

Clean Water 2020 Program

CONSENT DECREE QUARTERLY REPORT

April 1, 2018 – June 30, 2018



We Are Columbia

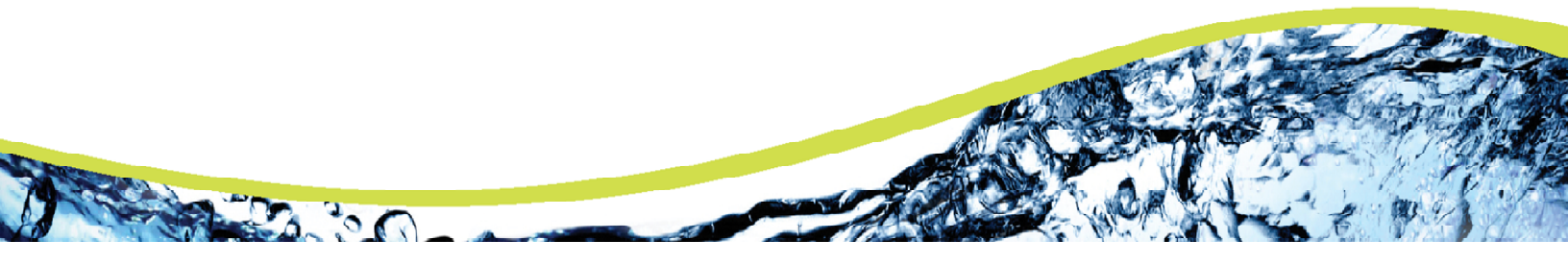


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Section 1 Introduction

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.

