Smith Branch Monitoring Sites
Monitoring Data Summary for
April 25th, 2019 – June 18th, 2019

Data Gaps

- The SMIA turbidity sensor became fouled for a brief period between May 16th-20th that was removed from the dataset.
- There are several gaps in the SMIB data. The reasons for these gaps are explained below:
    - The SMIB specific conductivity and temperature sensors became unsubmerged from May 14th to June 6th. During this period, the specific conductivity and temperature data was deleted, as well as the pH and DO data which are temperature-dependent parameters.
    - Several periods of turbidity data were deleted due to sensor fouling.
    - Several periods of specific conductivity were deleted because the sensor became unsubmerged from the water.
- The website experienced reporting issues with the CS451 pressure transducers at ROCA and ROCB from May 18th-19th, therefore no CS451 stage data was recorded during that brief 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 7.3 mg/L and 7.8 mg/L, respectively, which are both well above the SCDHEC daily average standard of 5 mg/L.
- The minimum DO concentrations recorded at both SMIA and SMIB were 4.5 mg/L and 6.0 mg/L, respectively, which are well above the SCDHEC discrete minimum standard of 4 mg/L.

Storm Events

- The SMIA station recorded 5 storms (at least 0.1 inches) in this monitoring period resulting in 3.3 inches of precipitation. The SMIB station also recorded 5 storms (at least 0.1 inches) resulting in 3.8 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 24.5 days in the Smith Branch watershed, occurring prior to the June 5th storm event.

Potential Illicit Discharges and Abnormal Events

- The SMIA turbidity data increased on May 13th-15th and May 21st-23rd that do not appear to be driven by storm events. No other water quality parameters were impacted during these times, so it is possible that these increases may have been caused by construction in the area upstream of the SMIA station.
- There were no potential illicit discharges in the Smith Branch watershed during this monitoring period.

Flow Measurements

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

City of Columbia, SC Stormwater Management — Partnering for clean waterways

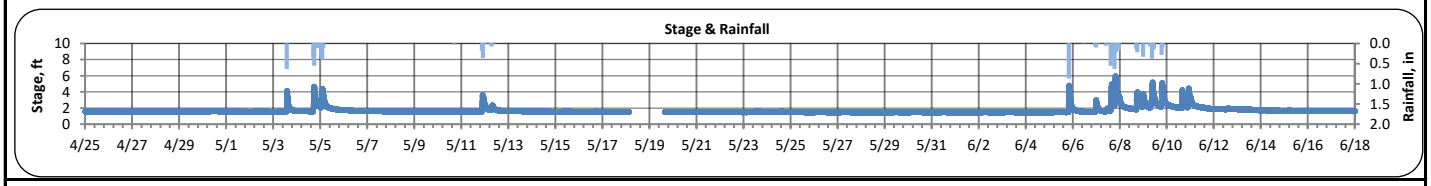
Continuous Water Quality Monitoring Periodic Report

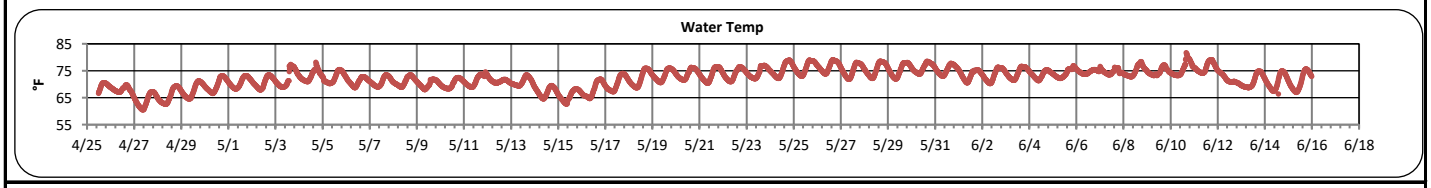
WOOLPERT

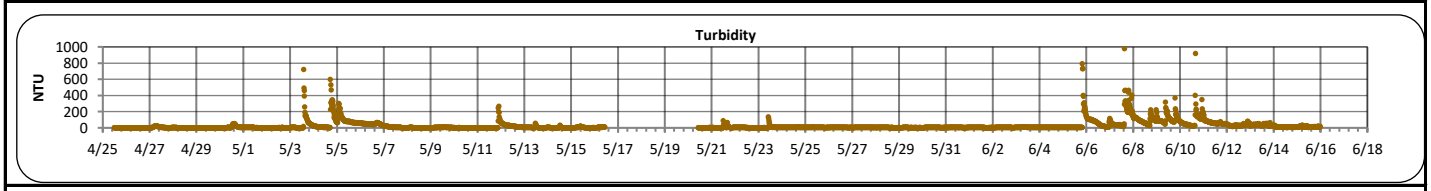
Smith Branch A (April 25, 2019 -- June 18, 2019)

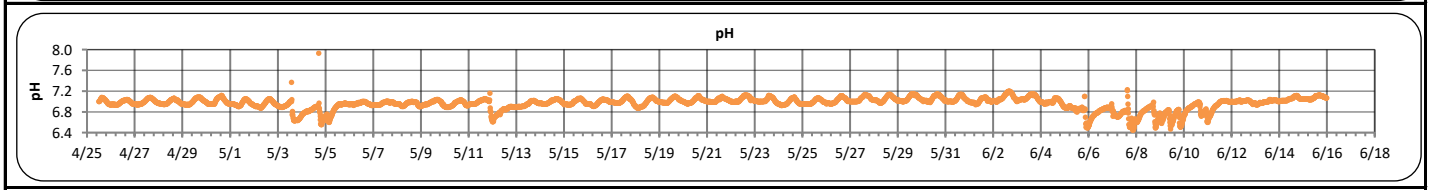
PARAMETER	DESCRIPTION
STREAM NAME:	Smith Branch
LOCATION:	Earlewood Park
ADDRESS:	1111 Parkside Dr Columbia, SC 29201
COORDINATES:	34.027289,-81.04265
TMDL/IMPAIRMENT:	Fecal Coliform
NEIGHBORING LANDUSE:	Residential and commercial
SPATIAL LOCATION:	Most upstream site
TOTAL NO. STORMS OVER 0.1 INCH:	5
MAX. DAILY RAINFALL:	1.1 inches
TOTAL RAINFALL (FOR PERIOD):	3.3 inches

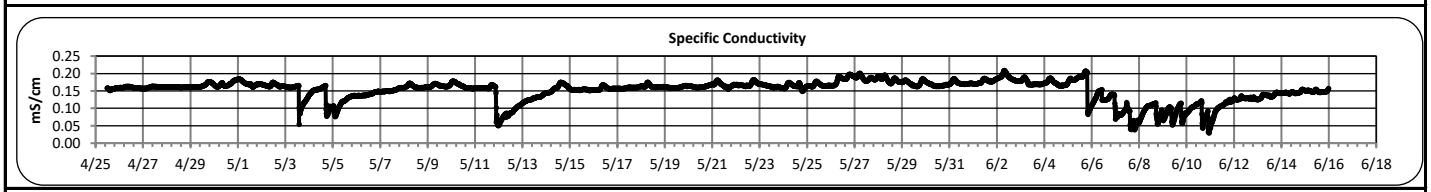
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	1.4	4.7	1.6	1.6	0.2
TEMPERATURE (°F):	61	82	73	72	4
TURBIDITY (NTU):	2	980	6	26	57
pH:	6.5	7.9	7.0	7.0	0.1
SPECIFIC CONDUCTIVITY (mS/cm):	0.030	0.209	0.161	0.152	0.030
DISSOLVED OXYGEN (mg/L):	4.5	8.8	7.4	7.3	0.6

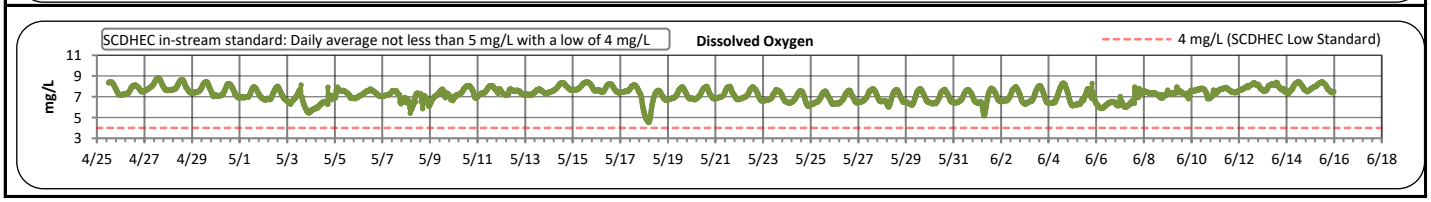












Note: Data gaps appear when the sonde is removed for calibration or when the flow depth is below the sensors

