

Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

April 1, 2016 – June 30, 2016

Corrected February 2018



We Are Columbia

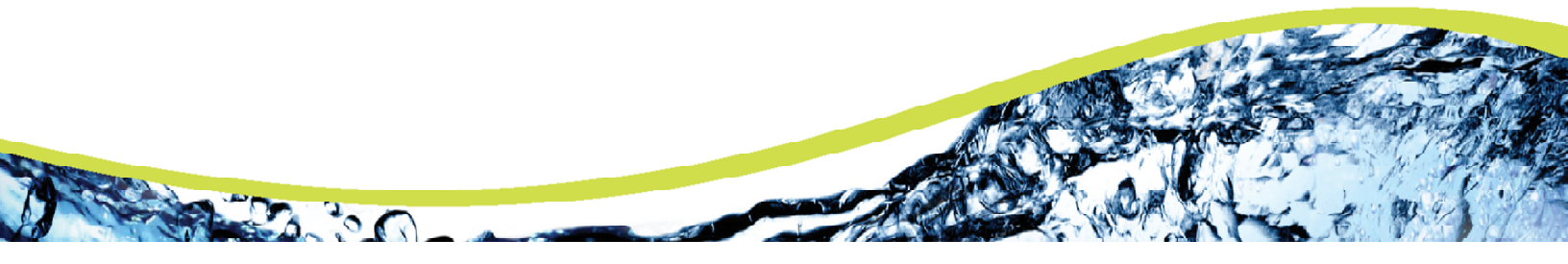


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Section 1 Introduction

1.1 Summary of Reporting Requirements

On May 21, 2014 the City of Columbia (City) entered into a Consent Decree (CD) with the United States Environmental Protection Agency (EPA), the United States Department of Justice (DOJ) and the South Carolina Department of Health and Environmental Control (SCDHEC). To fulfill the reporting requirements as defined in Section IX.39.a of the CD, the City has prepared this *Quarterly Report* that includes the following information (as excerpted from the CD):

1. A description of all projects and activities conducted during the most recently completed calendar quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format. This description shall include completion percentages of early action capital improvement projects under Paragraph 10, continuing sewer assessments under the CSAP, and the subsequent remedial actions under the IR Report;
2. The date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs for the most recently completed quarter in a tabulated electronic format;
3. The anticipated projects and activities that will be performed in the next quarter to comply with the requirements of this Consent Decree, in Gantt chart or similar format;
4. Any additional information that demonstrates that Columbia is implementing the remedial measures required in this Consent Decree; and
5. The results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the Consent Decree.

1.2 Report Organization

This Quarterly Report is organized as follows:

Section 1 – Introduction

This section includes a summary of the reporting requirements and describes the report organization.

Section 2 – Schedule of Projects and Activities

This section addresses the requirements of Sections IX.39.a.(i) and IX.39.a.(iii) of the Consent Decree. The section includes the projects and activities conducted during the most recently completed calendar

quarter to comply with the requirements of the CD as well as the anticipated projects and activities that will be performed in the next quarter to comply with the requirements of the CD. A Gantt chart schedule of these activities is provided and includes completion percentages of continuing sewer assessments under the CSAP and the subsequent remedial actions under the IR Report, as applicable.

Section 3 – Additional Information Demonstrating Implementation of Consent Decree Requirements

This section addresses the requirements of Section IX.39.a.(iv) of the Consent Decree and includes additional information that demonstrates that Columbia is implementing the remedial measures required in the CD. Information supplemental to that which is provided in Section 2 is provided in this section.