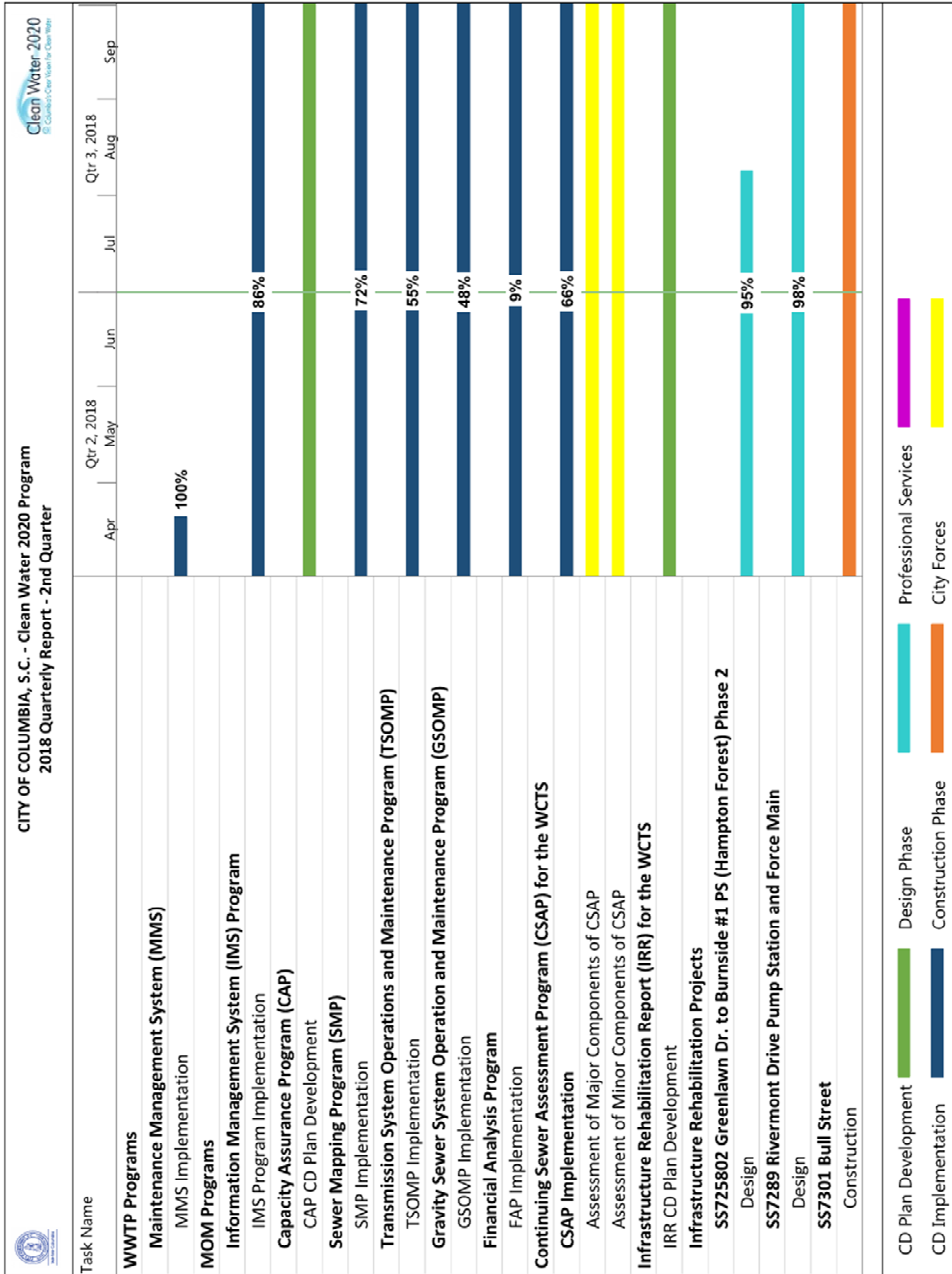
Section 4 – Quarterly SSO Report

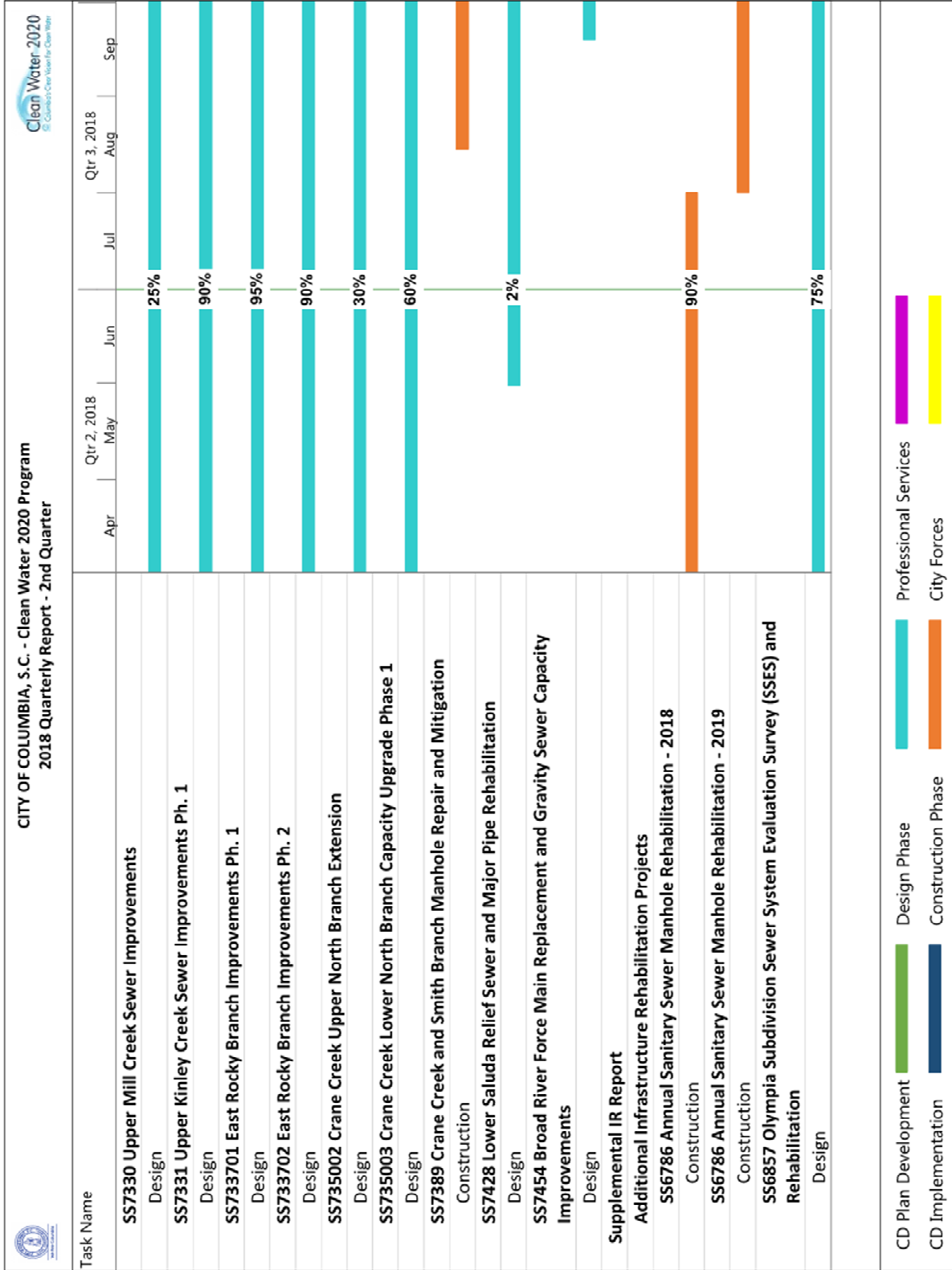
This section addresses the requirements of Section IX.39.a.(ii) of the Consent Decree and provides a tabular listing of sanitary sewer overflows (SSOs). The table includes the date, time, location, source, duration, estimated volume, receiving water (if any), cause, and actions taken to repair or otherwise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

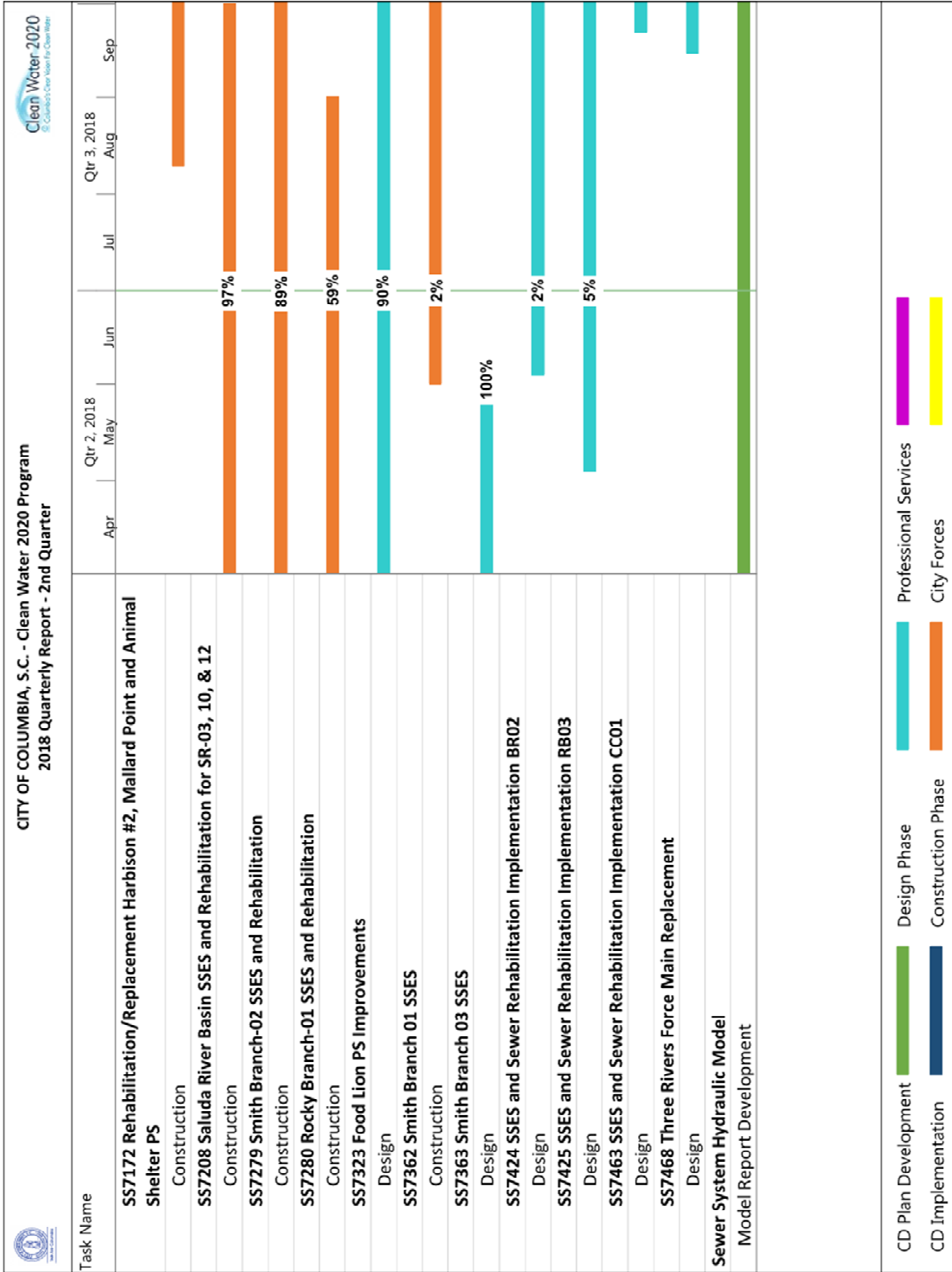
Section 5 – SEP Water Quality Monitoring Results

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.

3.1 WWTP Programs

In accordance with Section V.11 of the CD, the City has developed and implemented specific Wastewater Treatment Plant (WWTP) programs. The Program elements addressed in this section provide information regarding activities involving the Metro WWTP. With the completion of all requirements in the implementation schedule in Section 5 of the Maintenance Management System (MMS), the City has fully implemented all WWTP programs developed under Section V.11 of the CD.

3.1.1 Maintenance Management System (MMS)

The MMS was submitted to EPA and SCDHEC on May 18, 2015. The City received final approval of the MMS from EPA and SCDHEC on September 2, 2016.

