Smith Branch Monitoring Sites Monitoring Data Summary for February 15th, 2019 – March 19th, 2019

Data Gaps

- The SMIA station experienced a short period of turbidity fouling, occurring overnight on March 19th-20th, which
 was removed from the dataset.
- The pH and DO data at SMIA were removed from March 9th-14th. The pH data was removed due to inaccurate low values impacted by pollen buildup on the sensors. The DO data was removed due to sensor fouling, resulting in significantly low DO values.
- Heavy sediment accumulation at the SMIB station covered the turbidity sensor for a brief period from March 14th-18th. This period turbidity data was removed from the dataset.
- The monitoring website experienced reporting issues with the pressure transducers at SMIA and SMIB from March 15th-16th, therefore there is no data record during that period.

SCDHEC Standards

- Neither of the Smith Branch stations recorded pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA and SMIB stations recorded average DO concentrations of 9.4 mg/L and 9.6 mg/L, respectively, which are both well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 7.4 mg/L, which is well above the SCDHEC discrete minimum standard of 4 mg/L.
- The minimum DO concentration recorded at the SMIB station was 3.6 mg/L, which is lower than the SCDHEC discrete minimum standard of 4 mg/L. The low DO values were recorded on March 10th, just one day after a large storm event. The DO gradually returned to the average DO level, likely due to the DO wiper cleaning the sensor.

Storm Events

- The SMIA station recorded 9 storms (at least 0.1 inches) in this monitoring period resulting in 4.4 inches of precipitation. The SMIB station recorded 8 storms (at least 0.1 inches) resulting in 4.9 inches of precipitation.
- The Smith Branch monitoring stations both recorded typical water quality responses to the storm events observed during this monitoring period.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inch) was approximately 10.7 days in the Smith Branch watershed, occurring after the March 9th storm event until the end of the monitoring period.

Potential Illicit Discharges and Abnormal Events

There were no potential illicit discharges or abnormal events in the Smith Branch watershed during this
monitoring period.

Flow Measurements

No flow measurements were taken in this watershed during this monitoring period.



Continuous Water Quality Monitoring Periodic Report



Smith Branch A (February 15, 2019 -- March 19, 2019)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Smith Branch	STAGE (FT):	1.7	5.4	1.8	1.9	0.3	
LOCATION:	Earlewood Park	TEMPERATURE						
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	(°F):	48	67	57	57	4	
COORDINATES:	34.027289,-81.04265	TURBIDITY (NTU):	2 488	488	9	17	30	
TMDL/IMPAIRMENT:	Fecal Coliform		_	.00				
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.4	7.1	6.9	6.9	0.1	
SPATIAL LOCATION:	Most upstream site							
TOTAL NO. STORMS OVER 0.1 INCH:	9	SPECIFIC CONDUCTIVITY (mS/cm):	0.028	0.168	0.147	0.136	0.026	
MAX. DAILY RAINFALL:	1.4 inches	DISSOLVED						
TOTAL RAINFALL (FOR PERIOD):	4.4 inches	OXYGEN (mg/L):	7.4	11.0	9.4	9.4	0.7	
		Stage & Rai	nfall	•	•	•		
# 7		<u> </u>					0.0	
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7							0.5 0.5 1.0 1.5 2.0	
2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/1	1 3/13 3	3/15 3/17	3/19	
		Water Te	mn					
70		water re				<u>Λ</u> Λ		
ь 60 50	~~~	war.	W.	~~	2000	~~	V	
40				1 1	I .			
2/15 2/17 2/19	9 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/2	3/13	3/15 3/17	3/19	
	9 2/21 2/23 2/25	2/27 3/1 3/3 Turbidi		3/9 3/2	11 3/13	3/15 3/17	3/19	
600	9 2/21 2/23 2/25	Turbidi		3/9 3/2	3/13	3/15 3/17	3/19	
P 400 200	2/21 2/23 2/25	Turbidi		3/9 3/:	3/13	3/15 3/17	3/19	
B 400 0	2/21 2/23 2/25	Turbidi			/11 3/13	3/15 3/17	3/19	
P 400 2/15 2/17 2/		Turbidi	ty					
PE 400 200 2/15 2/17 2/		2/27 3/1 3/3	ty					
P 400 2/15 2/17 2/		2/27 3/1 3/3	ty					
P 400 2/15 2/17 2/	/19 2/21 2/23 2/25	2/27 3/1 3/3	ty	3/9 3				
P 400 2/15 2/17 2/15 2/17 2/15 6.6 6.2	/19 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3	3/5 3/7 3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 T.4 7.0 6.6 6.2 2/15 2/17 2/19	/19 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7 3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 T.4 7.0 6.6 6.2 2/15 2/17 2/19	/19 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3	3/5 3/7 3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 400 200 0 2/15 2/17	9 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3 Specific Cor	3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 Ta 7.0 6.6 6.2 2/15 2/17 2/15 8 0.18 0.18 0.18 0.12 0.06	9 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3	3/5 3/7 3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 400 200 0 2/15 2/17 2/17 2/15 2/17	9 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3 Specific Cor	3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 4.00 2/15 2/17 2/1 7.4 7.0 6.6 6.2 2/15 2/17 2/1 SCDHEC in-stream stan 13 11 SCDHEC in-stream stan	9 2/21 2/23 2/25	2/27 3/1 3/3 pH 2/27 3/1 3/3 Specific Cor	3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
7.4 400 200 0 2/15 2/17 2/17 2/15 2/17	9 2/21 2/23 2/25 9 2/21 2/23 2/25 dard: Daily average not less than 5 mg/L	2/27 3/1 3/3 pH 2/27 3/1 3/3 Specific Col 2/27 3/1 3/3 Dissolv	3/5 3/7	3/9 3	/11 3/13	3/15 3/17 3/15 3/17 4 mg/L (SCDHEC	3/19	

