# Rocky Branch Monitoring Sites Monitoring Data Summary for November 1st, 2018 – December 5th, 2018

#### Data Gaps

- The ROCA station experienced several periods of noisy turbidity data, due to excessive buildup of sediment covering the turbidity sensor, which was deleted from the dataset.
- The ROCB station did not have any interruptions in the dataset during this deployment period.

#### SCDHEC Standards

- Both Rocky Branch monitoring stations did not record any pH values outside of the acceptable SCDHEC range of 6 to 8.5 during this monitoring period.
- The ROCA and ROCB stations recorded average DO concentrations of 8.3 mg/L and 9.2 mg/L, respectively, which are both above the SCDHEC daily average minimum standard of 5 mg/L.
- The minimum DO concentration recorded during this deployment period was 3.8 mg/L at ROCA and 7.4 mg/L at ROCB. The ROCA station recorded some low DO values below the SCDHEC discrete minimum standard of 4.0 mg/L, which occurred during the storm event on December 2<sup>nd</sup>.

#### Storm Events

- The ROCA station recorded 10 storm events during this monitoring period, resulting in 8.4 inches of total precipitation. The number of storms and amount of precipitation cannot be accurately computed for the ROCB station because of damage to the ROCB rain gauge (see further explanation in the *Potential Illicit Discharges and Abnormal Events* section below).
- Both ROCA and ROCB stations exhibited typical responses to storm events during this monitoring period.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inches) was approximately 8.4 days at the ROCA station prior to the November 23<sup>rd</sup> storm event. The ROCB rain gauge was damaged, which prevented the rain gauge from recording some storm events; therefore, an accurate length of dry time cannot be computed (see further explanation in the *Potential Illicit Discharges and Abnormal Events* section below).

#### Potential Illicit Discharges and Abnormal Events

- It was observed on the monitoring website that the ROCB rain gauge was not recording some of the storm events during this deployment period. A site visit to investigate this issue determined that the ROCB rain gauge was tampered with and caused damage to the gauge, which prevented the rain gauge from recording precipitation during some of the storm events. Action was taken immediately to fix the rain gauge.
- Abnormally high specific conductivity values were observed at the ROCA site on November 1<sup>st</sup>. This high specific conductivity could likely be from the Maxcy Gregg pool.

#### Flow Measurements

• No flow measurements were taken in the Rocky Branch watershed during this monitoring period.



