## Smith Branch Monitoring Sites Monitoring Data Summary for April 30<sup>th</sup>, 2020 – June 3<sup>rd</sup>, 2020

#### Data Gaps

- The SMIA station experienced a brief period of fouling turbidity data from May 21st-22nd so this period was removed from the dataset. The DO sensor had multiple brief gaps in reporting from May 26th-30th.
- The SMIB station experienced fouling turbidity data on May 19<sup>th</sup>. This period of data was removed from the dataset. The SMIB DO and turbidity sensors became buried in sediment from May 23<sup>rd</sup>-27<sup>th</sup> which resulted in invalid DO and turbidity readings. This period of data was removed from the dataset. The SMIB sonde specific conductivity sensor experienced fouling from May 1<sup>st</sup>-18<sup>th</sup>. This period of data was removed from the dataset.
- At the SMIA station, the pressure transducer and rain gauge did not start reporting until May 22<sup>nd</sup>, so stage and rainfall data was not available before that date.

#### 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 7.9 mg/L and the SMIB station recorded an average DO concentration of 8.4 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 6.0 mg/L and 4.6 mg/L at the SMIB station, which are above the SCDHEC discrete minimum standard of 4 mg/L.

#### Storm Events

- The SMIA rain gauge did not record rainfall during the entire monitoring period. The SMIB rain gauge recorded 14 storms (at least 0.1 inches) resulting in 8.8 inches of precipitation.
- The SMIA and SMIB monitoring stations recorded typical water quality responses to the storm events observed during this monitoring period.

### Potential Illicit Discharges and Abnormal Events

 There were no potential illicit discharges or abnormal events observed at the SMIA and SMIB stations 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 (April 30, 2020 - June 3, 2020)

		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	6.2	1.8	2.0	0.5	
LOCATION:	Earlewood Park							
ADDRESS:	1111 Parkside Dr Columbia, SC 29201	TEMPERATURE (°F):	58	79	69	68	4	
COORDINATES:	34.027289,-81.04265	TURBIDITY (NTU):	2	643	10	21	39	
TMDL/IMPAIRMENT:	Fecal Coliform	TONDIDITY (ICTO).	۷	040	10	21	55	
NEIGHBORING LANDUSE:	Residential and commercial	pH:	6.4	7.4	7.0	6.9	0.1	
SPATIAL LOCATION:	Most upstream site	<b>P</b>	0.1	7.1	7.0	0.0	0.1	
TOTAL NO. STORMS OVER 0.1 INCH:	4	SPECIFIC CONDUCTIVITY (mS/cm):	0.029	0.161	0.141	0.130	0.025	
MAX. DAILY RAINFALL:	2.0 inches	DISSOLVED						
TOTAL RAINFALL (FOR PERIOD):	4.9 inches	OXYGEN (mg/L):	6.0	9.4	7.9	7.9	0.6	
		Stage & Rain	fall	•	•	•		
<b>≠</b> 9				1 1			0.0	
# 9 6 6 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9						V	1.0 1.5	
0 +				•			2.0	
4/30 5/2 5/4	5/6 5/8 5/10 5/	12 5/14 5/16 5/18	5/20 5/	22 5/24 5	5/26 5/28	5/30 6/1	6/3	
		Water Ten	пр					
80 75 70 65	A A .		A 4	INN		7 1 1 N		
₽ 70 65	V O V V			<del>70 ~ ·</del>				
60 55	***************************************							
4/30 5/2 5/4	5/6 5/8 5/10 5,	/12 5/14 5/16 5/18	3 5/20 5/	/22 5/24	5/26 5/28	5/30 6/1	6/3	
		Turbidit	<i>y</i>					
800				•				
PH 400 - 200 -								
0	A 5/6 5/0 5/10	5/42	5/20	5/22 5/24	F/26 F/20	5/20 6/4	6/2	
4/30 5/2 5/	4 5/6 5/8 5/10	5/12 5/14 5/16 5/	18 5/20	5/22 5/24	5/26 5/28	5/30 6/1	6/3	
7.4		рН						
7.4 7.2 <b>x</b> 7.0		~~~	Λ :					
± 7.0 6.8 6.6	4,000							
6.4 4/30 5/2 5/4	5/6 5/8 5/10 5	//12 5/14 5/16 5/	18 5/20 !	5/22 5/24	5/26 5/28	5/30 6/1	6/3	
4,30 3/2 5/4			3,20	3,22 3,24	3,20 3,20	3,30 0,1		
0.20		Specific Con-	ductivity					
8 0.15 0.10 0.05		<del></del>				70	-	
	<b>y</b>		VV	- W -		VV		
0.00 <del>                                  </del>	5/6 5/8 5/10	5/12 5/14 5/16 5/	/18 5/20	5/22 5/24	5/26 5/28	5/30 6/1	6/3	
//-								
	dead Better and the state of th					1 m/1 /ccc	our Character 15	
SCDHEC in-stream stan	dard: Daily average not less than 5 mg/L v	with a low of 4 mg/L Dissolve	d Oxygen			4 mg/L (SCDHEC	Low Standard)	
SCDHEC in-stream stan	dard: Daily average not less than 5 mg/L	with a low of 4 mg/L Dissolve	d Oxygen	~~~		4 mg/L (SCDHEC	Low Standard)	
SCDHEC in-stream stan			d Oxygen //18 5/20	5/22 5/24	5/26 5/28	4 mg/L (SCDHEC	Low Standard)	