Continuous Water Quality Monitoring Periodic Report

Smith Branch A (February 15, 2019 -- March 19, 2019)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Grab Sample Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	3/1/2019		3/1/2019					
(units)	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	10:54	2212	12:07	9222				
Total Suspended Solids (mg/L)	10:54	110	12:07	64.8				
Total Phosphorus (mg/L)	10:54	0.2	12:07	0.19				
Total Nitrogen (mg/L)	10:54	2.34	12:07	3.31				

Note:



Continuous Water Quality Monitoring Periodic Report



Smith Branch B (February 15, 2019 -- March 19, 2019)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Smith Branch	STAGE (FT):	0.2	5.0	0.3	0.4	0.4	
LOCATION:	Off Mountain Drive	TEMPERATURE (OF)	47	00	50	50	,	
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TEMPERATURE (°F):	47	66	56	56	4	
COORDINATES:	34.037933,-81.0591	TURBIDITY (NTU):	3	545	16	30	47	
TMDL/IMPAIRMENT:	Fecal Coliform	TOKBIBITT (NTO):	<u> </u>	343	10	30	71	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.1	7.9	7.0	7.0	0.2	
SPATIAL LOCATION:	Most Downstream Site						V.2	
TOTAL NO. STORMS OVER 0.1 INCH:	8	SPECIFIC CONDUCTIVITY (mS/cm):	0.023	0.149	0.134	0.126	0.022	
MAX. DAILY RAINFALL:	1.6 inches	DISSOLVED OXYGEN	3.6	12.7	9.7	9.6	1.6	
TOTAL RAINFALL (FOR PERIOD):	4.9 inches	(mg/L):	5.0	12.7	9.1	9.0	1.0	
		Stage & Rainfa	all					
12 # 9 # 6							0.0	
Stage, ft					_		0.0 0.5 1.0 1.5 2.0	
2/15 2/17 2/19	2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/11	3/13 3	/15 3/17	3/19	
		Water Tem	р					
70						~		
· 50	~~~~		~~~	~~	1000	- ~~	5	
2/15 2/17 2/19	9 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/1	.1 3/13	3/15 3/17	3/19	
600		Turbidity						
H 200								
0	/19 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/	/11 3/13	3/15 3/17	3/19	
2/13 2/17 2/	19 2/21 2/25 2/25	2/2/ 3/1 3/3	3/3 3/1	5/5 5/	11 3/13	3/13 3/17	3/19	
8.0		рН						
7.5 ₹ 7.0		Λ						
6.5		TWY						
6.0 2/15 2/17 2/19	9 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3/	11 3/13	3/15 3/17	3/19	
0.20		Specific Cond	luctivity		1			
0.15 0.10 0.05				 _		-		
E 0.05		WV	-					
2/15 2/17 2/	19 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9 3	/11 3/13	3/15 3/17	3/19	
SCDHEC in-stream sta	ndard: Daily average not less than 5 mg/L	with a low of 4 mg/L Dissolved	Oxygen			4 mg/L (SCDHEC L	ow Standard)	
13	~~^^^	AAA		~				
7/8 7 5					MAC	V		
2/15 2/17 2/	19 2/21 2/23 2/25	2/27 3/1 3/3	3/5 3/7	3/9	3/11 3/13	3/15 3/17	3/19	

Continuous Water Quality Monitoring Periodic Report

Smith Branch B (February 15, 2019 -- March 19, 2019)

Explanation of Statistics:

MINIMUM OBSERVED	The minimum of the values recorded by the datasonde in 15 minute intervals.
MAXIMUM OBSERVED	The maximum of the values recorded by the datasonde in 15 minute intervals.
MEDIAN OBSERVED	The median of all the values recorded by the datasonde in 15 minute intervals.
MEAN OBSERVED	The average of all the values recorded by the datasonde in 15 minute intervals.
STANDARD DEVIATION	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

Sampled Data:

Analyta	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (units)	3/1/2019		3/1/2019					
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	11:13	4374	12:23	2878				
Total Suspended Solids (mg/L)	11:13	12.3	12:23	45.7				
Total Phosphorus (mg/L)	11:13	0.057	12:23	0.096				
Total Nitrogen (mg/L)	11:13	1.51	12:23	1.68				

Note: