DANIEL HORRIGAN, MAYOR

City of Akron

Consent Decree
Semi Annual Report
July 1, 2016 – December 31, 2016

February 15, 2017

AkronWaterways Renewed!

Department of Public Service
Akron Engineering Bureau
Environmental Division

City of Akron
Consent Decree
Semi Annual Report
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Semi-Annual Report
July 1 – December 31, 2016

Table of Contents

List of Abbreviations and Acronyms

AFP	Advanced Facilities Plan
CAG	Community Action Group
CCTV	Closed-Circuit Television
CD	Consent Decree
CIPP	Cured in Place Process
CMOM	Capacity, Management, Operations, and Maintenance
CSO	Combined Sewer Overflow
CSS	Combined Sewer Systems
EPA	Environmental Protection Agency
FOG	Fats, Oils and Grease
FSE	Food Service Establishments
GI	Green Infrastructure
GIS	Geographic Information System
HVAC	Heating, Ventilation, and Air Conditioning
ID	Identification
IP	Integrated Plan
IPF	Integrated Planning Framework
IPS	Integrated Plan Stakeholders
LCI	Little Cuyahoga Interceptor
LF	Lineal Feet
LTCP	Long Term Control Plan
Mg/l	Milligrams per Liter
MGD	Million Gallons per Day
MH	Manhole
MLSS	Mixed Liquor Suspended Solids
MOI	Main Outfall Interceptor
NASSCO	National Association of Sewer Service Companies
NFA	No Feasible Alternative
No.	Number
NOI	Notice of Intent
NTP	Notice To Proceed
OCI	Ohio Canal Interceptor
OCIT	Ohio Canal Interceptor Tunnel
OHPO	Ohio Historic Preservation Office
OSHA	Occupational Safety and Health Administration
PER	Preliminary Engineering Report
PTI	Permit to Install
QAPP	Quality Assurance Project Plan
RAS	Return Activated Sludge
RCA	Root Cause Analysis
RIO	Remote Input/Output
SCPHD	Summit County Public Health Department
SEP	Supplemental Environmental Project
SOP	Standard Operating Procedure
SORNP	Sewer Overflow and Response Notification Plan

Section 1: Specific Action Projects

1.A Upgrade of the WPCS (Phase 1)

Status of Work Plan Development	The Work Plan for Water Pollution Control Station (WPCS) improvements was submitted to EPA on February 10, 2010 per the Consent Decree.
Status of Design and Construction Activities	Design and construction is complete. Certificate of Achievement of Full Operation was issued and acknowledged on September 20, 2013.
Status of Stress Test Protocol Development	Stress Tests are complete.
Status and Results of Stress Tests	Stress test are complete. The Final Demonstration Testing Evaluation Report was submitted to EPA on October 15, 2015 per the Consent Decree.
Capacity Achieved at the WPCS After Upgrade	The Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 have achieved 30 MGD of wet weather treatment capacity.
Project Cost Incurred During Reporting Period	Project costs incurred during the reporting period were approximately $3,453.

1.B Upgrade of the WPCS (Contingency Projects)

The Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 achieved 30 MGD of wet weather treatment capacity, therefore, this Consent Decree item is not applicable.

1.C Status of Sewer Separation Projects

1.C.1 Rack 8 Separation Project

Activities Undertaken During Reporting Period	Project is complete.
Status of Construction	Construction is complete.

Date of Anticipated Completion	Achievement of Full Operation occurred on December 14, 2012.
Project Cost Incurred During Reporting Period	No project costs were incurred during the reporting period.

1.C.2 Rack 25 Separation Project

Activities Undertaken During Reporting Period	Project is complete.
Status of Construction	Construction is complete.
Date of Anticipated Completion	Achievement of Full Operation occurred on December 14, 2012.
Project Cost Incurred During Reporting Period	No project costs were incurred during the reporting period.

1.C.3. Rack 21 Separation Project

Activities Undertaken During Reporting Period	The construction contract was finalized and the PTI secured. The contractor mobilized and began construction on December 6, 2016. The project is in the construction phase.
Status of Construction	Under construction.
Date of Anticipated Completion	Construction on Rack 21 will be complete within 8 years of November 13, 2009 (Date of Lodging).
Project Cost Incurred During Reporting Period	Project costs incurred during the reporting period were approximately $328,579.

