
12/02/15 11:15	Field Blank	Pesticides	Naled	0.039 U	ug/L	0.039	0.16
12/02/15 11:15	Field Blank	Pesticides	Prometon	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Fluridone	4.0E-04 U	ug/L	0.0004	0.002
12/02/15 11:15	Field Blank	Pesticides	Linuron	0.0040 U	ug/L	0.004	0.02
12/02/15 11:15	Field Blank	Pesticides	Primidone	0.0080 U	ug/L	0.008	0.04
12/02/15 11:15	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Acetaminophen	0.0040 U	ug/L	0.004	0.016
12/02/15 11:15	Field Blank	Pesticides	Imidacloprid	0.0040 U	ug/L	0.004	0.016
12/02/15 11:15	Field Blank	Pesticides	Ametryn	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Disulfoton	0.0049 U	ug/L	0.0049	0.02
12/02/15 11:15	Field Blank	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Atrazine	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Atrazine Desisopropyl	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Bromacil	0.039 UJ	ug/L	0.039	0.16
12/02/15 11:15	Field Blank	Pesticides	Diazinon	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Ethoprop	0.0049 U	ug/L	0.0049	0.02

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 11:15	Field Blank	Pesticides	Hexazinone	0.029 UJ	ug/L	0.029	0.12
12/02/15 11:15	Field Blank	Pesticides	Phorate	0.0049 U	ug/L	0.0049	0.02
12/02/15 11:15	Field Blank	Pesticides	Diuron	0.0020 U	ug/L	0.002	0.01
12/02/15 11:15	Field Blank	Pesticides	Atrazine Desethyl	0.0098 UJ	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Chlorpyrifos Methyl	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Demeton	0.024 U	ug/L	0.024	0.094
12/02/15 11:15	Field Blank	Pesticides	Ethion	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Fonofos	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Norflurazon	0.029 UJ	ug/L	0.029	0.12
12/02/15 11:15	Field Blank	Pesticides	Simazine	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Pesticides	Carbamazepine	4.0E-04 U	ug/L	0.0004	0.002
12/02/15 11:15	Field Blank	Pesticides	Fenamiphos	0.029 UJ	ug/L	0.029	0.12
12/02/15 11:15	Field Blank	Pesticides	Metolachlor	0.059 U	ug/L	0.059	0.24
12/02/15 11:15	Field Blank	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.078
12/02/15 11:15	Field Blank	Pesticides	Parathion Methyl	0.0098 U	ug/L	0.0098	0.039
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	58
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzidine	96 U	ug/L	96	380
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6 U	ug/L	9.6	38
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	58
12/02/15 11:15	Field Blank	Priority Organic Pollutants	1,4-Dioxane	0.079 I	ug/L	0.02	0.1
12/02/15 11:15	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96 U	ug/L	0.96	3.8

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Isophorone	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Phenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.8 I	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.7
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.77
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.96 U	ug/L	0.96	3.8
12/02/15 11:15	Field Blank	Priority Organic Pollutants	Naphthalene	0.19 U	ug/L	0.19	0.77

Note: Some analytes were collected for information gathering purposes only and thus are not discussed in this report.

EPA End Sheet

The Priority Pollutants Analysis of the Brittany Estates Mobile Home Park WWTF effluent sampled on December 2, 2015, NPDES #FL0040215

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 0 2 1 5 11	12 1 5 1 2 0 2	18 **X**	19 **S**	20 2

Remarks

66

Biological Analyses of the Brittany Estates Mobile Home Park WWTF effluent sampled on December 2, 2015, NPDES #FL0040215

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 0 2 1 5 11	12 1 5 1 2 0 2	18 **S**	19 **S**	20 2

Remarks

66