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

- Summary Reports Generation, Equipment Failures for Prior Month – 100% Complete
- Summary Reports Generation, Outstanding Work Orders for Prior Month – 100% Complete

As of April 19, 2018, all implementation requirements associated with the MMS have been completed.

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 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® – 99% Complete
- Sewer Mapping Program – 72% Complete

3.2.2 Capacity Assurance Program (CAP)

In accordance with the requirements of the CD, the City shall submit a Capacity Assurance Program (CAP) to EPA and SCDHEC for review, comment, and approval. The CAP is to be submitted within 180 days after EPA approval of the Hydraulic Model Report. The City agrees to continue to implement its current capacity program until EPA approves the CAP.

The City continues to implement, update, and maintain its CAP as necessary. The updated CAP, effective April 2018, is provided in Appendix A.

3.2.3 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 – 95% complete
 - Smith Branch Basin – 67% complete
 - Saluda River Basin – 88% complete
 - Rocky Branch Basin – 44% complete
 - Mill Creek Basin – 26% complete
 - Gills Creek Basin – 29% complete
 - Crane Creek Basin – 65% complete
 - Broad River Basin – 27% complete

- Progress for each WCTS Major Gravity Mapping basin is as follows:
 - West Columbia Basin – 100% complete (Mapping complete as of November 20, 2017.)
 - Smith Branch Basin – 100% complete (Mapping complete as of November 20, 2017.)
 - Saluda River Basin – 100% complete (Mapping complete as of May 23, 2018.)
 - Rocky Branch Basin – 100% complete (Mapping complete as of May 23, 2018.)
 - Mill Creek Basin – 85% complete
 - Gills Creek Basin – 81% complete
 - Crane Creek Basin – 89% complete
 - Broad River Basin – 97% complete

3.2.4 Transmission System Operations and Maintenance Program (TSOMP)

The TSOMP was submitted to EPA and SCDHEC on May 18, 2015. The City received final approval of the TSOMP from EPA and SCDHEC on September 2, 2016.

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

- SCADA System Enhancements – 55% Complete
- Force Main and Easement Maintenance (Easement survey and marking and initial clearing to the surveyed limits, where practical) – 33% Complete
- Corrosion Control – 25% Complete

3.2.5 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:

- Gravity Line Preventive Maintenance Plan (GLPMP) – 80% Complete
- Evaluation of potential sulfide and corrosion control of the WCTS – 25% Complete
- Inspection and evaluation of crossings and stream bank encroachment areas with a higher likelihood of SSOs – 25% Complete
- Gravity Sewer Easement survey and marking and initial clearing to survey the limits, where practical – 20% Complete

3.2.6 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.

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

- Capital Improvement Financing Program – 50% Complete

3.3 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 – 70% Complete
- Major Manhole Inspection – 100% Complete for all major manholes which could be safely accessed with contractor’s standard equipment and personnel (Inspections complete as of May 23, 2018.)¹
- Major Pump Stations Condition Assessment – 70% Complete
- Major Force Mains Field Assessment – 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 – 84% Complete
- Minor Gravity Sewer and Manholes Condition Assessment – 35% Complete
- Minor Pump Stations Condition Assessment – 35% Complete
- Minor Force Mains Field Assessment – 35% Complete

3.4 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:

- SS725802 Greenlawn Dr. to Burnside #1 PS (Hampton Forest) Phase 2 – Design 95% Complete
- SS7289 Rivermont Drive Pump Station and Force Main – Design 98% Complete
- SS7301 Bull Street – Construction in Progress; a completion percentage cannot be provided due to a varying scope of work and timeline for this project.
- SS7330 Upper Mill Creek Sewer Improvements – Design 25% Complete
- SS7331 Upper Kinley Creek Sewer Improvements Ph. 1 – Design 90% Complete
- SS733701 East Rocky Branch Improvements Ph. 1 – Design 95% Complete
- SS733702 East Rocky Branch Improvements Ph. 2 – Design 90% Complete
- SS735002 Crane Creek Upper North Branch Extension – Design 30% Complete
- SS735003 Crane Creek Lower North Branch Capacity Upgrade Phase 1 – Design 60% Complete
- SS7389 Crane Creek and Smith Branch Manhole Repair and Mitigation – Construction 0% Complete

¹ As previously discussed with EPA, the City has revised the CSAP to clarify that inspection is not warranted for manholes installed within the last five years or manholes for which the City has already committed to funding a project which will result in the abandonment of the manhole. The revised CSAP will be submitted to EPA for approval following the public comment period.

- SS7428 Lower Saluda Relief Sewer and Major Pipe Rehabilitation – Design 2% Complete
- SS7454 Broad River Force Main Replacement and Gravity Sewer Capacity Improvements – Design 0% 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:

- SS6786 Annual Sanitary Sewer Manhole Rehabilitation – 2018 Construction 90% Complete
- SS6786 Annual Sanitary Sewer Manhole Rehabilitation – 2019 Construction 0% Complete
- SS6857 Olympia Subdivision Sewer System Evaluation Survey (SSES) and Rehabilitation – Design 75% Complete
- SS7172 Rehabilitation/Replacement Harbison #2, Mallard Point and Animal Shelter PS – Construction 0% Complete
- SS7208 Saluda River Basin SSES and Rehabilitation for SR-03, 10, & 12 – Construction 97% Complete
- SS7279 Smith Branch-02 SSES and Rehabilitation – Construction 89% Complete
- SS7280 Rocky Branch-01 SSES and Rehabilitation – Construction 59% Complete
- SS7323 Food Lion PS Improvements – Design 90% Complete
- SS7362 Smith Branch 01 SSES – Construction 2% Complete
- SS7363 Smith Branch 03 SSES – Design 100% Complete
- SS7424 SSES and Sewer Rehabilitation Implementation BR02 – Design 2% Complete
- SS7425 SSES and Sewer Rehabilitation Implementation RB03 – Design 5% Complete
- SS7463 SSES and Sewer Rehabilitation Implementation CC01 – Design 0% Complete
- SS7468 Three Rivers Force Main Replacement – Design 0% Complete

3.5 Supplemental Environmental Project

In accordance with Section VIII and Appendix I of the CD, the City will perform a Supplemental Environmental Project (SEP). Within three years of the effective date of the CD, the City was to submit to EPA preliminary reports on the condition of Rocky Branch, Smith Branch, and Gills Creek and plans for Phase II for each of the SEP watersheds. 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 November 21, 2017 to complete the submittal of the preliminary reports and plans for improving the SEP areas. This request was granted by EPA. The SEP Preliminary Report and Phase II plan for Rocky Branch, Smith Branch, and Gills Creek was submitted to EPA on June 14, 2017.

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

- Construction is underway for the MLK Detention Project, which will meet the SEP Phase II requirements for Rocky Branch. The completion date has been extended by a few weeks, which puts the new completion date in mid-October 2018.
- Sediment and debris removal has taken place within the waterways in the Smith Branch watershed. In addition to the completed sediment and debris removal, a volunteer litter cleanup was organized and conducted under supervision by the City. The volunteer cleanup was completed on April 8, 2018.
- The City and Gills Creek Watershed Association (GCWA) will coordinate a volunteer debris/trash cleanup in the Gills Creek Watershed.