# **Continuous Water Quality Monitoring Periodic Report**



### Rocky Branch A (November 1, 2018 -- December 5, 2018)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Rocky Branch	STAGE (FT):	1.3	7.4	1.4	1.4	0.4	
LOCATION:	Maxcy Gregg Park	TEMPERATURE						
ADDRESS:	1650 Park Circle Columbia, SC 29201	(°F):	46	71	62	62	4	
COORDINATES:	33.995864, -81.021842	TURBIDITY (NTU):	1	192	6	20	31	
TMDL/IMPAIRMENT:	Fecal Coliform	TOKBIDITT (NTO).	'	192	0	20	31	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.4	7.1	6.7	6.7	0.1	
SPATIAL LOCATION:	Most upstream site							
TOTAL NO. STORMS OVER 0.1 INCH:	10	SPECIFIC CONDUCTIVITY (mS/cm):	0.009	1.683	0.157	0.150	0.058	
MAX. DAILY RAINFALL:	2.7 inches	DISSOLVED						
TOTAL RAINFALL (FOR PERIOD):	8.4 inches	OXYGEN (mg/L):	3.8	11.7	8.4	8.3	0.9	
		Stage & Rain	nfall	•	•	•	•	
# 9 T							0 _1 .=	
<b>9</b> 6	1 1 1						1 2 3	
<b>x</b> 3				-A			3 2	
11/1 11/3 11/5	11/7 11/9 11/11 11/1	13 11/15 11/17 11/2	19 11/21 11,	/23 11/25 1	1/27 11/29	12/1 12/3	12/5	
		Water Te	тр					
75								
65								
# 55			~~~	رید	<b>\</b>	~~~		
55 45					<b>\</b>			
55	11/7 11/9 11/11 11/	13 11/15 11/17 11/	19 11/21 11	/23 11/25	11/27 11/29	12/1 12/3	12/5	
45	11/7 11/9 11/11 11/			/23 11/25	11/27 11/29	12/1 12/3	12/5	
55 45 11/1 11/3 11/5	11/7 11/9 11/11 11/	13 11/15 11/17 11/ Turbidi		/23 11/25	11/27 11/29	12/1 12/3	12/5	
55 45 11/1 11/3 11/5	11/7 11/9 11/11 11/			/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 150 100 50	11/7 11/9 11/11 11/			/23 11/25 :	11/27 11/29	12/1 12/3	12/5	
250 200 200 150 100		Turbidi	ty	/23 11/25 :	11/27 11/29	12/1 12/3	12/5	
250 200 100 100 0		Turbidi	ty					
55 45 11/1 11/3 11/5 250 200 150 11/1 11/3 11/ 7.2 7.0		Turbidi	ty					
250 200 200 11/1 11/3 11/5 250 100 50 0 11/1 11/3 11/3		Turbidi	ty					
250 200 200 150 11/1 11/3 11/5		Turbidi	ty					
250 200 200 150 150 0 11/1 11/3 11/5	5 11/7 11/9 11/11 12	Turbidi	y //19 11/21 1					
55 45 11/1 11/3 11/5 250 200 150 150 100 11/1 11/3 11/ 11/3 11/5	5 11/7 11/9 11/11 11/11 11/17 11/19 11/11 11/1	Turbidi	/19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 150 150 0 111/1 11/3 11/5 250 200 111/1 11/3 11/ 7.2 4 6.8 6.6 6.6 6.4 6.2 11/1 11/3 11/5	5 11/7 11/9 11/11 12	Turbidi 1/13 11/15 11/17 11 pH	/19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 150 150 0 111/1 11/3 11/5 250 200 111/1 11/3 11/ 7.2 4 6.8 6.6 6.6 6.4 6.2 11/1 11/3 11/5	5 11/7 11/9 11/11 11/11 11/17 11/19 11/11 11/1	Turbidi	/19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 111/1 11/3 11/5 250 200 150 150 111/1 11/3 11/ 2.0 For scaling purposes, the	5 11/7 11/9 11/11 11/11 11/17 11/19 11/11 11/1	Turbidi	/19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 200 100 100 100 11/1 11/3 11/5 250 100 11/1 11/3 11/3 11/5 200 11/1 11/3 11/3 11/5 200 11/1 11/3 11/5	5 11/7 11/9 11/11 12 11/7 11/9 11/11 11, maximum SC (1.88 mS/cm) on 7/5/2018	Turbidi  1/13 11/15 11/17 12  pH  1/13 11/15 11/17 11  is not displayed. Specific Con	/19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
55 45 11/1 11/3 11/5 250 200 150 100 50 0 11/1 11/3 11/5 For scaling purposes, the 2.0 11/1 11/3 11/5 SCDHEC in-stream stan	11/7 11/9 11/11 11/11 11/17 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/19 11/19 11/11 11/19 11	Turbidi  pH  //13 11/15 11/17 11  is not displayed. Specific Cor  1/13 11/15 11/17 1	/19 11/21 1 /19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 150 150 150 150 111/1 11/3 11/5 250 150 150 111/1 11/3 11/5 For scaling purposes, the 2.0 11/1 11/3 11/5 SCDHEC in-stream stan 11	5 11/7 11/9 11/11 12 11/7 11/9 11/11 11, maximum SC (1.88 mS/cm) on 7/5/2018	Turbidi  pH  //13 11/15 11/17 11  is not displayed. Specific Cor  1/13 11/15 11/17 1	/19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3 12/1 12/3	12/5	
250 200 100 11/1 11/3 11/5 250 200 11/1 11/3 11/5 250 100 11/1 11/3 11/5 200 11/1 11/3 11/5 200 11/1 11/3 11/5	11/7 11/9 11/11 11/11 11/17 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/19 11/19 11/11 11/19 11	Turbidi  pH  //13 11/15 11/17 11  is not displayed. Specific Cor  1/13 11/15 11/17 1	/19 11/21 1 /19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3 12/1 12/3	12/5	
250 200 150 150 150 150 111/1 11/3 11/5 250 150 150 111/1 11/3 11/5 For scaling purposes, the 2.0 11/1 11/3 11/5 SCDHEC in-stream stan 11	11/7 11/9 11/11 11/11 11/17 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/17 11/19 11/11 11/19 11/19 11/11 11/19 11	Turbidi  pH  //13 11/15 11/17 11  is not displayed. Specific Cor  1/13 11/15 11/17 1	/19 11/21 1 /19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3 12/1 12/3	12/5	

# Continuous Water Quality Monitoring Periodic Report

Rocky Branch A (November 1, 2018 -- December 5, 2018)

# **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:**

Analyta	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (units)	11/20/2018							
(units)	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	10:29	104						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note:

Both samples collected were collected during dry weather conditions.



