

# Smith Branch Monitoring Sites

## Monitoring Data Summary for December 12<sup>th</sup>, 2019 – January 16<sup>th</sup>, 2020

### *Data Gaps*

- The SMIA station experienced a brief period of turbidity sensor fouling on December 29<sup>th</sup>-30<sup>th</sup>. This period of turbidity data was removed from the dataset.
- The SMIB station did not experience any interruptions in the dataset during this monitoring period.
- There is a brief data gap in the CS451 stage data due to the datalogger being reset at the SMIA station on January 2<sup>nd</sup> which resulted in no CS451 stage data recorded during that time.

### *SCDHEC Standards*

- The SMIA and SMIB stations did not record any pH values outside of the acceptable SCDHEC range of 6 to 8.5.
- The SMIA station recorded an average DO concentration of 9.9 mg/L and the SMIB station recorded an average DO concentration of 10.1 mg/L, which are both above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentration recorded at the SMIA station was 8.3 mg/L and 7.6 mg/L at the SMIB station, which are above the SCDHEC discrete minimum standard of 4 mg/L.

### *Storm Events*

- The SMIA rain gauge recorded 9 storms (at least 0.1 inches) in this monitoring period resulting in 12.2 inches of precipitation. The SMIB rain gauge recorded 9 storms (at least 0.1 inches) resulting in 12 inches of precipitation.
- The SMIA monitoring station 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 7.7 days at the SMIA station and 8.2 days at the SMIB station, occurring prior to the January 12<sup>th</sup> storm event.