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 2018

| City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2018 | | | | | | | | | |
|---|----------|--|----------|---------------------------|---------------------------|----------------------------|-----------------------------|----------------|--|
| SSO Date | SSO Time | Location | Source | Date of Corrective Action | Time of Corrective Action | Estimated Volume (gallons) | Receiving Water (if any) | Cause | Actions Taken |
| 4/2/2018 | 14:45 | 2025 Marion St, Columbia, SC 29201 | Cleanout | 4/2/2018 | 15:30 | 30 | Storm Drain | Debris | Washed Service Line 55 Feet To Remove Stoppage. |
| 4/3/2018 | 10:00 | 516 Wilmette Rd, Columbia, SC 29203 | Manhole | TBD | | 225 | Unnamed Trib To Crane Creek | Roots | Washed Main Line 75 Feet To Remove Stoppage. Main Line Repair. |
| 4/4/2018 | 10:00 | 1102 Price Ave, Columbia, SC 29201 | Cleanout | 4/4/2018 | 10:40 | 40 | | Debris | Washed Service Line From City Cleanout To Main Line 40 Feet To Remove Stoppage. |
| 4/8/2018 | 16:10 | 31 Brooksby Ct, Columbia, SC 29209 | Manhole | 4/8/2018 | 17:35 | 160 | Storm Drain | Grease | Washed Main Line 100 Feet To Remove Stoppage. |
| 4/9/2018 | 11:00 | 3700 Bush River Rd, Columbia, SC 29210 | Manhole | 4/12/2018 | 13:57 | 300 | Storm Drain | Grease | Washed Main Line 278 Feet To Remove Stoppage. |
| 4/10/2018 | 09:30 | 4630 Bluff Rd, Columbia, SC 29209 | Cleanout | 4/10/2018 | 10:40 | 180 | | Debris | Washed City Cleanout. Removed Debris. |
| 4/11/2018 | 13:20 | 3708 Harvard Ave, Columbia, SC 29205 | Cleanout | 4/11/2018 | 13:30 | 30 | | Debris | Washed Service Line 35 Feet To Resume Normal Flow. |
| 4/12/2018 | 10:00 | 329 Maple View Dr, Columbia, SC 29212 | Cleanout | TBD | | 20 | | Collapsed Line | Washed City Clean Out 55 Feet To Resume Normal Flow. Service Line Repair. |
| 4/12/2018 | 18:00 | 1505 Blanding St, Columbia, SC 29201 | Cleanout | TBD | | 12 | | Roots | Washed Service Line 35 Feet To Resume Normal Flow. Service Line Repair. |
| 4/16/2018 | 11:20 | 4600 Fort Jackson Blvd, Columbia, SC 29209 | Manhole | TBD | | 21 | | Roots | Washed Main Line 45 Feet To Remove Stoppage. Main Line Repair. |
| 4/23/2018 | 14:30 | 124 Crosscreek Dr, Columbia, SC 29212 | Cleanout | 4/23/2018 | 15:10 | 20 | | Roots | Washed Service Line 60 Feet From Homeowner Cleanout. Washed Service Line To Remove Roots. |
| 4/23/2018 | 19:00 | 3518 Cairnbrook Dr, Columbia, SC 29210 | Cleanout | TBD | | 30 | | Roots | Washed Main Line 150 Feet To Remove Stoppage. Main Line Repair. |
| 4/24/2018 | 17:13 | 2700 Middleburg Dr, Columbia, SC 29204 | Cleanout | 4/24/2018 | 17:43 | 60 | | Debris | Washed Service Line From Homeowner Cleanout 50 Feet, Stopped At 20 Feet. |
| 4/26/2018 | 11:40 | 106 Saddlefield Rd, Columbia, SC 29203 | Cleanout | 4/26/2018 | 12:00 | 20 | | Collapsed Line | Washed City Cleanout 50 Feet To The Main Line. |
| 4/30/2018 | 18:30 | 2017 Greenwyche Ave, Columbia, SC 29210 | Cleanout | TBD | | 23 | | Roots | Washed Service Line From The City Cleanout 10 Feet. Service Line Repair. |
| 5/2/2018 | 19:00 | 1427 Beaver Dam Rd, Columbia, SC 29212 | Manhole | TBD | | 45 | Drainage Ditch | Roots | Washed Main Line 150 Feet To Remove Stoppage. Main Line Repair. |
| 5/1/2018 | 18:30 | 3117 Cornwall Rd, Columbia, SC 29204 | Manhole | TBD | | 966 | Storm Drain | Collapsed Line | Washed And Bypass Line. Main Line Repair. |
| 5/7/2018 | 14:45 | 5405 Holmes Ave, Columbia, SC 29203 | Manhole | 5/7/2018 | 15:00 | 45 | | Roots | Washed Main Line 140 Feet. Main Line Root Cut. |
| 5/14/2018 | 12:30 | 4926 Baine St, Columbia, SC 29203 | Manhole | 5/14/2018 | 13:10 | 142 | | Roots | Washed Main Line 100 Feet. Root Removal. |
| 5/17/2018 | 13:40 | 1404 Crestwood Dr, Columbia, SC 29205 | Manhole | TBD | | 75 | | Collapsed Line | Washed Main Line 45 Feet To Remove Stoppage. Main Line Repair. |
| 5/21/2018 | 14:30 | 518 Aspinwall Rd, Columbia, SC 29203 | Cleanout | 5/21/2018 | 14:40 | 20 | | Debris | Washed Service Line 40 Feet. Removed Stoppage. |
| 5/23/2018 | 10:00 | 4434 Woodside Haven Dr, Columbia, SC 29206 | Cleanout | 5/23/2018 | 10:05 | 10 | | Debris | Removed Stoppage To Resume Normal Flow. Washed The Service Line 15 Feet, Stoppage Removed. |