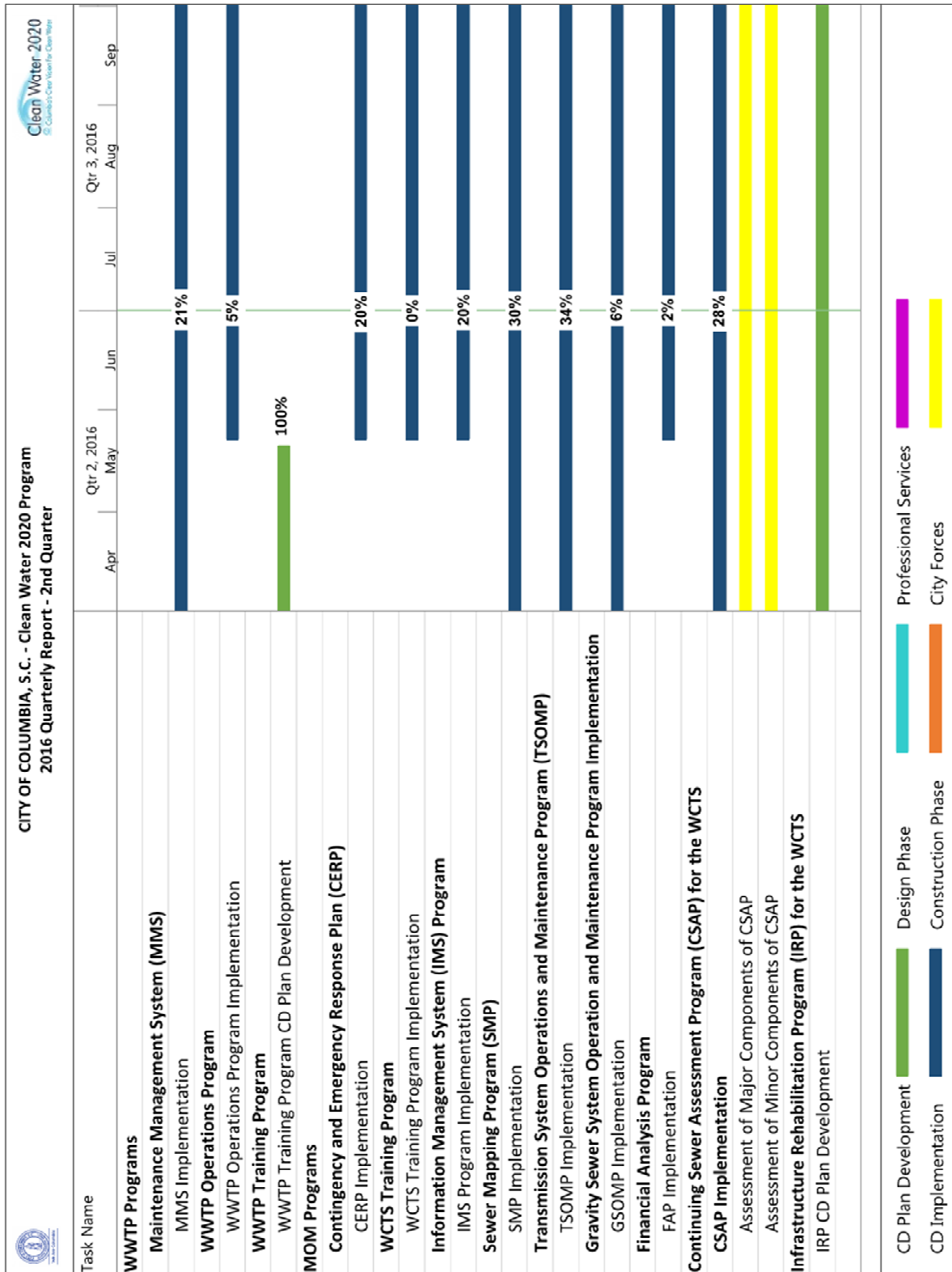
Section 4 – Quarterly SSO Report

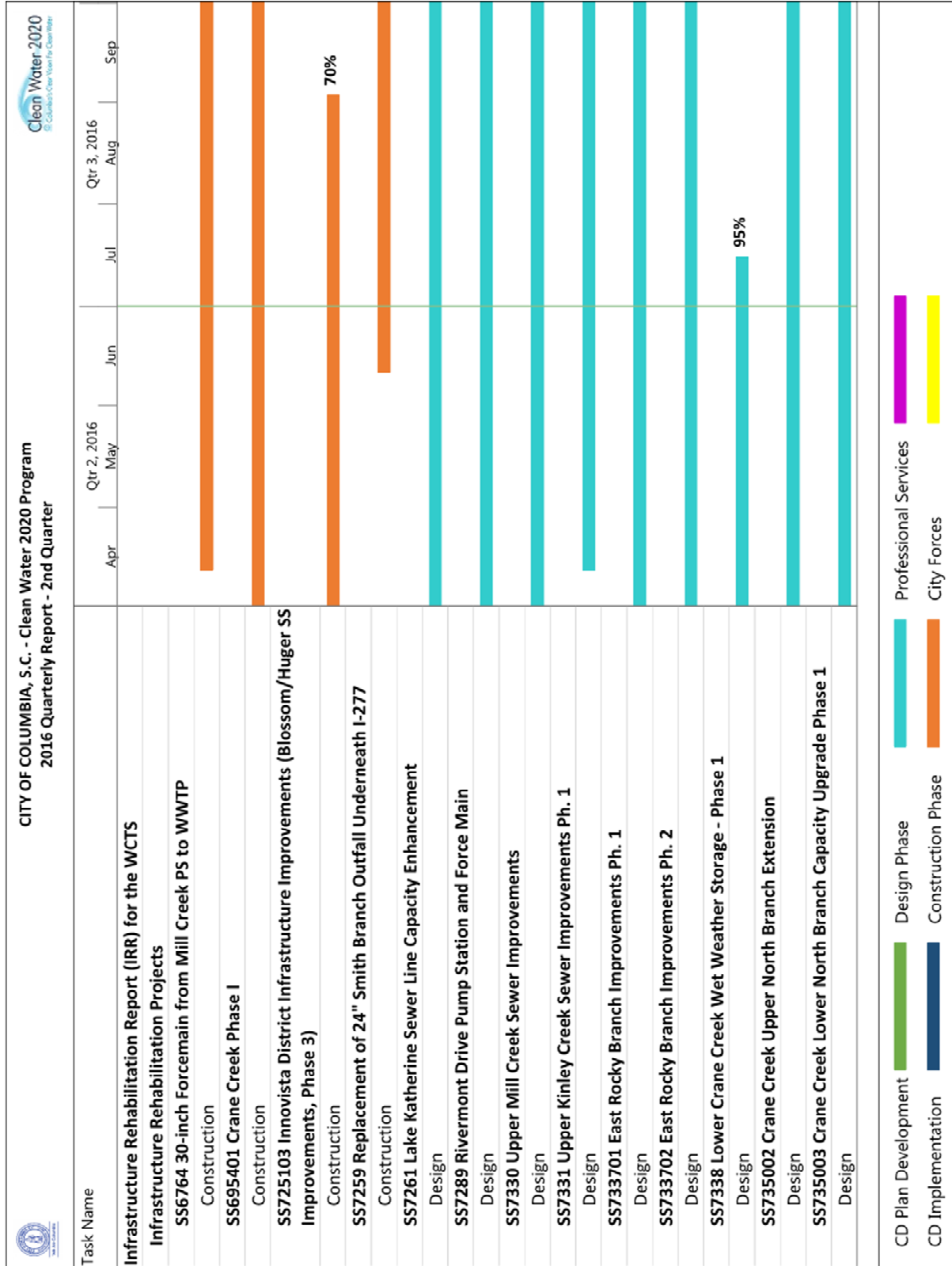
This section addresses the requirements of Section IX.39.a.(ii) of the Consent Decree and provides a tabular listing of sanitary sewer overflows (SSOs). The table includes the date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise resolve the cause of all SSOs that occurred during the most recently completed calendar quarter.

