# Smith Branch Monitoring Sites Monitoring Data Summary for March 21<sup>st</sup>, 2019 – April 24<sup>th</sup>, 2019

### Data Gaps

- Several brief periods of data were removed at the SMIA station, as described below:
  - The turbidity, DO, and pH sensors became buried in sediment and pollen on March 26<sup>th</sup> and was cleared up after maintenance was performed during a visit to the station on March 28<sup>th</sup>.
  - $\circ$  The datasonde became buried for a few hours on April 9<sup>th</sup>, impacting the turbidity and DO readings during that time.
- Several brief periods of data were removed at the SMIB station, as described below:
  - The DO sensor was likely covered in pollen from March 26<sup>th</sup>-28<sup>th</sup>, causing the sensor to read incorrect values.
  - The turbidity readings did not follow typical storm response patterns on April 5<sup>th</sup>-10<sup>th</sup>, likely due to sensor fouling, so this period of turbidity data was deleted.
  - The specific conductivity sensor was unsubmerged from April 17<sup>th</sup>-19<sup>th</sup>.

### 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 8.0 mg/L and 8.8 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 5.8 mg/L and 6.6 mg/L, respectively, which are well above the SCDHEC discrete minimum standard of 4 mg/L.

#### Storm Events

- The SMIA station recorded 9 storms (at least 0.1 inches) in this monitoring period resulting in 2.8 inches of precipitation. The SMIB station recorded 8 storms (at least 0.1 inches) resulting in 3.1 inches of precipitation.
- The Smith Branch monitoring stations both recorded typical water quality storm responses to most of the storm events that occurred during this monitoring period. Turbidity did not respond as it usually does to the storm events on April 5<sup>th</sup> and April 9<sup>th</sup>, likely due to sensor fouling, so this data was removed from the final dataset.
- The maximum antecedent dry time since the last significant precipitation event (at least 0.1 inch) was approximately 16.5 days in the Smith Branch watershed, which occurred prior to the March 25<sup>th</sup> storm event.

#### 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.





### Smith Branch A (March 21, 2019 -- April 24, 2019)



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

### Smith Branch A (March 21, 2019 -- April 24, 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	
	4/22/2019							
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	14:36	104						
Total Suspended Solids (mg/L)	14:36	3						
Total Phosphorus (mg/L)								
Total Nitrogen (mg/L)								

Note: These samples were collected during dry weather conditions.





#### Smith Branch B (March 21, 2019 -- April 24, 2019)



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

### Smith Branch B (March 21, 2019 -- April 24, 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:

Analyte (units)	Sample 1		Sample 2		Sample 3		Sample 4	
	4/2/2019		4/2/2019					
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	8:42	11590	9:41	6152				
Total Suspended Solids (mg/L)	8:42	191	9:41	223				
Total Phosphorus (mg/L)	8:42	0.49	9:41	0.38				
Total Nitrogen (mg/L)	8:42	3.09	9:41	2.32				

Note: Samples were collected during a wet weather event.