1.C.4 Rack 13 Separation Project

Activities Undertaken During Reporting Period	Streets were repaved and curbs were finished. Lining of existing sewers and manhole rehabilitation work is substantially complete.
Status of Construction	Construction began November 12, 2015.
Date of Anticipated Completion	Construction completed November 13, 2016.
Project Cost Incurred During Reporting Period	Project costs incurred during the reporting period were approximately $527,911.

1.C.5 Rack 30 Separation Project

Activities Undertaken During Reporting Period	Plans finalized July 26, 2016. Project awarded to Kenmore Construction. Verified no impacts to possible landfill site. Received letter of compliance from EPA for area tested.
Status of Construction	Construction will begin in 2017.
Date of Anticipated Completion	Construction on Rack 30 will be complete within 8 years of November 13, 2009 (Date of Lodging).
Project Cost Incurred During Reporting Period	Project costs incurred during the reporting period were approximately $26,793.18

Section 2: CSO and WPCS Control Measures

2.A Status of Document Preparation

Table 2-1 shows the current status of documents as listed in Table 1 in Paragraph 17 of the Consent Decree. Documents listed in **bold** have been completed as of the end date of this reporting period.

Table 2-1 Status of Document Preparation

Document	Consent Decree Due Date	Date Submitted or *Date of Anticipated Completion*
Updated NFA and supplement	November 30, 2009	November 25, 2009
Preliminary Report on Modeling to Predict Size and Number of Overflows	January 15, 2010	January 13, 2010
Preliminary Report on Cost/Benefit Comparison to Predict Sizes and Number of Overflows	March 15, 2010	March 12, 2010
CSO Control Measure Cost/Benefit Tables at Appendix 2 of Attachment A	May 15, 2010	May 14, 2010
Updated Financial Capability Information	May 15, 2010	May 14, 2010
Post-Construction Monitoring Program	August 15, 2010	August 16, 2010
Proposed Long Term Control Plan Update	August 15, 2010	August 16, 2010
Proposed Long Term Control Plan Update Report	August 15, 2010	August 16, 2010
Final Long Term Control Plan Update	October 15, 2010	October 15, 2010 Revised: February 28, 2011
Final Long Term Control Plan Update Report	October 15, 2010	October 15, 2010 Revised: February 28, 2011 Revised: November 15, 2011 USEPA Approved: November 16, 2011 Ohio EPA Approved: April 11, 2012
Report on Revising WPCS Control Measure(s) if Akron achieves 130 MGD through secondary treatment using step feed	October 15, 2016	October 14, 2016
Report on Revising WPCS Control Measure(s) if Akron constructs the WPCS Contingency Project	October 15, 2017	*October 15, 2017*

2.A.1 Development of an Integrated Plan

The City's LTCP Update was approved by U.S. EPA on November 16, 2011 and Ohio EPA on April 11, 2012. The LTCP Update was incorporated into the court-approved Consent Decree on January 17, 2014. The City subsequently requested the opportunity to participate in the USEPA's Integrated Planning process. The City has continued to comply with the requirements within the Consent Decree, including, but not limited to, the LTCP while it develops and obtains approval of an Integrated Plan.

The City submitted an Integrated Plan on July 31, 2015 in accordance with USEPA's June 5, 2012 Integrated Planning Framework (IPF) Guidance. The parties have had several conferences and exchanged several documents regarding the City's proposed Integrated Plan.

The following list summarizes the Integrated Plan activities that were implemented during this reporting period:

- Technical and legal meetings with USEPA and DOJ to discuss the Integrated Plan and proposed alternative project components that meet the City's goal to achieve environmental benefits at an affordable cost are ongoing. The discussions include:
    - Kelly Optimized Alternative (CSO Rack 3)
    - Hazel Storage Basin (CSO Rack 10/11)
    - Memorial Optimized Alternative (CSO Rack 26/28)
    - Uhler Optimized Alternative (CSO Rack 27/29)
    - Northside Interceptor Tunnel Alternative Projects
    - Ohio Canal Interceptor Tunnel – EHRT Enhanced Alternative Projects
    - CMOM Condition Based Approach
    - BioACTIFLO Alternatives
- Prepared technical documentation to support modifications to the LTCP. These documents supported Memorial Optimized Alternative, BioACTIFLO Alternative, EHRT Alternative and Northside Interceptor Tunnel Alternatives.
- Received general agreement for Rack 3, Rack 26/28, and Rack 27/29.

2.A.2 Consent Decree Modifications

As a result of ongoing Consent Decree negotiations, modifications were made pursuant to Exhibit 2 and Exhibit 3 of the Consent Decree. Those modifications and the subsequent First Amendment are discussed below.