| City of Columbia, SC Quarterly SSO Listing 2nd Quarter 2018 | | | | | | | | | |
|---|----------|---|----------|---------------------------|---------------------------|----------------------------|--------------------------|-------------------|---|
| SSO Date | SSO Time | Location | Source | Date of Corrective Action | Time of Corrective Action | Estimated Volume (gallons) | Receiving Water (if any) | Cause | Actions Taken |
| 5/22/2018 | 14:40 | 219 Basinghouse Rd, Columbia, SC 29212 | Cleanout | 5/23/2018 | 09:00 | 480 | | Roots | Washed Main Line 77 Feet. Main Line Repair. |
| 5/25/2018 | 19:00 | 437 Press Lindler Rd, Columbia, SC 29212 | Cleanout | 5/27/2018 | 19:20 | 20 | | Collapsed Line | Washed Service Line 8 Feet. Service Line Repair. |
| 5/28/2018 | 09:45 | 2523 Rigby Dr, Columbia, SC 29204 | Manhole | 5/28/2018 | 10:30 | 2,250 | Unknown | Roots | Washed Main Line 300 Feet. Main Line Repair And Tap Renewal. |
| 5/30/2018 | 13:40 | 2402 Washington St, Columbia, SC 29204 | Cleanout | 5/30/2018 | 13:40 | 10 | | Debris | Washed Service Line 25 Feet. Removed Stoppage. |
| 6/1/2018 | 13:00 | 2751 Bull St, Columbia, SC 29201 | Manhole | 6/9/2018 | 08:00 | 720 | Storm Drain | Roots | Washed Main Line. Main Line Repair. |
| 6/4/2018 | 10:40 | 110 Broomfield St, Columbia, SC 29203 | Cleanout | 6/4/2018 | 10:50 | 10 | | Debris | Washed Service Line. Removed Stoppage. |
| 6/5/2018 | 09:15 | 219 Pickens St, Columbia, SC 29205 | Cleanout | 6/5/2018 | 09:30 | 30 | Storm Drain | Equipment Failure | Discontinued Washing The Line. Washed Service Line 30 Feet (Private Service Collapsed). |
| 6/4/2018 | 12:00 | 137 Bloxome Dr, Hopkins, SC 29061 | Manhole | 6/4/2018 | 14:12 | 141 | | Grease | Washed Main Line 150 Feet. Stoppage Removed. |
| 6/8/2018 | 10:30 | 3700 Lee Hills Dr, Columbia, SC 29209 | Cleanout | 6/15/2018 | 08:00 | 10 | | Roots | Washed Service Line 45 Feet. Install City Cleanout. |
| 6/11/2018 | 13:00 | 1550 Gadsden St, Columbia, SC 29201 | Other | 6/13/2018 | 14:31 | 350 | Storm Drain | Collapsed Line | Washed Main Line 325 Feet, Removed Stoppage To Resume To Normal Flow. Main Line Repair. |
| 6/13/2018 | 12:56 | 4813 Hamby St, Columbia, SC 29203 | Cleanout | 6/13/2018 | 13:26 | 20 | | Roots | Washed Service Line. Rewashed Service Line To Remove Roots. |
| 6/12/2018 | 14:30 | 3006 Gervais St, Columbia, SC 29204 | Cleanout | 6/22/2018 | TBD | 6 | | Roots | Washed Service Line 20 Feet. Service Line Repair. |
| 6/15/2018 | 13:20 | 140 Mcleod Rd, Columbia, SC 29203 | Cleanout | 6/15/2018 | 13:42 | 22 | | Debris | Removed Stoppage To Resume Normal Flow. Washed Service Line 50 Feet, Stoppage Removed. |
| 6/18/2018 | 16:54 | 2915 Chestnut St, Columbia, SC 29204 | Cleanout | 6/26/2018 | 08:00 | 2 | | Roots | Washed Service Line 5 Feet From City Cleanout. Service Line Repair. |
| 6/21/2018 | 09:00 | 115 Winding Oak Way, Columbia, SC 29016 | Cleanout | TBD | | 45 | Storm Drain | Roots | Washed Main Line 120 Feet. Main Line Repair. |
| 6/21/2018 | 18:00 | 10 Carty Ct, Columbia, SC 29203 | Cleanout | TBD | | 1 | | Roots | Washed Main Line 50 Feet. Main Line Repair. |
| 6/25/2018 | 19:44 | 3220 Duncan St, Columbia, SC 29205 | Cleanout | 6/25/2018 | 19:46 | 2 | | Debris | Removed Stoppage To Resume Normal Flow. Washed Service Line 15 Feet From City Cleanout. |
| 6/26/2018 | 14:10 | 3638 Falling Springs Rd, Columbia, SC 29203 | Manhole | 6/29/2018 | 13:24 | 90 | Storm Drain | Roots | Washed Main Line 250 Feet. Main Line Repair. |

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.

Table 2 - Building Backup Report, 2nd Quarter 2018

| City of Columbia, SC Quarterly Building Backup Listing 2nd Quarter 2018 | | | | | | | | | |
|---|-------|-------------------------------------|-----------------|---------------------------|---------------------------|----------------------------|--------------------------|-------|--|
| Date | Time | Location | Source | Date of Corrective Action | Time of Corrective Action | Estimated Volume (gallons) | Receiving Water (if any) | Cause | Actions Taken |
| 5/8/2018 | 15:00 | 2501 Heyward St, Columbia, SC 29205 | Inside Property | 5/10/2018 | 15:00 | 3 | | Roots | Washed Service Line To Remove Stoppage. Service Line Tap Renewal Installation. |

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 QAPP was revised and resubmitted to SCDHEC on May 31, 2017 to reflect a change in City personnel. 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 2018 Q2 was completed on May 2, 2018. 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: 5/2/18

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



Ralana Wilson/QA Manager

5-7-18

Date

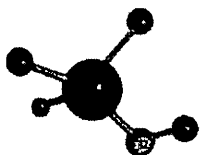
The undersigned validates the data in the above referenced report, per the QAPP requirements.



Michael Jaspers/Project Validator

5/7/18

Date



**ACCESS
ANALYTICAL, INC.**

ANALYTICAL REPORT

CLIENT:

City of Columbia
1136 Washington Street
Columbia, SC 29201

PROJECT:

WATER QUALITY MONITORING

REPORT DATE:

05.02.18

REPORT APPROVED BY:

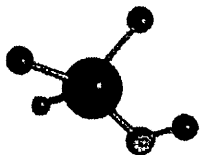
A handwritten signature in black ink that reads "Bryant W. Boyd". The signature is written over a horizontal line.

Bryant W. Boyd
Laboratory Manager
bryant@axs-inc.com

Any questions related to this report should be directed to Access Analytical, Inc. via phone at 803.781.4243 or via email at the address listed above.

Access Analytical, Inc. SCDHEC certification #'s: 32571001 (Irmo Lab)
 25003001 (Hampton Lab)

Access Analytical, Inc.
15 Thames Valley Rd. ~ Irmo, SC 29063
PHONE: 803.781.4243 ~ FAX: 803.781.4303 ~ WEB: www.axs-inc.com



ACCESS
ANALYTICAL, INC.

Report of Analysis

Lab ID #: 11125-001

Matrix: Waste Water

Project: WATER QUALITY MONITORING

Collected: 4/24/2018 @ 14:12

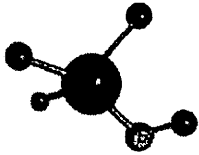
Sample Name: C-017

Collected by: JRS

Client ID #:

Date Received: 4/24/2018 @ 15:58

| Parameter | Result | Reporting Limit | Units | Method Reference | Data Flag | Date/Time of Analysis | Analyst |
|---------------|--------|-----------------|-------|------------------|-----------|-----------------------|---------|
| DO | 6.07 | None | mg/L | SM 4500-O G-2011 | | 4/24/2018 14:12 | JRS |
| E. Coli (MPN) | 1553.1 | 1 | MPN | SM 9223 B-2004 | | 4/24/2018 16:44 | RDA |
| Temperature | 18.9 | None | oC | SM 2550B-2010 | | 4/24/2018 14:12 | JRS |
| TSS | 11.2 | 1 | mg/L | SM 2540 D-2011 | | 4/26/2018 15:25 | RDA |



ACCESS
ANALYTICAL, INC.