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Continuous Water Quality
Monitoring Periodic Report

Smith Branch A (April 25, 2019 -- June 18, 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	
	5/20/2019		6/10/2019		6/10/2019			
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	14:36	290	15:15	3440	15:55	16330		
Total Suspended Solids (mg/L)	14:36	1.5	15:15	401	15:55	374		
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

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

City of Columbia, SC Stormwater Management
Partnering for clean waterways

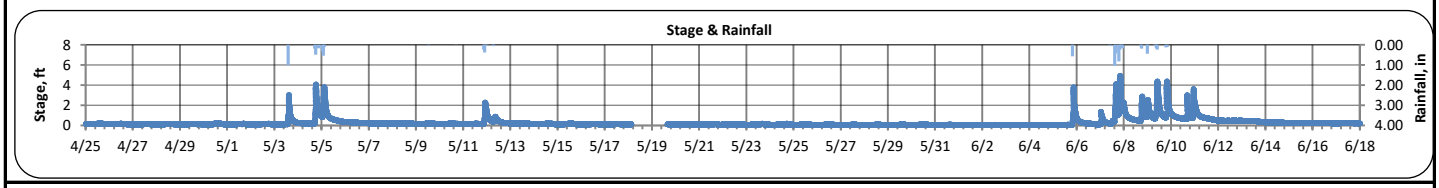
Continuous Water Quality Monitoring Periodic Report

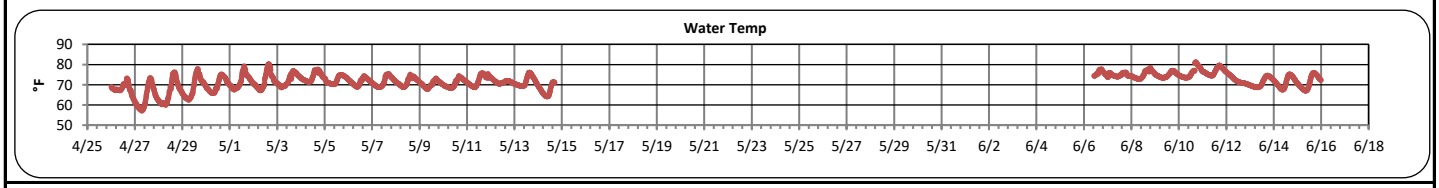
WOOLPERT

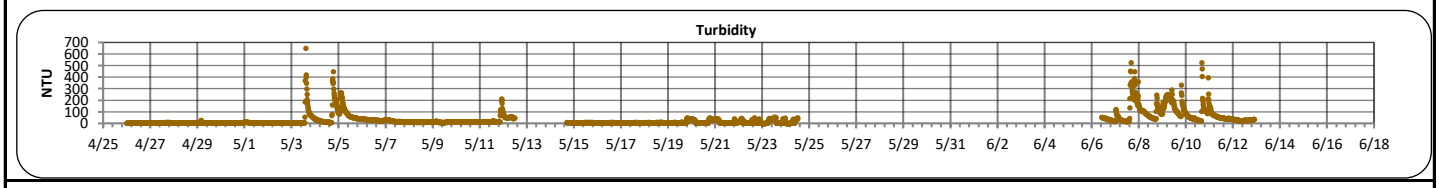
Smith Branch B (April 25, 2019 -- June 18, 2019)