The City received modification approval letters under Exhibit 3 of the LTCP for the following green infrastructure projects:

- Rack 36 – approval letter issued on October 30, 2015;
- Rack 5/7 – approval letter issued on December 7, 2015;
- Rack 22 – approval letter issued on December 7, 2015.

Based upon a subsequent agreement of the parties, the City is constructing the original Rack 22 storage basin in lieu of the approved infrastructure project.

On January 15, 2016, the City submitted an Alternative Plan to the Sizing of Secondary Treatment Capacity under Exhibit 2 of the LTCP Update. U.S. EPA approved the City's Alternative Plan on February 11, 2016.

The parties filed motions with the Court requesting an amendment to the Consent Decree to (1) change the sequencing of the WPCS projects and (2) replace the MOI parallel relief sewer project with the MOI capping project. The Court approved the parties' request, and entered the First Amendment to the Consent Decree on September 20, 2016.

2.B Progress Towards Completing Milestones in Approved LTCP Update

Progress on completing milestones, including status of progress toward Achievement of Full Operation, for each of the WPCS and CSO Control Measures set forth in the approved LTCP Update is provided in Table 2-2. The Consent Decree was entered January 17, 2014 and an amendment was filed September 20, 2016. In addition, under USEPA's Integrated Plan Framework, during this reporting period the City also initiated Long Term Control Plan Optimization to evaluate and identify alternative solutions for each of the controls listed in the LTCP Update.

Table 2-2 Status of Progress and Cost Incurred During Reporting Period For Control Measures Set Forth in Approved LTCP Update