Report of Analysis

Lab ID #: 11125-002

Matrix: Waste Water

Project: WATER QUALITY MONITORING

Collected: 4/24/2018 @ 14:33

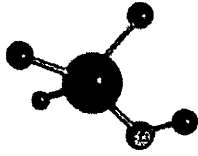
Sample Name: C-001

Collected by: JRS

Client ID #:

Date Received: 4/24/2018 @ 15:58

| Parameter | Result | Reporting Limit | Units | Method Reference | Data Flag | Date/Time of Analysis | Analyst |
|---------------|--------|-----------------|-------|------------------|-----------|-----------------------|---------|
| DO | 7.36 | None | mg/L | SM 4500-O G-2011 | | 4/24/2018 14:33 | JRS |
| E. Coli (MPN) | 387.3 | 1 | MPN | SM 9223 B-2004 | | 4/24/2018 16:44 | RDA |
| Temperature | 19.7 | None | oC | SM 2550B-2010 | | 4/24/2018 14:33 | JRS |
| TSS | 12.0 | 1 | mg/L | SM 2540 D-2011 | | 4/26/2018 15:25 | RDA |



ACCESS
ANALYTICAL, INC.

Report of Analysis

Lab ID #: 11125-003

Matrix: Waste Water

Project: WATER QUALITY MONITORING

Collected: 4/24/2018 @ 15:20

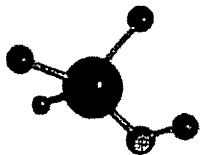
Sample Name: B-280

Collected by: JRS

Client ID #:

Date Received: 4/24/2018 @ 15:58

| Parameter | Result | Reporting Limit | Units | Method Reference | Data Flag | Date/Time of Analysis | Analyst |
|---------------|----------|-----------------|-------|------------------|-----------|-----------------------|---------|
| DO | 8.02 | None | mg/L | SM 4500-O G-2011 | | 4/24/2018 15:20 | JRS |
| E. Coll (MPN) | > 2419.6 | 1 | MPN | SM 9223 B-2004 | | 4/24/2018 16:44 | RDA |
| Temperature | 20.1 | None | oC | SM 2550B-2010 | | 4/24/2018 15:20 | JRS |
| TSS | 19.6 | 1 | mg/L | SM 2540 D-2011 | | 4/26/2018 15:25 | RDA |



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Laboratory Endorsement / Definitions

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency, Standard Methods or other recognized agencies.

Common abbreviations that may be utilized in this report:

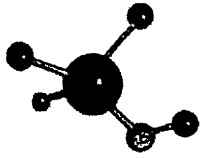
| | |
|---------------|--|
| ND | Indicates the result was Not Detected at the specified reporting limit |
| "<" | Indicated the result as less than the indicated amount |
| MI | Indicates the result was subject to Matrix Interference |
| TNTC | Indicates the result was Too Numerous to Count |
| SUB | Indicates the analysis was Sub-Contracted |
| FLD | Indicates the analysis was performed in the Field |
| DL | Detection Limit |
| DF | Dilution Factor |
| RL | Reporting Limit |
| MDL | Calculated minimum detection limit |
| PQL | Practical Quantitation Limit |
| RE | Re-analysis |

Reporting flags that may be utilized in this report:

| | |
|-----------|--|
| J | Indicates the result is between the MDL and PQL and considered to be an estimated result |
| MB | Indicates the analyte was detected in the associated Method Blank |
| H | Indicates the recommended holding time was exceeded |
| * | Indicates a non-compliant or not applicable QC recovery or RPD |
| A | BOD or CBOD GGA check value for this sample did not meet acceptance criteria. |
| B | BOD or CBOD blank depletion did not meet acceptance criteria. |
| C | Indicates the spike % recovery was not acceptable. |
| D | Indicates the duplicate % difference was not acceptable. |
| E | Toxicity is apparent in the sample. |

Sample receipt at Access Analytical is documented through the attached chain of custody. In accordance with laboratory protocol, this report shall be reproduced only in full and with the written permission of Access Analytical, Inc.. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

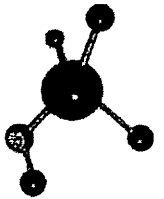
This report pertains only to the samples listed in the attached report and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.



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Sample Receipt

| | |
|--|-----|
| Were samples received on ice? | YES |
| Were samples received within required temperature limits? | YES |
| Are the number of samples the same as stated on the chain of custody? | YES |
| Are samples submitted with a correct and complete chain of custody? | YES |
| Are bottle caps tight and securely in place, coolers and samples intact? | YES |
| Are the correct sample containers provided? | YES |
| Were samples within the holding time for requested test(s)? | YES |
| Is the volume of sample submitted sufficient for the requested test(s)? | YES |
| Is there sufficient air space in bottle for bacteriological analysis? | YES |
| Were samples received with applicable preservative? | YES |