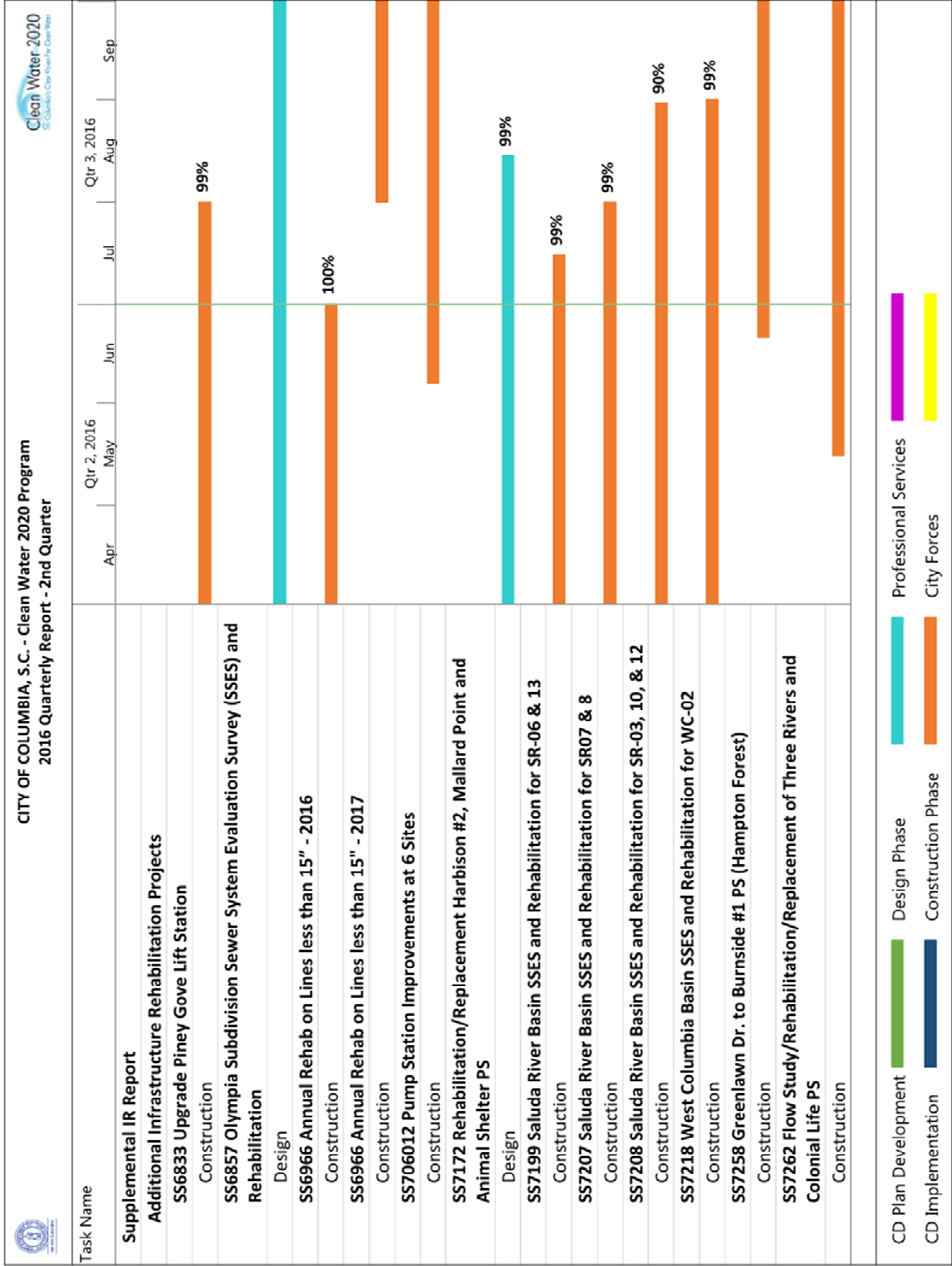
Section 5 – SEP Water Quality Monitoring Results

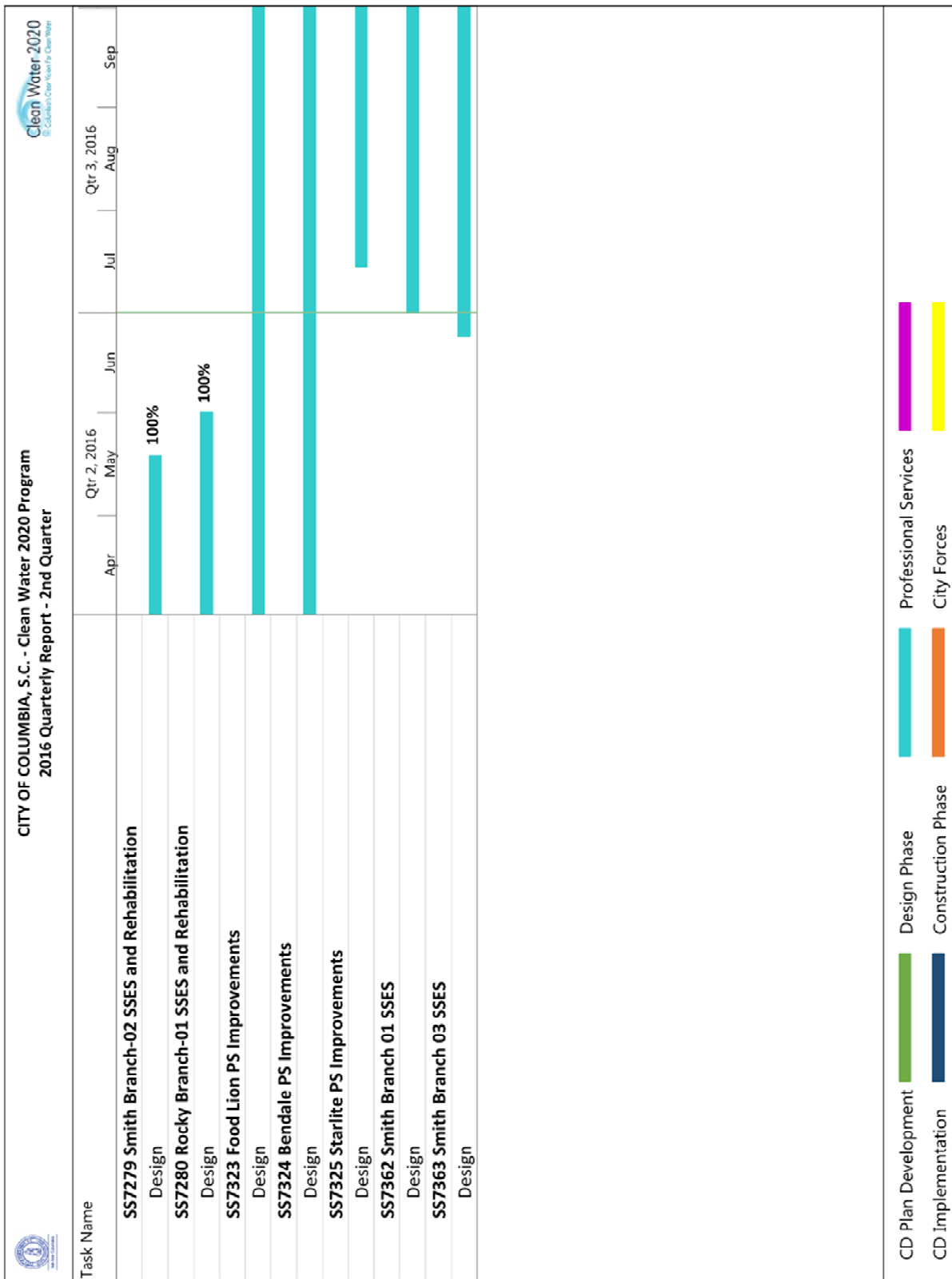
This section addresses the requirements of Section IX.39.a.(v) of the Consent Decree and provides the results of water quality monitoring conducted during the previous Calendar Quarter as part of the SEP described in Appendix I of the CD.

Section 2 Schedule of Projects and Activities









Section 3 Additional Information Demonstrating Implementation of Consent Decree Requirements

In accordance with Section IX.39.a.(iv) of the CD, the following section provides additional information that demonstrates that the City is implementing the remedial measures required in the CD.