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
1	Rack 3	Storage Basin(s) (received case team approval)	Bidding of Control Measure – June 30, 2018. Achievement of Full Operation – November 30, 2020.	Advanced facilities planning activities for the green project have begun. A design consultant was selected for the conveyance project.	Project cost incurred during the reporting period were approximately $62,142.43.
2	Rack 5 and 7	Green Infrastructure and Sewer Separation (Per Exhibit 3)	Bidding of Control Measure – October 31, 2015. Achievement of Full Operation – October 31, 2017.	Construction Notice to Proceed was issued on June 21, 2016. Construction is on-going.	Project costs incurred during the reporting period were approximately $3,257,842.00.
3	Racks 10 and 11	Storage Basin(s)	Bidding of Control Measure – June 30, 2018. Achievement of Full Operation – December 31, 2020.	A draft advanced facilities plan was developed for a 4.5 MG storage basin.	Project costs incurred during the reporting period were approximately $262,553.91.
4	Rack 12	Storage Basin(s)	Bidding of Control Measure – November 30, 2014. Achievement of Full Operation – October 31, 2017.	Construction NTP issued May 29, 2015. The overflow chamber constructed, basin leak tested, and sanitary line tied in and backfilling has begun. The slab-on-grade was poured and exterior masonry walls begun for the operations building.	Project costs incurred during the reporting period were approximately $3,455,060.65.
5	Rack 14	Storage Basin(s)	Bidding of Control Measure – October 31, 2014. Achievement of Full Operation – April 30, 2017.	Construction of the 2M gallon basin, operations building and final sitework is complete. Substantial completion date was November 17, 2016. Minor punch list items remain. Overflow relocated to storage basin and reported November 23, 2016 in accordance with Part II, D of NPDES Permit 3PF00000*ND and the LTCP.	Project costs incurred during the reporting period were approximately $4,170,508.00.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
6	Rack 15	Storage Basin(s)	Bidding of Control Measure – November 30, 2013. Achievement of Full Operation – October 31, 2015.	Project complete. Awaiting final CO and pay application.	Project costs incurred during the reporting period were approximately $0.00.
7	Rack 22	Storage Basin(s)	Bidding of Control Measure – October 31, 2015. Achievement of Full Operation – December 31, 2017.	The 2.4-Million-gallon storage basin design was completed and construction began by the CMAR October 2016.	Project costs incurred during the reporting period were approximately $1,297,208.51.
8	Rack 26 and 28	Storage Basin(s) (received general agreement for IP alternative)	Bidding of Control Measure – October 31, 2021. Achievement of Full Operation – December 31, 2022.	Final design of one aspect of the Integrated Plan green project, called Aqueduct Green Street Improvements, was developed to 90%.	Project costs incurred during the reporting period were approximately $204,521.06.
9	Rack 27 and 29	Storage Basin(s) (received case team approval for IP alternative)	Bidding of Control Measure – January 31, 2018. Achievement of Full Operation – December 31, 2019.	No advanced facilities planning or design activities were undertaken during this reporting period.	No costs were incurred during this reporting period.
10	Rack 36	Green Infrastructure and Sewer Separation (Per Exhibit 3)	Bidding of Control Measure – October 31, 2015. Achievement of Full Operation – October 31, 2017.	Notice to Proceed was issued on June 15, 2016. Construction is ongoing.	Project costs incurred during the reporting period were approximately $1,955,753.00.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
11	Racks 4, 16, 17, 18, 19, 20, 23, 24, 37	Ohio Canal Tunnel – Construct a 28-foot internal diameter tunnel, 5,500 feet in length, or any other combination of diameter and length that achieves the design criteria.	Bidding of Control Measure – April 30, 2014. Achievement of Full Operation – December 31, 2018.	Notice to proceed was issued November 6, 2015. Construction is ongoing.	Project costs incurred during the reporting period were approximately $23,233,984.28.
11a	Racks 16, 17, 18, 19, 20, 23, 24	Ohio Canal Tunnel –ACTIFLO™ Ballasted Flocculation Unit or equivalent technology that meets the Design and Performance Criteria and Disinfection.	Bidding of Control Measure – April 30, 2024. Achievement of Full Operation – October31, 2027.	LTCP optimization was performed during this period as part of the Integrated Plan. No advanced facilities planning or design activities were undertaken during this reporting period.	No costs were incurred during this reporting period.
12	Racks 32, 33, 34, 35	Northside Interceptor Tunnel – Construct a 20-foot internal diameter tunnel, 10,000 feet in length or any other combination of diameter and length that achieves the design criteria.	Bidding of Control Measure – April 30, 2023. Achievement of Full Operation – December 31, 2026.	The advanced facilities planning for the Integrated Plan projects began during this reporting period. The two IP projects are known as Gorge Sewer Separation (CSO Rack 34 and 35) and Northside Interceptor Conveyance.	Project Costs incurred during the reporting period were approximately $32,682.30.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
13a	WPCS Phase 1	Upgrade conventional secondary treatment capacity to 130MGD by implementing step feed operation in Train 6, as described in Paragraph 10.A of the Consent Decree.	Bidding of Control Measure – October 31, 2011. Achievement of Full Operation – October 15, 2013.	Project completed (see Section 1.A of this Semi Annual Report).	Project costs incurred during the reporting period were approximately $3,453.00.
13b	WPCS Phase 1	Upgrade conventional secondary treatment capacity to 130MGD by performing the upgrades identified in the Consent Decree in Section V.10.C.	Bidding of Control Measure – January 15, 2016. Achievement of Full Operation – October 15, 2017.	Since the Final Demonstration Testing Evaluation Report concluded that the step feed and clarifier upgrades to Unit 6 have achieved 30 MGD of wet weather treatment capacity, this Consent Decree item is not required.	No costs were incurred during this reporting period.
14	WPCS Phase 1 BioACTIFLO™ Wet Weather Treatment Pilot Study (the "Pilot Study")	Conduct the Pilot Study in accordance with Exhibit 1 to this Long Term Control Plan Update.	Pilot Study Start Date – May 1, 2012. Pilot Study Completion Date – November 30, 2013. Pilot Study Report submitted to EPA by December 31, 2013.	Study is complete. U.S. EPA issued a concurrence letter on April 8, 2015.	No costs were incurred during this reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
15	WPCS Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to 170 MGD.	Bidding of Control Measure – February 28, 2019. Achievement of Full Operation – December 31, 2021.	This project was replaced by WPCS Alternative Plan A Phase 2 – Part 1 per US EPA approval of Alternate Plan A on February 11, 2016.	No costs were incurred during this reporting period.
16	WPCS Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to treat all flow that does not receive conventional secondary treatment. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	Bidding of Control Measure – April 30, 2017. Achievement of Full Operation – April 30, 2019.	This project was replaced by WPCS Alternative Plan A Phase 2 – Part 2 per US EPA approval of Alternate Plan A on February 11, 2016.	No costs were incurred during this reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
17	WPCS Alternative Plan A – Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to achieve the minimum sustained capacity specified in Alternative Plan A approved by USEPA.	Bidding of Control Measure – April 30, 2017. Achievement of Full Operation – April 30, 2019.	U.S. EPA issued an approval of Alternative Plan A on February 11, 2016 to upgrade conventional secondary treatment capacity to 220 MGD. The construction Notice to Proceed was issued on August 24, 2016. Construction is on-going. The sequence of the WPCS Alternative A Phase 2, Part 1(Row 17) and Phase 2 Part 2 projects was changed under the First Amendment to the Consent Decree, entered on September 20, 2016. The revised dates are shown in this report.	Project costs incurred during the reporting period were approximately $399,799.00.
18	WPCS Alternative Plan A – Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to achieve the minimum capacity specified in Alternative Plan A approved by USEPA. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	Bidding of Control Measure – February 28, 2019. Achievement of Full Operation – December 31, 2021.	BioACTIFLO™ ballasted flocculation to achieve a minimum sustained capacity of 60 MGD. The sequence of the WPCS Alternative A Phase 2, Part 1 (Row 17) and Phase 2 Part 2 projects was changed under the First Amendment to the Consent Decree, entered on September 20, 2016. Response to Row 17.The revised dates are shown in this report.	No costs were incurred during this reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
19	WPCS Alternative Plan B – Phase 2 – Part 1*	Upgrade conventional secondary treatment capacity to achieve the minimum sustained capacity specified in Alternative Plan B approved by USEPA.	Bidding of Control Measure – December 31, 2019. Achievement of Full Operation – December 31, 2021.	Not Applicable	No costs were incurred during this reporting period.
20	WPCS Alternative Plan B – Phase 2 – Part 2*	Install BioACTIFLO™ ballasted flocculation to achieve the minimum capacity specified in Alternative Plan B approved by USEPA. In addition, all flows receiving BioACTIFLO™ shall receive disinfection.	Bidding of Control Measure – April 30, 2017. Achievement of Full Operation – April 30, 2019.	Not Applicable	No costs were incurred during this reporting period.