ACCESS
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Chain of Custody

| | | | | | | | | | | | | | | | |
|--|--|---|-----------------------------|---|-------------------------------|--|------------------|---|--|---|--|--|--|--|--|
| Access Lab Report #: <u>11125</u> | | | | Access Analytical, Inc. - WFOO 15 Thomas Valley Rd. - Irmo, SC 29011 Phone: 803-781-4241 / Fax: 803-781-4100 / Web: www.access-anal.com SCDHEC Lab Certification # 32571 | | Chain of Custody Record | | | | | | | | | |
| Client: City of Columbia | | Preservatives (see codes): 9 S NA | | Bottle Types (see codes): P P NA | | *Preservative Codes: 0 = None, 1 = HCL, 2 = HNO3, 3 = H2SO4, 4 = NaOH, 5 = H2S2O8, 6 = Method 5035 set w/ NaHSO5, 8 = CH3OH, 7 = NaOH/ZINCAC, 9 = H2PO4, 10 = cooled to 4°C, 11 = Arsen. Cl., 12 = Ascorbic Acid / HCL, 13 = EDTA | | | | | | | | | |
| Address: 1136 Washington Street | | State: SC Zip Code: 29201 | | Phone: 803-545-0076 Fax: _____ | | *Matrix Codes: GW = ground water, WW = waste water, DW = drinking water, SW = surface/storm water, S = soil, SL = sludge, A = air, IW = industrial waste, O = other (specify in comments section) | | | | | | | | | |
| Email: miaspers@columbiasc.net | | Project Name: Water Quality Monitoring | | Sampled By (Signature): <i>[Signature]</i> | | *Program Area Codes: CWA = Clean Water Act (for wastewater), SDWA = Safe Drinking Water Act (for drinking water), SHW = Solid and Hazardous Wastes (for soils, ground waters and waste samples) | | | | | | | | | |
| Lab ID: 001 Sample Name: C-017 | | Date Collected: 4-24-18 | Time Collected: 1412 | Container (G/L): G | Matrix (see codes): WW | Program Area (see codes): CWA | Field # 2 | REQUESTED LAB ANALYSIS: TSS: 1 1 NA E. Coli: 1 1 NA DO, Temperature: 1 1 NA | | Notes / Comments: DO (mg/L) = <u>6.07</u> Temperature (°C) = <u>15.9</u> | | | | | |
| Lab ID: 002 Sample Name: C-001 | | Date Collected: " | Time Collected: 1433 | Container (G/L): G | Matrix (see codes): WW | Program Area (see codes): CWA | Field # 2 | REQUESTED LAB ANALYSIS: TSS: 1 1 NA E. Coli: 1 1 NA DO, Temperature: 1 1 NA | | Notes / Comments: DO (mg/L) = <u>7.36</u> Temperature (°C) = <u>19.7</u> | | | | | |
| Lab ID: 003 Sample Name: B-280 | | Date Collected: " | Time Collected: 1520 | Container (G/L): G | Matrix (see codes): WW | Program Area (see codes): CWA | Field # 2 | REQUESTED LAB ANALYSIS: TSS: 1 1 NA E. Coli: 1 1 NA DO, Temperature: 1 1 NA | | Notes / Comments: DO (mg/L) = <u>8.02</u> Temperature (°C) = <u>20.1</u> | | | | | |
| **Sample the last week of Jan, April, July & October | | | | | | | | | | | | | | | |
| Auto Sampler Data (composite samples only): Composite Harvest Temp (°C) = _____ Meter Reading After: _____ Date/Time Set On: _____ by whom: _____ Meter Reading Before: _____ Date/Time Off: _____ by whom: _____ Difference: _____ X (factor): _____ | | | | | | | | | | | | | | | |
| Turnaround Time Requested: | | Project Location: SC | | Relinquished By: | | Received By: | | Date: 4-24-18 | | Time (24hr): 1555 | | | | | |
| Standard | | SC | | | | | | | | Samples Received on Ion: <u>Y</u> <u>N</u> <u>N/A</u> | | | | | |
| Rush * | | MC | | | | | | | | Samples Received on Ion: <u>Y</u> <u>N</u> <u>N/A</u> | | | | | |
| *Date Requested | | Other (Specify): | | | | | | | | Samples Received on Ion: <u>Y</u> <u>N</u> <u>N/A</u> | | | | | |
| Each date method/used by end of business day on date required. Standard TAT is 2-3 business days. | | Received in lab by: <i>[Signature]</i> | | | | | | | | Sample Temp. Upon Receipt in Lab: <u>0.1</u> (°C) | | | | | |
| Chain of Custody Page _____ of _____ | | White Copy: Lab original / Copy Copy: File Copy / Print Copy: Client Copy | | NOTE: Relinquishing samples via this Chain of Custody document constitutes client acceptance of Access Analytical terms and conditions. | | | | | | | | | | | |

Appendix A

Revised Wastewater System CAP SOP

City of Columbia, South Carolina
Wastewater

Standard Operating Procedure

WASTEWATER SYSTEM CAPACITY ASSURANCE
PROGRAM

May 2013
Revised April 2018

TABLE OF CONTENTS

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A. PURPOSE AND APPLICABILITY

The purpose of this Standard Operating Procedure (SOP) is to establish a uniform practice for the City of Columbia (City) Capacity Assurance Program (CAP). The procedures outlined in this SOP are applicable to all personnel involved in the review of submittals requesting revisions to the permitted wastewater flows that are being discharged into and conveyed through the City's Wastewater Collection and Transmission Systems (WCTS), and ultimately being treated at the City's wastewater treatment plant (WWTP).

B. REQUESTS FOR CAP ANALYSIS

This section outlines the request procedures for new connections and proposed increases in wastewater flows to the City's wastewater system.

1. Pre-CAP Analysis Request

To assist developers at the earliest stages of planning for a proposed development, the Engineering Division will conduct a Pre-CAP Analysis upon request to determine whether the City's wastewater system has sufficient collection, transmission and treatment capacity to accept an increased wastewater flow. The Pre-CAP Analysis is optional, and the City's determination in response to a Pre-CAP Analysis Request is non-binding as system conditions may change prior to submittal of the CAP Analysis Request for a proposed project.

Developers or other entities requesting a Pre-CAP Analysis must submit a Capacity Assurance Program Analysis Request Form to the Engineering Department. Based on the information provided in the Capacity Assurance Program Analysis Request Form, the Engineering Department will conduct an analysis in accordance with the procedures in Section C below to determine whether the City's collection, transmission, and treatment system has sufficient capacity to accept the proposed increase in flow. The Pre-CAP Analysis is based on conditions existing at the time of the Pre-CAP determination. The City's Pre-CAP Analysis determination is offered as an optional planning tool to assist developers and does not guarantee that capacity will be available upon request for a CAP Analysis.

2. CAP Analysis Request

For new wastewater connections with flow greater than 4,000 gallons per day or existing connections with an increase in wastewater flow greater than 4,000 gallons per day, a Capacity Assurance Program Analysis Request Form and supporting documents and design plans must be submitted to Planning and Development along with any other required planning and development submittals for a proposed project. Planning and Development will forward the Capacity Assurance Program Analysis Request Form and supporting documents and wastewater design plans to the Engineering Division. The Engineering

Division will conduct a CAP Analysis in accordance with the procedures in Section C below to determine whether the City's collection, transmission, and treatment system has sufficient capacity to accept the proposed increase in flow. The Engineering Division may approve, approve with conditions, or deny a CAP Analysis Request.

If the City does not have capacity to accept the new connection or increase in wastewater flow for a proposed project, the City will notify the developer or entity that system upgrades would be required to serve the proposed project.

In response to a CAP Analysis Request in an area with an existing capacity limitation, the City may, in its sole discretion, authorize issuance of a construction permit for the proposed project by the South Carolina Department of Health and Environmental Control (SCDHEC) pursuant to S.C. Regulation 61-67.300.A. Under these circumstances, the City's authorization will be subject to a condition that SCDHEC's approval to place the proposed project into operation will not be issued until SCDHEC issues its approval to place the City's system upgrades into operation. In providing the authorization to proceed under S.C. Regulation 61-67.300.A, the City makes no representations or commitments regarding the date of completion or allocations of City funds necessary to complete the City's system upgrades on which SCDHEC's approval of the proposed project is conditioned.

An approval or approval with conditions of a CAP Analysis Request expires three years from the approval date or SCDHEC's issuance of the approval to place into operation, whichever is later.

C. CAP ANALYSIS PROCEDURE

This section outlines the steps that are taken to review a Pre-CAP Analysis Request or a CAP Analysis Request for new connections or increases in wastewater flow to the City's wastewater system. In conducting the Pre-CAP Analysis or CAP Analysis, the Engineering Division will use the procedural steps below to determine whether the wastewater collection system, transmission system, applicable pump stations, and the WWTP have the capacity to serve the new sewer service connection or additional flow from an existing sewer service connection. For the purposes of the CAP, a "Minor Sewer Connection" is a connection with an average flow not to exceed four thousand (4,000) gallons per day. Proposed Minor Sewer Connections will be deemed to have minimal impacts to the system and may be approved without further analysis required at the discretion of the Engineering Division.