# Continuous Water Quality Monitoring Periodic Report

Smith Branch A (April 30, 2020 - June 3, 2020)

# **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:**

Analyto	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5	
Analyte (units)	5/20/2020		5/20/2020		5/20/2020					
	Time	Result	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	10:27	6152	11:50	4,374	13:02	6152				
Total Suspended Solids (mg/L)	10:27	18.7	11:50	29.5	13:02	24.2				
Total Phosphorus (mg/L)			11:50	0.09	13:02	0.072				
Total Nitrogen (mg/L)			11:50	0.99	13:02	1.41				

Note: All samples were collected during wet weather conditions.



# Continuous Water Quality Monitoring Periodic Report



### Smith Branch B (April 30, 2020 - June 3, 2020)

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: SPATIAL LOCATION: Most Downstream Site  PARAMETERS: OBSERVED OBSERVED OBSERVED DECEMBER OF SUBJECT O	0.5 5 40 0.2 0.027 0.8 0.5 1.0
Temperature (*f): 54	0.02 0.027 0.8
TEMPERATURE (*F): 54	0.0 0.027 0.8
NEAREST ADDRESS: 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: 14  MAX. DAILY RAINFALL: 2.2 inches TOTAL RAINFALL (FOR PERIOD):  Stage & Rainfall  Stage & Rainfall  Water Temp  Water Temp  Water Temp  Water Temp  Turbidity  Turbidity  Turbidity  Turbidity  Turbidity	0.0 0.027 0.8
TURBIDITY (NTU):   2   547   6   20	0.2 0.027 0.8
TMDL/IMPAIRMENT:   Fecal Coliform   Residential and commercial   PH:   6.1   7.7   7.0   7.0	0.2 0.027 0.8
PH:   6.1   7.7   7.0   7.0	0.027 0.8
SPATIAL LOCATION:   Most Downstream Site   SPECIFIC   CONDUCTIVITY   (mS/cm):   DISSOLVED OXYGEN   4.6   10.6   8.3   8.4	0.027 0.8
TOTAL RAINFALL:   2.2 inches   DISSOLVED OXYGEN   4.6   10.6   8.3   8.4	0.8 0.0 0.5 = 1.0
TOTAL RAINFALL (FOR PERIOD):  Stage & Rainfall  Water Temp  Water Temp  Turbidity  Turbidity  Turbidity  Turbidity	0.0 0.5 1.0 0.5
TOTAL RAINFALL (FOR PERIOD):    Stage & Rainfall	0.0 0.5 1.0 0.5
Stage & Rainfall  Water Temp  Water Temp  Turbidity  Turbidity	0.5 £
Water Temp  Water Temp  Turbidity  Turbidity	0.5 £
4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/3  Water Temp  **Turbidity**	1.0
4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/3  Water Temp  **Turbidity**	1.5 6
Water Temp  80  70  60  4/30  5/2  5/4  5/6  5/8  5/10  5/12  5/14  5/16  5/18  5/20  5/22  5/24  5/26  5/28  5/30  6/1  6/3	2.0
80 70 60 4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/3 Turbidity	
Turbidity  Turbidity	
Turbidity  E 300 100 100 100 100 100 100 100 100 100	
4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/3  Turbidity  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	_
Turbidity  0 200 100 100 100 100 100 100 100 100 10	<u>,  </u>
900 000 000 000 000 000 000 000 000 000	, 
4/30 3/2 3/4 3/0 3/0 3/12 3/14 3/10 3/10 3/20 3/20 3/20 3/20 3/20 3/20 3/20 3/2	/2
рн	
8.0 7.5	
¥ 7.0	
6.0 4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/	/3
4/30 3/2 3/4 3/0 3/10 3/10 3/12 3/14 3/10 3/20 3/20 3/20 3/20 3/20 3/20	
Specific Conductivity	
	$\Box$
§ 0.10 2 0.05	
0.00	$\pm$
4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6	
SCDHEC in-stream standard: Daily average not less than 5 mg/L with a low of 4 mg/L  Dissolved Oxygen  4 mg/L (SCDHEC Low Star	6/3
10	
V8 8 6 4 4	
4/30 5/2 5/4 5/6 5/8 5/10 5/12 5/14 5/16 5/18 5/20 5/22 5/24 5/26 5/28 5/30 6/1 6/20 EData 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 B (April 30, 2020 - June 3, 2020)

# **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:

Analyto	Sample 1		Sample 2		Sample 3		Sample 4	
Analyte (units)	5/20/2020		5/20/2020					
	Time	Result	Time	Result	Time	Result	Time	Result
Escherichia coli (MPN/100mL)	10:30	2212	12:21	2028				
Total Suspended Solids (mg/L)		10.5		18				
Total Phosphorus (mg/L)		0.065		0.12				
Total Nitrogen (mg/L)		1.11		1.03				

Note: All samples were collected during wet weather conditions.