*Alternative Plan to Upgrading Conventional Secondary Treatment to 170 MGD:

- 1) If US EPA approves in writing an Alternative Plan A, in accordance with Exhibit 2 to the LTCP update, then Akron shall implement the control measures specified in the First Amendment in Rows 17 and 18, instead of the control measures specified in Rows 15 and 16
- 2) If US EPA approves in writing an Alternative Plan B, in accordance with attachment to the LTCP update, then Akron shall implement the control measures specified in the First Amendment in Rows 19 and 20, instead of the control measures specified in Rows 15 and 16

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
(2) Collection System Measures					
21	Main Outfall Sewer Upgrades – Phase I	Installation of pneumatically placed, steel reinforced mortar cap over the entire length of the brick-arch section of the Main Outfall Interceptor ("MOI") that runs between Survey Station 83+00 and the rectangular bridge section that is located upstream of the WPCS ("the Bridge Section"). The Bridge Section is not of brick-arch construction, and the approximately 400-foot portion of the MOI between the Bridge Section and the WPCS is covered with soil. As part of Phase I, a limited amount of additional soil will be added to the brick-arch portion of the MOI between the Bridge Section and the WPCS headworks.	Bidding of Control Measures: May 4, 2016 Achievement of Full Operation: November 30, 2017.	Due to physical constraints in the upper end of the MOI, and after consultation with U.S. EPA and Ohio EPA, the City implemented a Pilot Capping Project replacing the brick arch cap on the first 287 feet of the MOI with a rectangular concrete cap. Since the Pilot Capping Project was a component of the overall MOI project, and completed prior to the bid date, the City met the bid date for the MOI Project. Great Lakes Construction Company was given notice to proceed February 3, 2016. Construction is substantially complete except for punch list items.	Project costs incurred during the reporting period were approximately $11,678,960.00.
22	Main Outfall Sewer Upgrades – Phase II	Additional soil will be added to the soil cap on the brick-arch portion of the MOI between the Bridge Section and the WPCS headworks, after the completion of, and subject to the results of, a geotechnical and engineering evaluation will be to determine the amount of additional soil cover, up to 2 feet, that can be placed on the remaining brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks without causing excessive settlement of that portion of the MOI. The parties understand that the City may eliminate and/or improve some of the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks project. Any improvements to the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks through construction of a proposed WPCS headworks	Completion of engineering evaluation: May 30, 2017 Completion of placement of additional soil: November 30, 2017	Not Applicable	No costs were incurred during this reporting period.

Row #	Control Measure Location	Description	Critical Milestones	Progress During Reporting Period	Costs Incurred During Reporting Period
		project. Any improvements to the brick-arch portion of the MOI between the Bridge Section and the existing WPCS headworks project shall ensure structural integrity such that the improved portion of the enclosed conduit of the MOI withstands at least 5 feet of surcharge.			
23	Main Outfall Sewer Inspection	Perform inspection and rehabilitation consistent with the Main Outfall Sewer Supplement to the Approved CMOM Program as outlined in Section VII of the Consent Decree	Full Operation shall be maintained consistent with Main Outfall Sewer Supplement to the Approved CMOM Program	Project complete.	Project closeout costs incurred during the reporting period were approximately $1,147.24.