Columbia may authorize a new sewer service connection or additional flow from an existing sewer service connection in cases where there is not Adequate Collection Capacity, Adequate Transmission Capacity, and/or Adequate Treatment Capacity for minor sewer connections, health care facilities, public safety facilities and public schools and, subject to EPA review and approval, for government facilities; and in those cases where a pollution or sanitary nuisance condition exists, as determined by the Richland or Lexington County Health Department, as the result of a discharge of untreated wastewater

from an on-site septic tank. All such new service connections or additions to flow from an existing connection will be tracked in the CAP Information Management System.

The Engineering Division will make a determination on Pre-CAP Analysis Requests and CAP Analysis Requests in accordance with the following criteria and procedures:

1. CAP and Pre-CAP Evaluation Procedures

- a. Evaluation of Proposed Sewer Connection - Determine whether the proposed pump station, force main, or gravity sewers meet the following requirements:
 - Pertinent DHEC Standards
 - City Standard Specifications

- b. Evaluation from Proposed Connection to Nearest 15 inch Sewer Line - Evaluate the wastewater collection system (for the purposes of this SOP, the wastewater collection system consists of all gravity sewer lines less than 15 inches in diameter) and existing minor pump stations and force mains from the proposed connection to the nearest 15 inch diameter gravity sewer to determine if the existing infrastructure has the capacity available to accept the additional flow. The existing infrastructure will be evaluated as defined in Section 2.

If the City determines that the capacity is sufficient, continue to Section 1c. If the capacity is not sufficient, the request will be denied but alternatives may be considered between the City and developer or other entity.

- c. Evaluation of Existing Wastewater System – Using the criteria set forth in Section 2, determine whether the City’s wastewater system has adequate collection, transmission, and treatment capacity for the increased wastewater flow.

If there is a capacity limiting condition downstream as determined using the criteria set forth in Section 2, evaluate the sub-basin, basin, pump station(s), and/or WWTP as required to identify any necessary system upgrades. If appropriate, notify the developer that necessary system upgrades will need to be undertaken. Restart at Section 1a when complete.

The City may, in its sole discretion, authorize issuance of a construction permit for the proposed project by the South Carolina Department of Health and Environmental Control (SCDHEC) pursuant to S.C. Regulation 61-67.300.A. Under these circumstances, the City’s authorization will be subject to a condition that SCDHEC’s approval to place the proposed project into operation will not be issued until SCDHEC issues its approval to place the City’s system upgrades into operation.

- d. Issue determination letter with approval, approval with conditions, or denial of CAP Analysis Request. Update wastewater capacity database as needed to reflect any new/increased flows and to subtract any flows if needed with change of use.

2. Evaluating Existing Wastewater System

The steps below describe the processes and methods used to determine whether the City's wastewater system has adequate collection, transmission, and treatment capacity for wastewater flows. Each of the three components of the wastewater system (collection, transmission/pumping, and treatment capacity) are evaluated separately.

a. Collection Capacity

There are three main concepts related to wastewater collection system capacity analysis:

- Total pipe capacity based on diameter
- Existing Peak Flow
- Available pipe capacity

Peak flow is defined as the peak hourly wastewater flow using a 2.5 peaking factor.

Available pipe capacity is the capacity of the sewer remaining, after discounting the existing peak flow.

In the Capacity Assurance Program, capacity analysis for the wastewater collection system will be conducted using available data. Available data for the initial capacity analysis may include:

- Sanitary Sewer Overflow (SSO) Database
- Flow Monitoring Records
- Water consumption data based on city water billing records
- Desktop Hydraulic Analysis

The first step in assessing available capacity in the wastewater collection system is to review the SSO Database between the point of the proposed new connection, downstream to the wastewater treatment plant. Determine through the SSO Database if the wastewater system has experience either one of the following capacity limiting events:

1. A repeated dry-weather, capacity-related SSOs in the wastewater collection system in the past 12-months.

2. A repeated wet-weather, capacity-related SSO in the wastewater collection system in the previous 12 month period (excluding those SSOs caused by severe natural conditions such as hurricanes, tornados, widespread flooding earthquakes, or rainfall events greater than a representative 2 year-24 hour storm event), unless Columbia can certify that the cause of the SSO has been corrected through improvements to the wastewater collection system.

If the wastewater system has not experienced either one of the events listed in 1 or 2 above, then a desktop hydraulic analysis is performed.

A desktop hydraulic analysis consists of determining the capacity of the wastewater collection system using pertinent system information, such as record drawings, in conjunction with hydraulic analysis equations, typically Manning's Equation. This methodology would be used in areas of the wastewater collection system where a more detailed evaluation is needed than is provided by the flow monitoring data analysis and may be manually for a specific segment of pipe or for numerous segments of pipe using a spreadsheet. If the Manning's equation determines that the contributing area exceeds full pipe capacity, further analysis will be required utilizing accepted methodologies to determine whether a surcharge condition exists which would preclude the introduction of additional flow. A capacity limiting surcharge condition exists when the contributing flow is greater than the capacity of the pipes and the surface of the wastewater in the manholes rises to an elevation greater than two (2) feet above the top of the pipe or within two (2) feet of the rim of the manhole, whichever is lower, and the gravity sewer pipe is under pressure or head rather than at atmospheric pressure.

b. Pumping Capacity

There are three main concepts related to pumping capacity analysis:

- Firm Pumping Capacity
- Peak Flow
- Available Pumping Capacity

Firm pumping capacity is defined as the maximum flow rate produced by a pumping station with the largest pump out of service. For the capacity analysis, the maximum capacity of the pumping station will be equal to the firm pumping capacity.

Peak flow is defined as the maximum wastewater flow rate entering the pumping station using a 2.5 peaking factor.

Available pumping capacity is the capacity of the pumping station remaining from the firm pumping capacity after discounting the existing peak flow.

The first step in determining available capacity at pumping stations is to review the SSO Database. If the pumping station has experienced repeated, capacity-related overflows, then the pumping station is deemed to have no available capacity.

Otherwise, a detailed capacity analysis will be conducted. The peak flow will be compared to the firm pumping capacity to determine the available capacity.

c. Treatment Capacity

The Capacity Assurance Program uses Metro wastewater treatment plant (WWTP) data to determine the available capacity at the WWTP versus the amount of flow from the new sewer service connection, or increase in flow to an existing connection. The available capacity at the WWTP is calculated by subtracting the average daily effluent flow from the wastewater treatment system's average design flow (currently 60 MGD) in million gallons per day (MGD) for the most recent twelve calendar months.

3. Revisions Policy

The City of Columbia may deem it necessary to revise or amend this document in the future. Such amendments will be developed by City staff and will be submitted to the EPA along with future quarterly reports.

D. DATA AND RECORDS MANAGEMENT

As mentioned in item C.1.d, the wastewater capacity database will be updated to reflect any changes in flow. The database will be kept in the following location: M:\Util&Eng\Wastewater\Projects\Wastewater Compliance\CAP and will be updated monthly by Subdivision Plan Review. The database will include the name and location of the project, including the sub-basin, date of approval, and the amount of flow added to the system.