The City notified the U.S. Department of Justice, the U.S. Environmental Protection Agency, and the South Carolina Department of Health and Environmental Control of a *force majeure* event on October 6, 2015. The City experienced unprecedented rainfall which resulted in catastrophic flooding beginning on October 4, 2015. On October 13, 2015, the City submitted an initial written report of the *force majeure* event and requested an additional 45 days for certain CD deliverables. The request for this extension was granted by EPA. Additionally, the October 13, 2015 written report further advised that the report would be supplemented with additional information on other delays in performance under the CD following a full assessment of the damage to the City's wastewater system. On March 24, 2016, the City submitted the supplemental report of the *force majeure* event. On June 2, 2016 the EPA agreed that the delays described in the March 24, 2016 letter were attributable to a *force majeure* event and that timeframes for the performance of certain obligations under the CD should be extended. The EPA's *force majeure* extension approval letter is provided in Appendix A.

3.1 WWTP Programs

In accordance with Section V.11 of the CD, the City is developing and implementing specific Wastewater Treatment Plant (WWTP) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP.

3.1.1 Maintenance Management System (MMS)

The MMS was submitted to EPA and SCDHEC on May 18, 2015. The City is awaiting EPA and SCDHEC review and approval of the MMS.

Although the EPA has not yet approved the MMS, the City is proceeding with implementation activities under the MMS. The activities completed or in progress during the current reporting period are as follows:

- Migration of Data and Maintenance Schedules into Cityworks – 25% Complete

3.1.2 WWTP Operations Program

The WWTP Operations Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the WWTP Operations Program from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Written procedures describing the various operational controls at the WWTP – 5% Complete

3.1.3 WWTP Training Program

The WWTP Training Program was submitted to EPA and SCDHEC on May 20, 2016.

3.2 MOM Programs

In accordance with Section V.12 of the CD, the City is developing and implementing specific Management, Operations, and Maintenance (MOM) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP as well as the City's Wastewater Collection and Transmission System (WCTS).

3.2.1 Contingency and Emergency Response Plan (CERP)

The CERP was submitted to EPA and SCDHEC on November 20, 2015. The City received final approval of the CERP from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Training Staff on the Activation of the CERP – 20% Complete
- Emergency Operation Training and Activation Procedures – 20% Complete
- Develop and Train Staff to Scenarios – 20% Complete

3.2.2 WCTS Training Program

The WCTS Training Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the WCTS Training Program from EPA and SCDHEC on May 23, 2016.

3.2.3 Information Management System (IMS) Program

The IMS Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the IMS Program from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Storeroom Component of Cityworks – 10% Complete
- Sewer Mapping Program – 30% Complete

3.2.4 Sewer Mapping Program

In accordance with the requirements of the CD, the City was to develop and submit a Sewer Mapping Program (SMP) to EPA and SCDHEC within 60 days of the date of entry of the CD. The City received final approval of the SMP from EPA and SCDHEC on December 9, 2014.

Projects and significant activities completed during the current reporting period:

- The City continues to complete the electronic mapping of each Sewer Basin in accordance with the approved SMP implementation plan. Progress for each WCTS Minor Gravity Mapping basin is as follows:

- West Columbia Basin – 80% complete
 - Smith Branch Basin – 67% complete
 - Saluda River Basin – 86% complete
 - Rocky Branch Basin – 30% complete
 - Mill Creek Basin – 25% complete
 - Gills Creek Basin – 27% complete
 - Crane Creek Basin – 65% complete
 - Broad River Basin – 25% complete
- Progress for each WCTS Major Gravity Mapping basin is as follows:
 - West Columbia Basin – 25% complete
 - Smith Branch Basin – 10% complete
 - Saluda River Basin – 10% complete
 - Rocky Branch Basin – 10% complete
 - Mill Creek Basin – 10% complete
 - Gills Creek Basin – 10% complete
 - Crane Creek Basin – 5% complete
 - Broad River Basin – 25% complete

3.2.5 Transmission System Operations and Maintenance Program (TSOMP)

The TSOMP was submitted to EPA and SCDHEC on May 18, 2015. The City is awaiting EPA and SCDHEC review and approval of the TSOMP.

Although the EPA has not yet approved the TSOMP, the City is proceeding with implementation activities under the TSOMP. The activities completed or in progress during the current reporting period are as follows:

- SCADA System Enhancements – 30% Complete
- Critical Spare Equipment and Parts (Provision of onsite back-up power or backup diesel pumps at Pump Station 080 (Quail Creek) and Pump Station 115 (Clearwater)) – 100% Complete

3.2.6 Gravity Sewer System Operation and Maintenance Program (GSOMP)

The GSOMP was submitted to EPA and SCDHEC on November 20, 2015. The City received final approval of the GSOMP from EPA and SCDHEC on May 23, 2016.

The activities completed or in progress during the current reporting period are as follows:

- Written Procedures for Maintenance of Gravity Sewer System Manholes – 100% Complete

3.2.7 Financial Analysis Program

The Financial Analysis Program was submitted to EPA and SCDHEC on January 4, 2016. The City received final approval of the FAP from EPA and SCDHEC on May 23, 2016.

3.3 Satellite Sewer System Agreements (SSSA)

The SSSA was submitted to EPA and SCDHEC on May 18, 2015. The City is awaiting EPA and SCDHEC review and approval of the SSSA.

3.4 Continuing Sewer Assessment Program (CSAP) for the WCTS

The CSAP was submitted to EPA and SCDHEC on June 9, 2015. The City received final approval of the CSAP from EPA and SCDHEC on May 23, 2016.

The activities under the Major Components of the CSAP completed or in progress during the current reporting period are as follows:

- Major Gravity Sewer Video Inspection or Multi-Sensor Inspection – 30% Complete
- Major Manhole Inspection – 70% Complete

The activities under the Minor Components of the CSAP completed or in progress during the current reporting period are as follows:

- Initial Minor Gravity Sewer and Manholes Desktop Condition Assessment/Prioritization – 50% Complete

3.5 Infrastructure Rehabilitation Report (IRR) for the WCTS

In accordance with Section V.16 of the CD, the City shall submit an Infrastructure Rehabilitation Report (IRR) summarizing the results of the CSAP of the major components of the WCTS and a description of proposed rehabilitation projects. The IRR is to be submitted within six months after the City has assessed the major components of the WCTS once pursuant to the CSAP. As rehabilitation projects are identified through the assessments described in Section 3.4 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS6764 30" Forcemain from Mill Creek PS to WWTP – Construction 10% Complete
- SS695401 Crane Creek Phase I – Construction 70% Complete
- SS725103 Innovista District Infrastructure Improvements – Construction 70% Complete
- SS7259 Replacement of 24" Smith Branch Outfall Underneath I-277 – Construction 1% Complete
- SS7261 Lake Katherine Sewer Line Capacity Enhancement – Design 90% Complete
- SS7289 Rivermont Drive Pump Station and Force Main – Design 90% Complete
- SS7330 Upper Mill Creek Sewer Improvements – Design 6% Complete