2.C Project Cost Incurred

Project costs incurred by the City during the reporting period for each of the WPCS and CSO Control Measures set forth in the approved LTCP Update are provided in Table 2-2. The City incurred additional costs for regulatory support, design management, program controls, technical and right of way support and program management of $3,584,343.20 during the reporting period.

2.D Status of Implementation of the Post-Construction Monitoring Program

The Post-Construction Monitoring Program was submitted on August 15, 2010, in the revised Long Term Control Plan on February 29, 2011, and a revised Program was submitted for review on December 14, 2012.

2.E Listing of All CSO Discharges

CSO discharges from each CSO Outfall for the period July 1, 2016, through December 31, 2016, are listed in Appendix B. The listing also provides data on the depth and duration of rainfall at each of the City's thirteen (13) rain gauges. Racks 8, 9, 25, 30, 31, 38 and 39 are not included in the table. Racks 8, 9, 25 and 39 were separated on May 21, 2012, July 27, 2004, April 26, 2012 and August 18, 2000, respectively. Racks 30 and 31 have been consolidated with Rack 40 into the Cuyahoga Street Storage Facility. Rack 38 is a diversion chamber that routes flow within the combined sewer system.

2.F Status of Development of the Supplemental Compliance Plan

As of this reporting period, the Supplemental Compliance Plan is not required.

2.G Status of Public Participation Plan Implementation

The City of Akron continued its public participation program with regular updates to the AWR! Stakeholders Group, formally known as the Integrated Plan Stakeholder Group and as the CSO Community Action Group (CAG), prior to that. During the reporting period, the following IP Stakeholder group meeting was held:

- AWR! Stakeholders Group (October 2016)

The City's public participation efforts also included presentations made at the following events and public meetings during the reporting period:

- Attended the Middlebury Better Block Event (July 30 and 31, 2016)
- Held a BBQ for the completion of the Cascade Village Storage Basin (CSO Rack 15) (July 3, 2016)
- Attended City of Akron Rib, White and Blue Fest and set up a booth (July 3, 2016)
- Participated in the Derby Downs parade with Eco (July 2016)
- Hosted a CDL training orientation and workshop (July 2016)
- Attended the cycletrack grand opening. (July 2016)
- Attended the Mustill Store luncheon (July 2016)
- Attended the KAB 35th Anniversary celebration. (July 2016)
- City hosted CDL Classes began August 8, 2016
- Behind the Wheel CDL training began August 15, 2016

- Updated the website with new "pop out" pictures and updated all galleries to reflect this change. (Aug., 2016)
- Attended the RubberDucks Mascot Birthday Bash with mascot Eco (Aug 2016)
- Attended the City of Akron's hotdog eating contest with mascot Eco (Aug. 2016)
- Hosted the monthly AWR! Trolley Tours beginning in September.
- Attended the Northeast Ohio Regional Sewer District Open House (Sept. 2016)
- Attended the Akron Marathon (Sept. 2016)
- Attended PRSA Media Ethics workshop (Sept. 2016)
- Little Cuyahoga Clean-Up event (Sept. 2016)
- Attended the Canal District Meeting at the Howe House with Downtown Akron Partnership (Oct. 2016)
- Held an Outreach Event for Subcontractors (Oct. 2016)
- Attended Alzheimer's Walk with Eco (Oct. 2016)
- Attended Fishing Derby with Eco (Oct. 2016)
- Hosted AWR! Trolley Tour (Oct. 2016)
- Attended University of Akron Engineering Fair (Oct. 2016)
- Main Outfall Interceptor Upgrades Press Conference (Nov. 2016)
- CSI Group Meeting (Nov. 2016)
- Attended the Riverwoods Homeowners Association meeting (Nov. 2016)
- Hosted AWR! Trolley tour (Nov. 2016)
- Attended a Ward 5 Council meeting to discuss AWR! (Nov. 2016)
- Attended a special meeting for Ward 5 members in the Howard Storage Basin (CSO Rack 22) area (Nov. 2016)
- Attended Northside District meeting with DAP (Dec. 2016)
- Attended All Akron Student Engineering Program Kick Off (Dec. 2016)
- Hosted AWR! trolley tour (Dec. 2016)

Copies of presentations and distributed materials are included in Appendix C.