### *Potential Illicit Discharges and Abnormal Events*

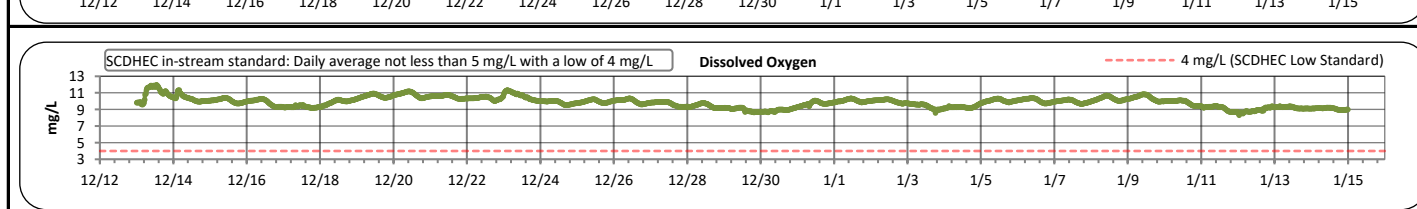
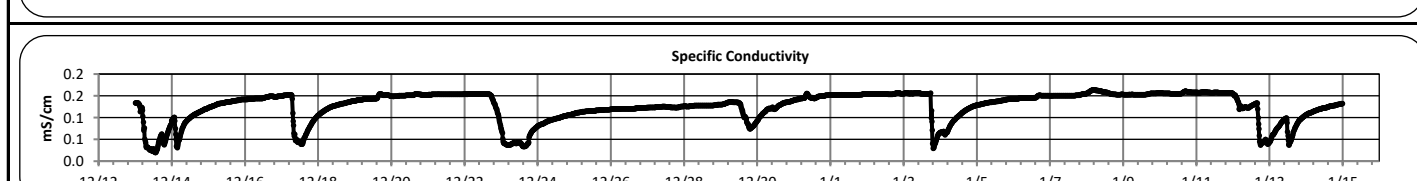
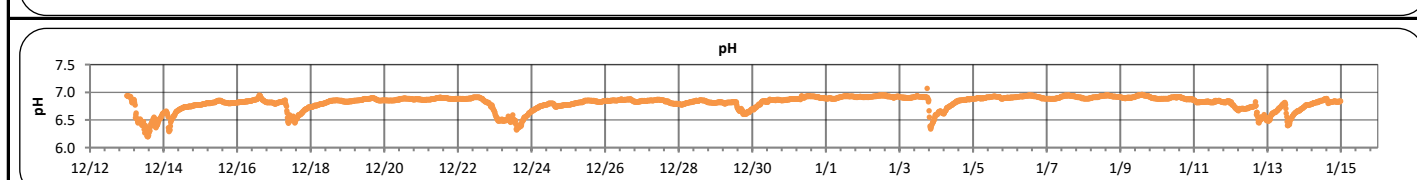
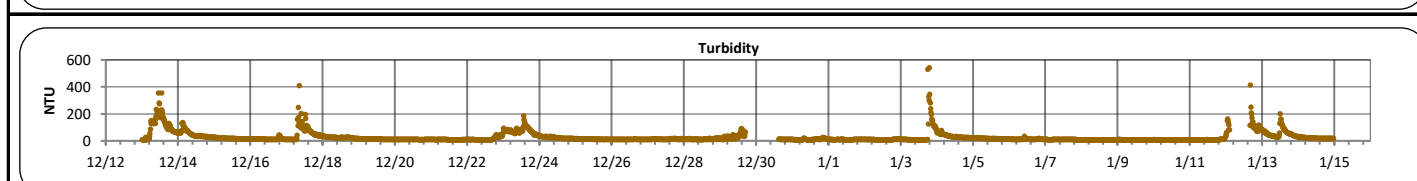
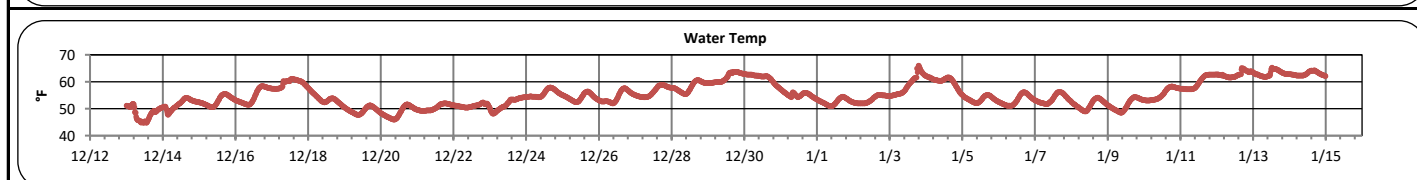
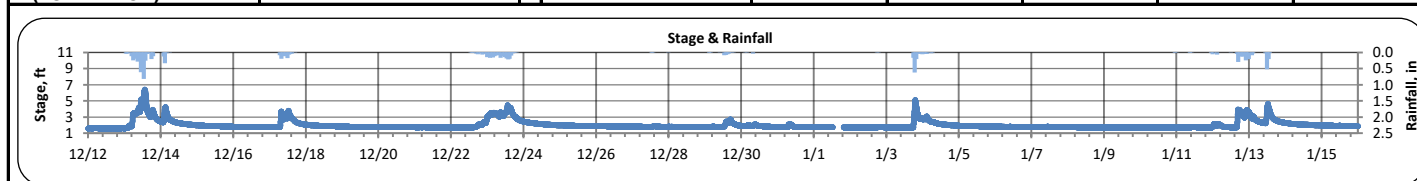
- There were no potential illicit discharges or abnormal events observed at the SMIA station during this monitoring period.

### *Flow Measurements*

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

Smith Branch A (December 12, 2019 - January 16, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	1.6	6.4	1.8	2.0	0.5
LOCATION:	Earlewood Park	TEMPERATURE (°F):	45	66	54	55	5
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TURBIDITY (NTU):	6	543	13	27	39
COORDINATES:	34.027289,-81.04265	pH:	6.2	7.1	6.9	6.8	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.020	0.164	0.136	0.127	0.033
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	8.3	12.0	10.0	9.9	0.6
SPATIAL LOCATION:	Most upstream site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	3.9 inches						
TOTAL RAINFALL (FOR PERIOD):	12.2 inches						



Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

**Continuous Water Quality  
Monitoring Periodic Report**

**Smith Branch A (December 12, 2019 - January 16, 2020)**

**Explanation of Statistics:**

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

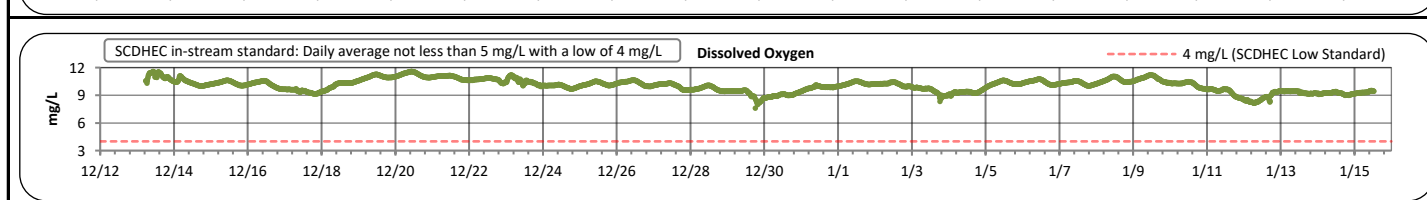
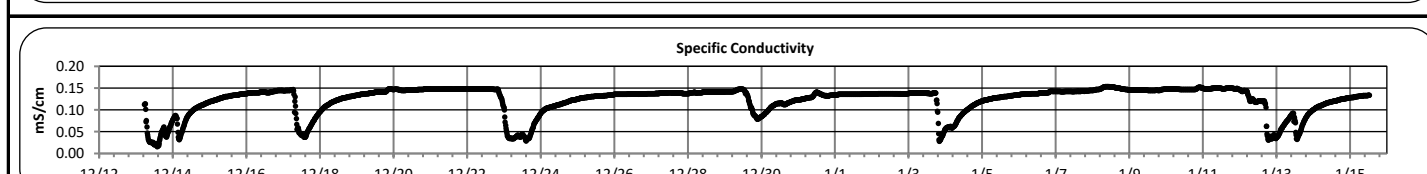
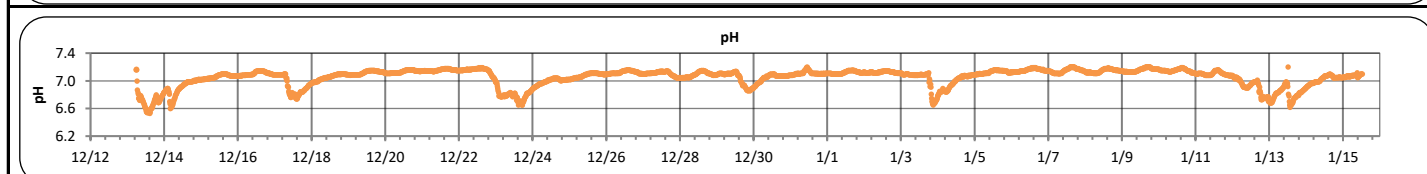
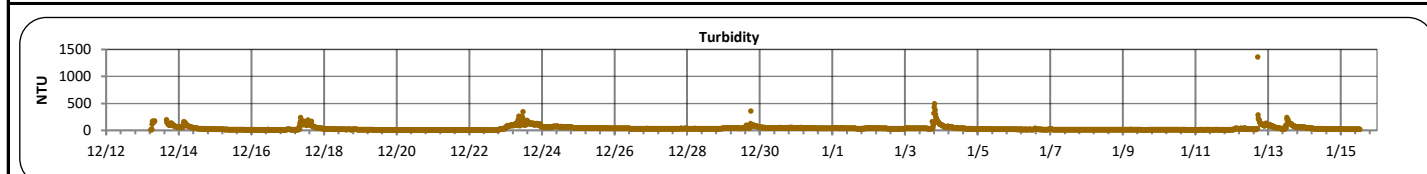
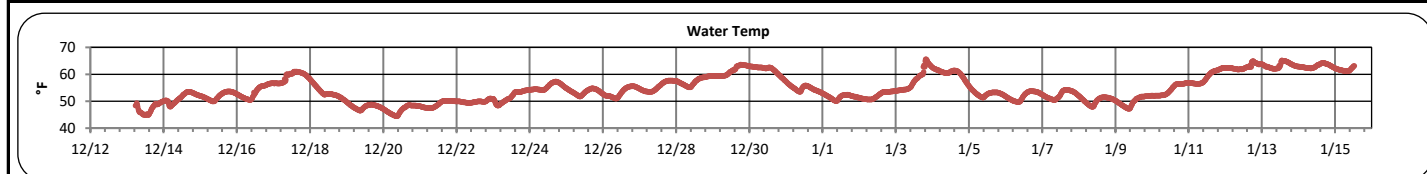
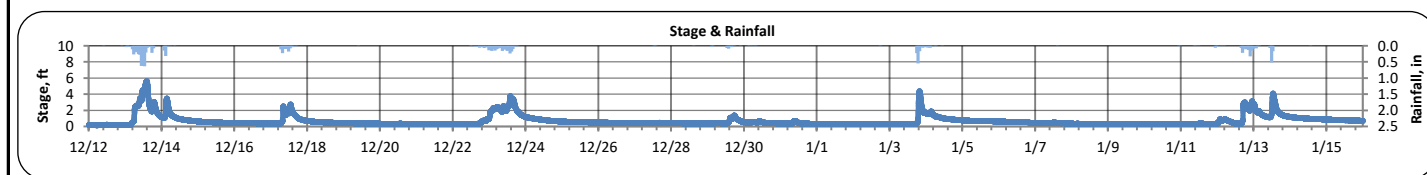
**Grab Sample Data:**