- SS7331 Upper Kinley Creek Sewer Improvements Ph. 1 – Design 12% Complete
- SS733701 East Rocky Branch Improvements Ph. 1 – Design 18% Complete
- SS733702 East Rocky Branch Improvements Ph. 2 – Design 35% Complete
- SS7338 Lower Crane Creek Wet Weather Storage - Phase 1 – Design 95% Complete
- SS735002 Crane Creek Upper North Branch Extension – Design 2% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 – Design 2% Complete

In accordance with Section V.16.c of the CD, the City shall submit a Supplemental Infrastructure Rehabilitation Report (SIRR) which shall update all portions of the IRR to reflect additional information developed by the City through completion of the CSAP of the minor components of the WCTS. The SIRR is to be submitted within six months after the City has assessed the remainder of the entire WCTS pursuant to the CSAP. As rehabilitation projects are identified through the assessments described in Section 3.4 and in the normal course of operations and maintenance, the City is proceeding with design and construction of those projects. Completion percentages of projects currently in progress are as follows:

- SS6833 Upgrade Piney Gove Lift Station – Construction 99% Complete
- SS6857 Olympia Subdivision Sewer System Evaluation Survey (SSES) and Rehabilitation Design – Design 75% Complete
- SS6966 Annual Rehab on Manholes and Lines less than 15" – 2016 Construction 100% Complete, 2017 Construction 0% Complete
- SS706012 Pump Station Improvements at 6 Sites – Construction 1% Complete
- SS7172 Rehabilitation/Replacement Harbison #2, Mallard Point and Animal Shelter PS – Design 99% Complete
- SS7199 Saluda River Basin SSES and Rehabilitation for SR-06 & 13 – Construction 99% Complete
- SS7207 Saluda River Basin SSES and Rehabilitation for SR07 & 8 – Construction 99% Complete
- SS7208 Saluda River Basin SSES and Rehabilitation for SR-03, 10, & 12 – Construction 90% Complete
- SS7218 West Columbia Basin SSES and Rehabilitation for WC-02 – Construction 99% Complete
- SS7258 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) – Construction 1% Complete
- SS7262 Flow Study/Rehabilitation/Replacement of Three Rivers and Colonial Life PS – Construction 5% Complete
- SS7279 Smith Branch-02 SSES and Rehabilitation – Design 100% Complete
- SS7280 Rocky Branch-01 SSES and Rehabilitation – Design 100% Complete
- SS7323 Food Lion PS Improvements – Design 15% Complete
- SS7324 Bendale PS Improvements – Design 30% Complete
- SS7325 Starlite PS Improvements – Design 0% Complete
- SS7362 Smith Branch 01 SSES – Design 0% Complete
- SS7363 Smith Branch 03 SSES – Design 1% Complete

3.6 Supplemental Environmental Project

In accordance with Section VIII and Appendix I of the CD, the City will perform a Supplemental Environmental Project (SEP). Within 24 months of the effective date of the CD, the City was to complete Phase I of the Rocky Branch, Smith Branch, and Gills Creek projects. On March 24, 2016, the City submitted a supplemental report related to the October 4, 2015 *force majeure* event and requested an additional six months to complete the Gills Creek Phase I project. This request was granted by EPA; the approval letter is provided in Appendix A.

The activities completed or in progress during the current reporting period are as follows:

- The Rocky Branch Phase I project was completed on May 20, 2016.
- The Smith Branch Phase I project was completed on May 20, 2016.

Section 4 Quarterly SSO Report

In accordance with Section IX.39.a.(ii) of the CD, the City is to provide a list of all SSOs that occurred during the reporting period in a tabular format along with information on the date, time, location, source, duration, estimated volume, receiving water, cause, and actions taken to resolve the SSO.

Table 1 - SSO Report, 2nd Quarter 2016

City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2016									
SSO Date	SSO Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
4/1/2016	11:30	100 Lorick Cir, Columbia, SC 29203	Manhole	4/1/2016	15:30	1	Smith Branch	Roots	Removed Stoppage To Resume Normal Flow. Washed Mainline 425 Feet, Re-Washed And De-Greased.
4/1/2016	12:00	1200 Simmon Tree Ln, Columbia, SC 29201	WWTP	4/1/2016	15:00	15	Storm Drain To Congaree River	Treatment Plant	Turned Off T2 Primary Sludge Pump Auto Sequence. Installed Repair Clamp Over Line. Spread Lime Over Affected Area.
4/1/2016	09:49	4500 Bluff Road, Columbia, SC 29209	Manhole	4/1/2016	10:00	750	Tributary To Reeder Point	Pump Station Failure	Vac Wet Well Down With Vactor Truck. Cleaned Up Debris And Spread Lime.
4/3/2016	14:00	504 Newburgh Dr, Columbia, SC 29203	Manhole	4/3/2016	16:30	1,500	Storm Water Catch	Grease	Removed Stoppage To Resume Normal Flow. Washed Mainline 125 Ft To Remove Stoppage, Re-Washed Vacuumed And De-Greased Line 581 Feet. Set Up Bypass Pump.
4/5/2016	16:47	227 Brookshire Dr, Columbia, SC 29210	Manhole	4/5/2016	16:47	37		Debris	Removed Stoppage To Resume Normal Flow. Washed Mainline 300 Feet To Remove Stoppage. Set Up On Preventive Maintenance Every Three Month To Wash Mainline.
4/12/2016	14:30	2448 Washington St, Columbia, SC 29204	Manhole	4/12/2016	14:30	2		Roots	Washed Mainline 250 Ft To Resume To Normal Flow. Washed Mainline 250 Feet.
4/15/2016	10:00	256 Waterford Dr, Columbia, SC 29203	Manhole	4/19/2016	16:30	1,500	Unnamed Creek	Roots	Washed Mainline 150 Ft To Remove Stoppage. Washed Mainline 150 Ft To Remove Roots.
4/17/2016	12:00	107 White Falls Cir, Columbia, SC 29212	Manhole	4/19/2016	14:30	998	Whitehall Lakes To Rawls	Roots	Washed Mainline 250 Ft To Resume Normal Flow. Washed Mainline 813 Ft To Remove Roots With Cutter.
4/19/2016	10:00	4068 Fernandina Rd, Columbia, SC 29212	Manhole	4/10/2016	20:00	5,900	Tributary To Kinley Creek	3rd Party Responsibility	Set Up 4" Bypass System Stopped SSO @ 13:20. Emergency Locates Were Called In, SCE&G Removed Pole. Repair Crew Repaired Mainline. Also, Set Up Pump To Clean Up Storm Drain & Open Ditch.
4/20/2016	10:30	1000 A St, Columbia, SC 29209	Other	4/21/2016	14:30	1,307	Storm Drain Connected To Gills Creek	Collapsed Line	Set Up Bypass Pump. Mainline Was Repaired.
4/26/2016	07:30	824 Fuller Ave, Columbia, SC 29203	Cleanout	TBD		32	Unknown Storm Drain	Roots	Washed Mainline 200 Ft To Resume To Normal Flow. Roots To Be Cut Out.
5/3/2016	12:12	114 River Bluff Way, Columbia, SC 29210	Forcemain	5/3/2016	23:30	441,620	Broad River	Force Main	Shutdown Broad River Lift Station. McClam & Associates Contractor Performed Repair To 16" DIP Forcemain.
5/3/2016	19:15	3823 Shaw St, Columbia, SC 29203	Cleanout	5/4/2016	10:00	748		Grease	Washed Mainline 300 Ft To Remove Stoppage. Televised Mainline 80 Ft And Televised Service Line 15 Ft.
5/3/2016	22:32	1600 Garner Ln, Columbia, SC 29210	Forcemain	5/3/2016	10:55	550		Force Main	The Shutdown Of Broad River Lift Station Caused This Line To Overflow (Shutdown Was To Repair Forcemain Associated With SSO #01755). Repaired Forcemain.
5/4/2016	06:50	618 River Rd, Columbia, SC 29212	Forcemain	5/4/2016	12:00	1,653	Effluent Was In Ditch	Force Main	Shutdown Lift Station. Repaired Forcemain Caused By Water Department. The Line Was Not Located.
5/6/2016	07:20	1200 Simmon Tree Ln, Columbia, SC 29201	WWTP	5/6/2016	TBD	3		Treatment Plant	Stop Wasting And Open Cross Connect Valve To Equalize Digesters #1 And #2. Pump Foam Off Of Digester.
5/10/2016	08:00	River Rd, Columbia, SC	Forcemain	5/10/2016	10:00	385		Force Main	Shutdown Lift Station. Point Repair At The Broken Pipe. City Water Department Hit Forcemain While Excavating Water Line.
5/13/2016	10:35	5517 Randall Ave, Columbia, SC 29203	Other	5/13/2016	15:30	495		Collapsed Line	Vac Truck Retrieved Wastewater. Repaired Mainline.
5/18/2016	11:00	301 Basinghouse Rd, Columbia, SC 29212	Cleanout	5/24/2016	12:00	143		Roots	Washed Service Line To Resume To Normal Flow. Emergency Service Line Repair Scheduled 5/24/16.
5/18/2016	14:37	301 Basinghouse Rd, Columbia, SC 29212	Manhole	5/23/2016	13:00	200	Retention Pond	Debris	Located Manhole & Washed Mainline 140 Ft. Televised Mainline 183.5 Ft.