# **Continuous Water Quality Monitoring Periodic Report**



### Rocky Branch B (November 1, 2018 -- December 5, 2018)

		CONTINUOUS	SUMMARY STATISTICS					
PARAMETER	DESCRIPTION	WATER QUALITY PARAMETERS:	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION	
STREAM NAME:	Rocky Branch	STAGE (FT):	3.4	9.3	3.5	3.6	0.5	
LOCATION:	Olympia Ave Crossing						_	
ADDRESS:	510 Heyward St Columbia, SC 29201	TEMPERATURE (°F):	47	70	59	59	5	
COORDINATES:	33.982578, -81.035036	TURBIDITY (NTU):	1	220	4	13	21	
TMDL/IMPAIRMENT:	Fecal Coliform	TOKBIBITT (NTO).	·	220	7	10	21	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.4	7.4	7.1	7.1	0.2	
SPATIAL LOCATION:	Most Downstream Site		0.1	7.1	7.1	7.1	0.2	
TOTAL NO. STORMS OVER 0.1 INCH:	6	SPECIFIC CONDUCTIVITY (mS/cm):	0.015	0.287	0.181	0.170	0.048	
MAX. DAILY RAINFALL: TOTAL RAINFALL (FOR	2.8 inches	DISSOLVED OXYGEN (mg/L):	7.4	11.6	9.3	9.2	0.8	
PERIOD):		Stage & Rainf		ļ	ļ	<u> </u>	<u> </u>	
12 9 9 6 6 3 11/1 11/3 11/5	11/7 11/9 11/11 11/	13 11/15 11/17 11/19	9 11/21 11,	/23 11/25 1	1/27 11/29	12/1 12/3	0.0 1.5 3.0 4.5	
75 65 55		Water Tem	ip .					
65	11/7 11/9 11/11 11/		~~~	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
65 55 45 11/1 11/3 11/5	11/7 11/9 11/11 11/		19 11/21 11	1/23 11/25	11/27 11/29	12/1 12/3	12/5	
65 55 45		/13 11/15 11/17 11/1  Turbidity	9 11/21 11	1/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 250 200 200 200 11/1 11/3 11/5		/13 11/15 11/17 11/1  Turbidity	9 11/21 11					
250 250 250 100 50		713 11/15 11/17 11/17 Turbidity 1/13 11/15 11/17 11,	9 11/21 11					
250 200 11/1 11/3 11/5 250 150 11/1 11/3 11/5	/5 11/7 11/9 11/11 1	713 11/15 11/17 11/17 Turbidity 1/13 11/15 11/17 11,	/19 11/21 11					
250 250 250 250 250 250 250 250 250 250	/5 11/7 11/9 11/11 1	713 11/15 11/17 11/13  Turbidity  11/13 11/15 11/17 11,	/19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 250 200 200 11/1 11/3 11/5 250 200 11/1 11/3 11/3 11/5	/5 11/7 11/9 11/11 1	/13 11/15 11/17 11/17  Turbidity  1/13 11/15 11/17 11,  pH  /13 11/15 11/17 11/	/19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 200 11/1 11/3 11/5 250 200 11/1 11/3 11/5 7.8 7.4 7.4 7.0 6.6 6.2 11/1 11/3 11/5	11/7 11/9 11/11 11	/13 11/15 11/17 11/17  Turbidity  1/13 11/15 11/17 11,  pH  /13 11/15 11/17 11/	/19 11/21 1 /19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
250 200 200 200 200 200 200 200 200 200	15 11/7 11/9 11/11 1	/13 11/15 11/17 11/17  Turbidity  1/13 11/15 11/17 11,  pH  /13 11/15 11/17 11/	19 11/21 11 19 11/21 1 19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
7.8 11/1 11/3 11/5 250 200 150 100 50 11/1 11/3 11/5 100 11/1 11/3 11/5 100 11/1 11/3 11/5	75 11/7 11/9 11/11 1 11/7 11/9 11/11 11 5 11/7 11/9 11/11 1:	/13 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11	19 11/21 11 19 11/21 1 19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
7.8 11/1 11/3 11/5 250 250 250 250 250 250 250 25	15 11/7 11/9 11/11 1	713 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11	19 11/21 11 19 11/21 1 19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	
7.8 11/1 11/3 11/5 250 200 11/1 11/3 11/5 11/1 11/3 11/5 11/1 11/3 11/5 11/1 11/3 11/5	75 11/7 11/9 11/11 1 11/7 11/9 11/11 11 5 11/7 11/9 11/11 1:	/13 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11/17 11/17 11/13 11/15 11/17 11	19 11/21 11 19 11/21 1 19 11/21 1	11/23 11/25	11/27 11/29	12/1 12/3	12/5	

# Continuous Water Quality Monitoring Periodic Report

Rocky Branch B (November 1, 2018 -- December 5, 2018)

# **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)	11/20/2018							
(units)	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	10:14	290						
Total Suspended Solids (mg/L)								
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note:

Both samples collected were collected during dry weather conditions.