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	12/20/2019		1/13/2020		1/13/2020		1/13/2020	
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	11:52	168	10:50	3,106	13:10	7308	15:00	5510
Total Suspended Solids (mg/L)			10:50	12.8	13:10	118	15:00	59
Total Phosphorus (mg/L)			10:50	0.062	13:10	0.16	15:00	0.12
Total Nitrogen (mg/L)			10:50	1.22	13:10	0.91	15:00	1.08

Note: Sample 1 was collected during dry weather conditions. Samples 2, 3, and 4 were collected during wet weather conditions.

Smith Branch B (December 12, 2019 - January 16, 2020)

PARAMETER	DESCRIPTION	CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
			MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STREAM NAME:	Smith Branch	STAGE (FT):	0.2	5.6	0.5	0.7	0.7
LOCATION:	Off Mountain Drive	TEMPERATURE (°F):	44	66	54	55	5
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203	TURBIDITY (NTU):	7	1366	33	39	43
COORDINATES:	34.037933,-81.0591	pH:	6.5	7.2	7.1	7.1	0.1
TMDL/IMPAIRMENT:	Fecal Coliform	SPECIFIC CONDUCTIVITY (mS/cm):	0.016	0.154	0.136	0.123	0.031
NEIGHBORING LANDUSE:	Residential and commercial	DISSOLVED OXYGEN (mg/L):	7.6	11.6	10.2	10.1	0.7
SPATIAL LOCATION:	Most Downstream Site						
TOTAL NO. STORMS OVER 0.1 INCH:	9						
MAX. DAILY RAINFALL:	3.9 inches						
TOTAL RAINFALL (FOR PERIOD):	12.0 inches						



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**Continuous Water Quality  
Monitoring Periodic Report**

**Smith Branch B (December 12, 2019 - January 16, 2020)**

**Explanation of Statistics:**

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<b>MEAN OBSERVED</b>	The average of all the values recorded by the datasonde in 15 minute intervals.
<b>STANDARD DEVIATION</b>	The standard deviation of all the values recorded by the datasonde in 15 minute intervals.

**Sampled Data:**

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	1/13/2020		1/13/2020		1/13/2020			
	Time	Result	Time	Result	Time	Result	Time	Result
<i>Escherichia coli</i> (MPN/100mL)	11:15	4,764	13:30	7308	15:15	6896		
Total Suspended Solids (mg/L)	11:15	56	13:30	180	15:15	107		
Total Phosphorus (mg/L)	11:15	0.1	13:30	0.2	15:15	0.14		
Total Nitrogen (mg/L)	11:15	1.23	13:30	0.18	15:15	1.17		

Note: All samples were taken during wet weather conditions.