City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2016									
SSO Date	SSO Time	Location	Source	Date of Corrective Action	Time of Corrective Action	Estimated Volume (gallons)	Receiving Water (if any)	Cause	Actions Taken
5/18/2016	20:24	600 Glenthorne Rd, Columbia, SC 29203	Manhole	5/20/2016	14:15	900		Roots	Washed Mainline 150 Ft To Resume To Normal Flow. Washed Mainline 150 Ft To Cut Out Roots.
5/20/2016	17:15	1512 Cedar Ter, Columbia, SC 29209	Manhole	TBD		2,100		Collapsed Line	Washed Mainline 189 Feet, Removed Stoppage To Resume Normal Flow. Mainline Repair.
5/27/2016	17:30	1721 Shivers Rd, Columbia, SC 29210	Manhole	TBD		6,732		Roots	Washed Mainline 650 Ft To Resume To Normal Flow. Roots Are Scheduled To Be Cut 6/2/2016.
5/30/2016	12:30	1621 Saint Andrews Rd, Irmo, SC 29063	Manhole	TBD		1,831		Roots	Washed Mainline 430 Ft To Resume Normal Flow. Mainline To Be Scheduled To Cut Out Roots.
6/7/2016	10:48	343 Wycombe Rd, Columbia, SC 29212	Cleanout	6/8/2016	11:45	240	Unknown Storm Drain	Roots	Washed Mainline 300 Ft To Resume To Normal Flow. Washed Mainline 402 Ft To Remove Roots.
6/8/2016	11:30	5459 Mead Ct, Columbia, SC 29203	Manhole	6/9/2016	16:30	1	Unnamed Tributary To Crane Creek	Debris	Washed Mainline 200 Ft & Set Up Bypass Pump. Washed Mainline 200 Ft, Brick Was Removed From Mainline.
6/28/2016	10:35	3101 Bluff Rd, Columbia, SC 29209	Manhole	6/26/2016	15:00	UNKNOWN		Treatment Plant	Raked Up Debris. Repaired Seal In Manhole Where It Has Been Hit By A Bush Hog.
6/28/2016	16:37	1800 Greene St, Columbia, SC 29201	Cleanout	7/1/2016	08:00	310		Collapsed Line	Washed Service Line 20 Feet To Resume Normal Flow. Emergency Repair Needed. Emergency Service Line Repair To Relocate/Install Cleanout.

As noted in Section IV.8.a of the CD, a Building Backup is defined as a release of wastewater into a building or onto private property that is caused by blockages, flow conditions, or other malfunctions in the WCTS.

Separate from the SSO listing provided in Table 1 above, the following table identifies building backups within the City’s system for the current reporting period. Building backup claims are investigated by the City in order to determine whether the cause of the building backup is a condition within the City’s system. If so, the City corrects the problem in the City’s WCTS. Issues on private property are documented for the City by a third-party administrator. At this time, neither the City nor the third-party administrator have maintained records on volume, duration, or specific root causes of building backups.

Table 2 - Building Backup Report, 2nd Quarter 2016

City of Columbia, SC Quarterly Building Backup Listing 2nd Quarter 2016		
Date	Location	Claim Description
4/13/2016	636 Shadowbrook Dr	Sewer Back Up

Section 5 SEP Water Quality Monitoring Results

In accordance with Section IX.39.a.(v) of the CD, the following section provides a summary of the results of water quality monitoring conducted during the previous calendar quarter as part of the Supplemental Environmental Project (SEP) described in Appendix I of the CD.

5.1 Sampling Conducted and Results

As a part of the SEP requirements established in Section VIII and Appendix I of the CD, the City is to conduct water quality monitoring at three locations to assist in evaluation of the environmental benefits of the SEP in improving water quality in Smith Branch and Gill's Creek. The City is to implement a program for ambient monitoring of dissolved oxygen (DO), total suspended solids (TSS), temperature, and E. coli at the following monitoring sites:

- Gill's Creek at Garner's Ferry Road
- Smith Branch at North Main Street
- Gill's Creek at Bluff Road

In accordance with the requirements of the CD, the City was to submit a Quality Assurance Project Plan (QAPP) to SCDHEC within 60 days of the date of entry of the CD. The City originally submitted the QAPP to SCDHEC on July 18, 2014 in advance of the deliverable deadline. The City subsequently received comments from SCDHEC and resubmitted the QAPP to SCDHEC on January 13, 2015. The City received final approval of the QAPP from EPA and SCDHEC on January 15, 2016. The City will monitor quarterly for the first three years under the CD and monthly (or every other month at the Gills Creek at Bluff Road site) from years four through six under the CD.