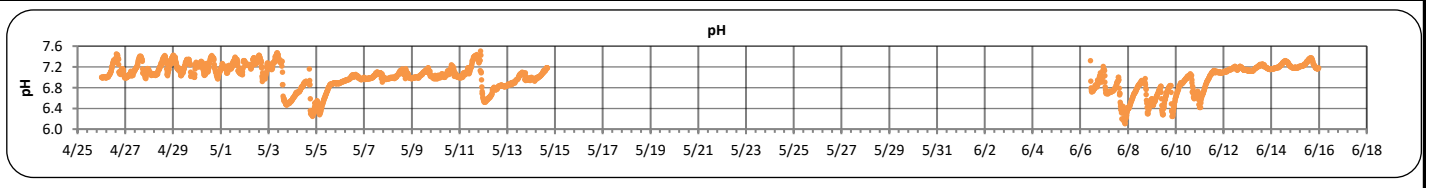
PARAMETER	DESCRIPTION
STREAM NAME:	Smith Branch
LOCATION:	Off Mountain Drive
NEAREST ADDRESS:	3950 Clement Rd Columbia, SC 29203
COORDINATES:	34.037933,-81.0591
TMDL/IMPAIRMENT:	Fecal Coliform
NEIGHBORING LANDUSE:	Residential and commercial
SPATIAL LOCATION:	Most Downstream Site
TOTAL NO. STORMS OVER 0.1 INCH:	5
MAX. DAILY RAINFALL:	1.0 inches
TOTAL RAINFALL (FOR PERIOD):	3.8 inches

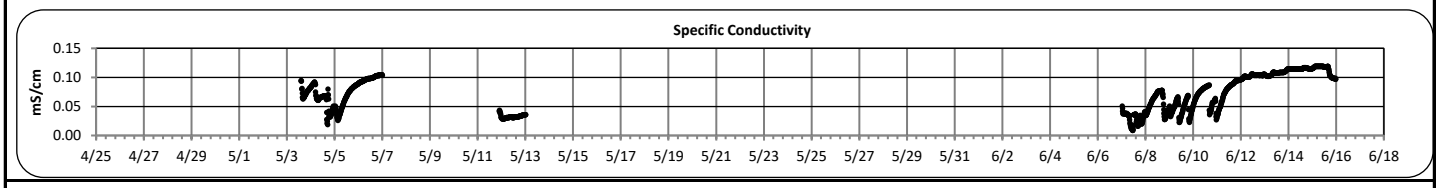
CONTINUOUS WATER QUALITY PARAMETERS:	SUMMARY STATISTICS				
	MINIMUM OBSERVED	MAXIMUM OBSERVED	MEDIAN OBSERVED	MEAN OBSERVED	STANDARD DEVIATION
STAGE (FT):	0.03	4.1	0.1	0.2	0.3
TEMPERATURE (°F):	57	81	72	72	4
TURBIDITY (NTU):	1	650	10	32	59
pH:	6.1	7.5	7.1	7.0	0.3
SPECIFIC CONDUCTIVITY (mS/cm):	0.009	0.120	0.082	0.076	0.031
DISSOLVED OXYGEN (mg/L):	6.0	9.6	7.8	7.8	0.6

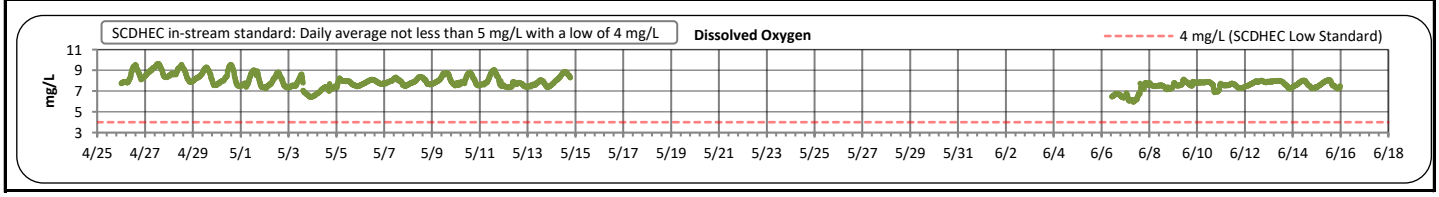












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Sampled Data:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	6/10/2019							
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	16:17	8704						
Total Suspended Solids (mg/L)	16:17	660						
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: This sample was collected during wet weather conditions.