Water quality monitoring for 2016 Q2 was completed on May 4, 2016. Monitoring results are provided below for the following samples:

- C-001: Gill's Creek at Garner's Ferry Road
- B-280: Smith Branch at North Main Street
- C-017: Gill's Creek at Bluff Road

City Of Columbia Quality Assurance Project Plan (QAPP) Data
Verification and Validation Form

City of Columbia Supplemental Environmental Projects QAPP November 2015

Laboratory Report Date: 5/04/16

The undersigned verifies the data in the above referenced report, per the QAPP requirements.



Andrew T. Stroud/QA Manager

7/11/16

Date

The undersigned validates the data in the above referenced report, per the QAPP requirements.



Michael Jaspers/Project Validator

7/11/16

Date



DATE: 05/04/2016

SCDHEC #32571

CLIENT: City of Columbia
Attn: Andrew Stroud
1136 Washington Street
Columbia SC 29201

PROJECT:

ID#: 153240 Sample Name: C-017 Sampled on 04/28/2016 at 1119 Received on 04/28/2016 at 1330

Parameter	Method#	Value	Units	Anal. on/	at/	by
TSS (SM)	SM 2540 D-2011	7.7	mg/L	04/29/2016	0950	RA
E. Coli MPN	SM 9223 B-2004	37.9	MPN	04/28/2016	1543	RA
Dissolved Oxygen (SM)	SM45000G-2011	5.0	mg/L	04/28/2016	1119	JS
Temperature (SM)	SM 2550 B-2010	23	Deg. C	04/28/2016	1119	JS

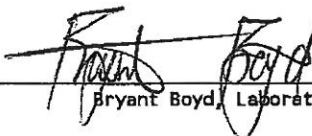
ID#: 153241 Sample Name: C-001 Sampled on 04/28/2016 at 1153 Received on 04/28/2016 at 1330

Parameter	Method#	Value	Units	Anal. on/	at/	by
TSS (SM)	SM 2540 D-2011	40	mg/L	04/29/2016	0950	RA
E. Coli MPN	SM 9223 B-2004	80.9	MPN	04/28/2016	1543	RA
Dissolved Oxygen (SM)	SM45000G-2011	4.1	mg/L	04/28/2016	1153	JS
Temperature (SM)	SM 2550 B-2010	25	Deg. C	04/28/2016	1153	JS

ID#: 153242 Sample Name: B-280 Sampled on 04/28/2016 at 1226 Received on 04/28/2016 at 1330

Parameter	Method#	Value	Units	Anal. on/	at/	by
TSS (SM)	SM 2540 D-2011	4.8	mg/L	04/29/2016	0950	RA
E. Coli MPN	SM 9223 B-2004	547.5	MPN	04/28/2016	1543	RA
Dissolved Oxygen (SM)	SM45000G-2011	7.3	mg/L	04/28/2016	1226	JS
Temperature (SM)	SM 2550 B-2010	21	Deg. C	04/28/2016	1226	JS

Report Released by: _____


Bryant Boyd, Laboratory Director

ON LINE ENVIRONMENTAL INC

Chain of Custody Records

SCDHEC LAB ID# 32571/25003

Client: **City of Columbia**
Address: **1136 Washington Street**
City, State, Zip: **Columbia, SC 29201**

Attn: **Andrew Stroud**
Phone: **803-545-4001**
Email: **alstroud@columbiasc.net**

Prog Area	Sample ID# (FOR LAB USE ONLY)	Sample Name	Date/Time of Sample	Sample Type (G or G)	Preservation/Bottle Type	# of bottles	Parameter(s)
WW	153240	C-017	4-28-16 11:19	G	A/P	1	TSS
WW		C-017	11:19	G	GF/P	1	E. Coli MPN
WW		C-017	11:19	G	Field An.	NA	D.O. (mg/L)= 5.0 Temp. (°C)= 23
WW	153241	C-001	11:53	G	A/P	1	TSS
WW		C-001	11	G	GF/P	1	E. Coli MPN
WW		C-001	11	G	Field An.	NA	D.O. (mg/L)= 4.1 Temp. (°C)= 25
WW	153242	B-280	1 12:26	G	A/P	1	TSS
WW		B-280	1	G	GF/P	1	E. Coli MPN
WW		B-280	1	G	Field An.	NA	D.O. (mg/L)= 7.3 Temp. (°C)= 21

G=grab C=composite

Prog. Area: WW=wastewater DW=drinking water MW=monitoring well SS=semi solid SL=soil SD=solid

Sampler's signature: *[Signature]*

Special Instructions:

Received in lab @ 1 °C

Project: Water Quality Monitoring

(Sample Jan, April, July, Oct)

[Signature]

Preservation Codes: A=5°C, B=H₂SO₄, C=HNO₃, D=HCl, E=NaOH, F=Na₂S₂O₃, G=≤10°C, O=Other (describe) Bottle Type: Glass = G, Plastic = P

Auto Sampler Data

Date/Time Set On: / /
by whom: / /
Date/Time Off: / /
by whom: / / (factor): X

Meter Reading After:
Meter Reading Before:
Difference:

Requisitioned by	Date	Time	Received by	Date	Time

Received in lab by: *[Signature]* Date: 4-28-16 Time: 13:30

Sample Rcd. On Ice Yes No

Appendix A

EPA Force Majeure Extension Approval Letter



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER

61 FORSYTH STREET

ATLANTA, GEORGIA 30303-8960

JUN 02 2016

CERTIFIED MAIL 7015 1730 0001 8044 3545

RETURN RECEIPT REQUESTED

Ms. Teresa B. Wilson
City Manager, City of Columbia
P.O. Box 147
Columbia, South Carolina 29217

Re: United States et al. v. The City of Columbia Consent Decree
Civil Action No.: 3:13-2429-TLW (D. S.C.)

Dear Ms. Wilson:

The United States Environmental Protection Agency Region 4 has reviewed the City of Columbia's (the City) supplemental report on a force majeure event submitted by a letter dated March 24, 2016, to the EPA, the South Carolina Department of Health and Environmental Control (SCDHEC), and the U.S. Department of Justice. The supplemental report relates to catastrophic flooding that occurred in Columbia, SC beginning on October 4, 2015.

The supplemental report, provided pursuant to Section XI of the above-referenced Consent Decree (CD), was preceded by a force majeure notice submitted by the City on October 6, 2015, and a preliminary force majeure report submitted on October 13, 2015. The force majeure notice, preliminary force majeure report and supplemental force majeure report relate to the unprecedented rainfall and catastrophic flooding that the City experienced in October 2015, and provides detailed information regarding the force majeure event that occurred and its effect on the ability of the City of Columbia to comply with their obligations under the above-referenced Consent Decree. This information was further augmented by an in-person meeting among the EPA, SCDHEC and City representatives in Columbia, South Carolina on April 22, 2016, which included a tour of some flood-affected areas of the City and its sanitary sewer system.

Based on the information provided by the City, the EPA in collaboration with SCDHEC has determined, that the anticipated delays described in your March 24, 2016 letter are attributable to a force majeure event and that the timeframes for the performance of certain obligations under the Consent Decree should be extended. Specifically, pursuant to Section XI, Paragraph 57 of the Consent Decree, decisions on the following extensions requests have been made as set forth below:

- 1. Extend by 12 months the deadline for completion of an initial assessment of the major components of the wastewater collection and transmission system (WCTS) pursuant to second to last sentence of Paragraph 14(a) of the Consent Decree (page 52).**

Change deadline from “no later than 24 months from the date of EPA/DHEC approval of the CSAP” [Continuing Sewer Assessment Program] to “no later than 36 months from the date of the EPA/DHEC approval of the CSAP.”

- 2. Extend by 12 months the deadline for completion of assessment of the remainder of the WCTS pursuant to last sentence of Paragraph 14(a) of the Consent Decree (page 52).**

Change deadline from “no later than 60 months from the date of EPA/DHEC approval of the CSAP” [Continuing Sewer Assessment Program]” to “no later than 72 months from the date of the EPA/DHEC approval of the CSAP.

- 3. Extend by six months the implementation schedules for six management, operations and maintenance (MOM) programs previously submitted by the City to the EPA for approval pursuant to Paragraph 12 of the Consent Decree, including:**

- a. WCTS Training Program (CD Paragraph 12(c))**
- b. Information Management System Program (CD Paragraph 12(d))**
- c. Sewer Mapping Program (CD Paragraph (12f))**
- d. Transmission System Operations and Maintenance Program (CD Paragraph 12 (h))**
- e. Gravity System Operation and Maintenance Program (CD Paragraph 12(i))**
- f. Financial Analysis Program (CD Paragraph 12(j))**

Each of the MOM programs above were submitted to the EPA with proposed implementation schedules, as required by the CD, and were approved in writing by a letter from the EPA dated May 23, 2016. The approved implementation schedules for each of the listed MOM Programs are extended by six months pursuant to this force majeure determination.

- 4. Extend by six months the completion of Phase 1 of the Supplemental Environmental Project (SEP) in the Gills Creek area (Area 3) pursuant to Section VIII and Revised Appendix I of the Consent Decree.**

Change deadline for completion of Phase I, as specified on page 5 of Revised Appendix I of the Consent Decree, from “within twenty-four (24) months of the Effective Date of this Consent Decree” to “within thirty (30) months of the Effective Date of this Consent Decree.”

- 5. Extend by six months the deadline for submitting to the EPA the preliminary reports on the condition of, and the plans for improving, the three defined SEP areas required**

under Section VIII and Revised Appendix I of the Consent Decree for all three areas addressed by the SEP (Gills Creek, Rocky Branch, and Smith Branch).

Change the deadline for submittal of the preliminary reports and plans from “within three (3) years of the Effective Date of this Consent Decree,” as specified at pages 2 [Area 1], 4 [Area 2], and 5 [Area 3] of Revised Appendix I of the Consent Decree, to “within three (3) years and six (6) months of the Effective Date of this Consent Decree.” Note that the City’s March 24, 2016, letter requested extension of the deadline “to complete Phase II for all three areas under the SEP.” The City has since clarified that it is seeking a six month extension of the deadline only for submitting the preliminary reports describing the conditions of the SEP areas and the City’s plans for improving the SEP areas. The deadline for completion of Phase II of the SEPs is five (5) years from the effective date of the Consent Decree, and that deadline will remain unchanged.

- 6. Extend by one year the deadlines after which stipulated penalties may be assessed for unpermitted discharge events pursuant to Paragraph 47(a), of the Consent Decree (page 78), and make corresponding changes to defer by one year the time periods during which particular penalty amounts are assessable pursuant to Paragraph 47(a) (i) and (ii) (page.78).**

Change the deadline for the date after which penalties may be assessed under Paragraph 47(a) so that stipulated penalties are assessable for Unpermitted Discharge Events “occurring on or after three (3) years from the Date of Entry” instead of “occurring on or after two (2) years from the Date of Entry.” In addition, change the dates during which particular penalty amounts are assessable by deferring the start and end dates by one year, as follows:

- (i) For each Unpermitted Discharge Event of 5,000 gallons or less, a stipulated penalty may be assessed as follows:

-Within three to six years from the Date of Entry, \$250. [changed from “Within two to five years”]

-More than six years from the Date of Entry, \$1,000. [changed from “More than five years”]

For each Unpermitted Discharge Event of more than 5,000 gallons, a stipulated penalty may be assessed as follows:

- (ii) For each Unpermitted Discharge Event of more than 5,000 gallons, a stipulated penalty may be assessed as follows:

-Within three to six years from the Date of Entry, \$500 [changed from “Within two to five years”]

-More than six years from the Date of Entry, \$2,000 [changed from "More than five years"]

With respect to the extension of the dates when stipulated penalties are assessable, the EPA notes that the entered Consent Decree establishes a period of two years following Consent Decree Entry during which there is no provision for stipulated penalties for Unpermitted Discharge Events. The Consent Decree then provides for gradually escalating stipulated penalty amounts as time passes from the date of Entry. The purpose of this structure for stipulated penalty amounts is to allow the City an opportunity to assess and remediate the most significant problems in the WCTS before the City would be subject to stipulated penalties for Unpermitted Discharge Events. The EPA believes that the catastrophic flooding experienced in the City of Columbia has interfered with the City's ability to complete assessment and remediation work that would minimize the occurrence of Unpermitted Discharge Events. Accordingly, an extension of these deadlines and time frames is deemed appropriate under Section XI (Force Majeure), paragraph 57 of the Consent Decree.

The EPA acknowledges the efforts that the City has made to bring its wastewater treatment plant and collection system into compliance with the CWA, as well as the City's efforts to address the many impacts of the October 2015 flooding. Should you have any questions regarding this letter, please contact Mr. Richard Elliott, of my staff, at (404) 562-8691 or via email at elliott.richard@epa.gov.

Sincerely,



Alenda E. Johnson, Acting Chief
Municipal & Industrial Enforcement Section
NPDES Permitting and Enforcement Branch

cc: See Attached Mailing List

Mailing List

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