The City of Akron has posted updated program information to the Akron Waterways Renewed (AWR!) website (www.akronwaterwaysrenewed.com). The website has been redesigned to facilitate ease of use and to incorporate videos. Figure 2-1 is a picture of the home page of the redesigned AWR! website.

The City of Akron has also established a Facebook page for the Akron Waterways Renewed! Program. The link for this page is www.facebook.com/akronwaterwaysrenewed. Figure 2-2 represents the Facebook page for the program.

A Twitter Account has been established to communicate program updates and general interest topics. The account is @AkronWaterways. Instagram @AkronWaterwaysRenewed has allowed the program to share and showcase the many improvements that are a result of the projects and stakeholder collaborations.

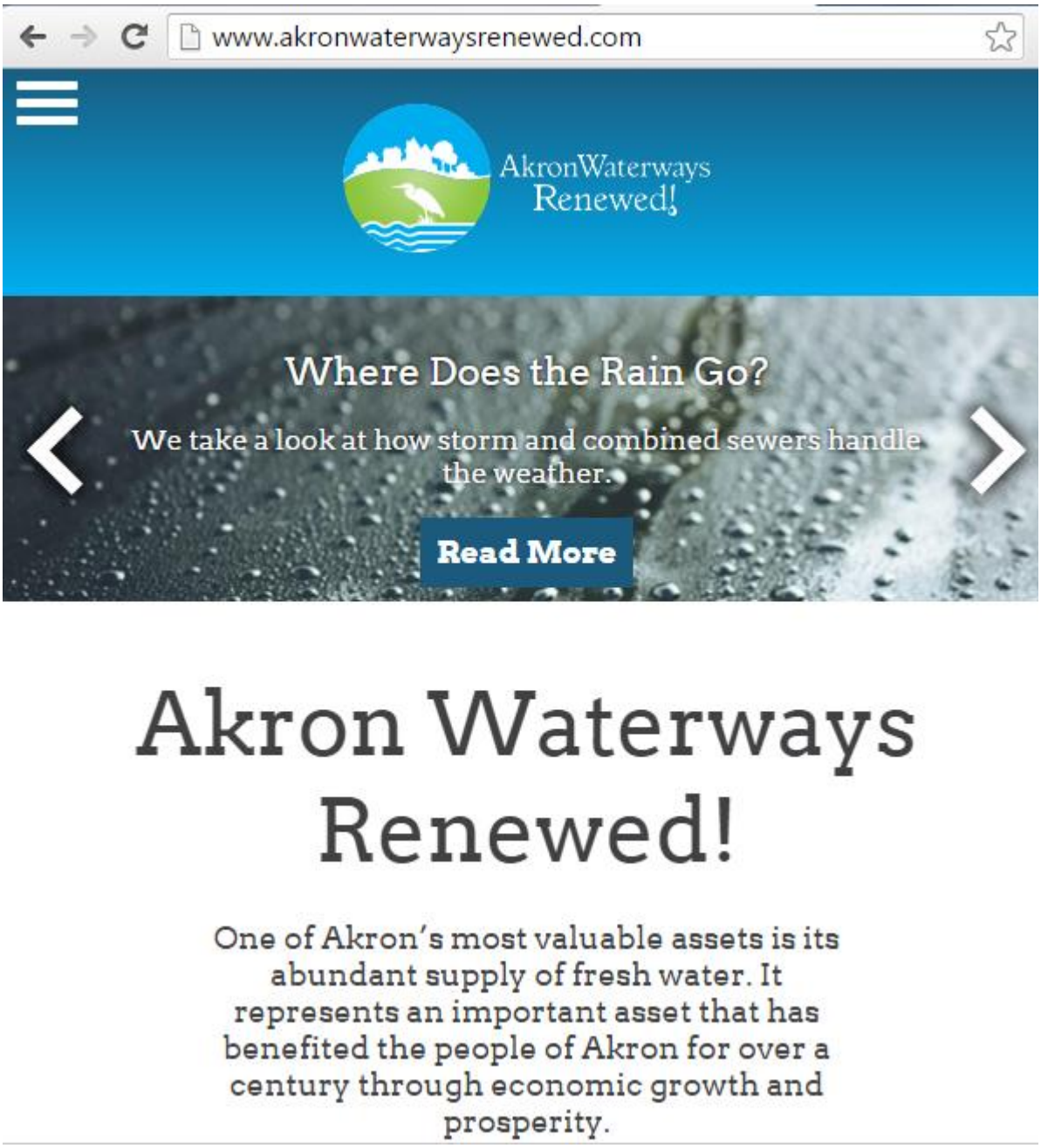

Figure 2-1 Akron Waterways Renewed Home Webpage

Figure 2-2 Akron Waterways Renewed Facebook Page

Section 3: CMOM, Grease Control, and Emergency Response Programs

General:

The City and USEPA have discussed buried manholes and inaccessible sewer segments in several technical conference calls and in a June 20, 2014 letter to USEPA, the City requested removal of certain manholes and sewer segments that will be abandoned after 2014 from the City's CMOM cleaning and inspection cycle. The USEPA concurred with this request as stated on page 3 of an October 31, 2014 letter. On December 2, 2016, these segments and manholes were placed out-of-service by redirecting flow into other newly installed sanitary sewers, and as a result, have been removed from the City's sanitary sewer system. The complete list of sewer segments and manholes that are now inactive were submitted in the following previous Semi-Annual Reports:

1. July - December 2012 depicted in Table 3-1.

2. January – June 2013 depicted in Table 3-1 and Table 3-2.

3. July – December 2013 depicted in Table 3-1.

3.A List of all SSO and CSS Releases During Reporting Period

Appendix D provides a list of SSOs and CSS Releases, including Building/Property Backups, during the reporting period.

3.B System Inspection

Table 3-1 provides the number of miles and percent of system inspected during the reporting period.

3.C Manhole Inspection

Table 3-2 provides the number and percent of manholes inspected during the reporting period.

3.D System Cleaning

The number of miles and percent of system cleaned during the reporting period is provided in Table 3-3.

3.E List of Defects

The comprehensive list of defects identified in Akron's system, identifying acute defects, and a schedule to repair the defects (including date repaired if the defect has already been repaired) are included in Appendices E and F.

Table 3-1 System Inspection

	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
Period	**Miles Inspected**	**Percentage Inspected**	**Miles Inspected**	**Percentage Inspected**	**Miles Inspected**	**Percentage Inspected**	**Miles Inspected**	**Percentage Inspected**
July 1 - December 31, 2016	127.8	15.1*	180.1	21.3*	243.6	28.7*	371.3	43.8*

*Based on 847.3 miles in system

Table 3-2 Manhole Inspection

	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
Period	**Manholes Inspected**	**Percentage Inspected**	**Manholes Inspected**	**Percentage Inspected**	**Manholes Inspected**	**Percentage Inspected**	**Manholes Inspected**	**Percentage Inspected**
July 1 – December 31, 2016	1,711	9.1*	4,933	26.2*	7,096	37.6*	8,807	46.7*

*Based on 18,849 manholes in system

Table 3-3 System Cleaning

	Current Reporting Period		Previous Year		Previous Five Years		Accumulative Totals	
Period	**Miles Cleaned**	**Percentage Cleaned**	**Miles Cleaned**	**Percentage Cleaned**	**Miles Cleaned**	**Percentage Cleaned**	**Miles Cleaned**	**Percentage Cleaned**
July 1 – December 31, 2016	127.8	15.1*	180.1	21.3*	243.6	28.7*	371.3	43.8*

*Based on 847.3 miles in system

3.F Maintenance and Training Activities

A. Pump station and force main preventive maintenance activities were conducted in accordance with Item 2.E of the approved CMOM program.

B. 1,711 manholes were inspected during the period beginning July 1 through December 31, 2016, and four were documented to have signs of heavy infiltration. Those that are confirmed to be in need of repairs will be included in a future capital improvement plan.

Table 3-4 Manholes Documented with Heavy Infiltration

Manhole Asset ID	Location
297112	Peerless & Lawton
307606	598 E Waterloo Rd.
289628	Kenmore Blvd & Theodore St.
289423	PPN 6831487

C. The following sewer construction and rehabilitation projects were completed or are on-going within the City of Akron during the reporting period:

a) Sanitary Sewer Reconstruction 2014, Phase I (File 2012-005-00)
To rehabilitate the City's sanitary and combined sewer system, part of the City's annual sewer reconstruction program.

b) Sanitary Sewer Reconstruction 2014, Phase II (File 2014-012-00)
To rehabilitate the City's sanitary and combined sewer system, part of the City's annual sewer reconstruction program.

c) Shullo Drive/Weathervane Lane Pump Stations (File 2011-040-00)
Pump station rehabilitation as a result of existing equipment reaching the end of its useful life.

d) White Pond Pump Station (File 2014-013-01)
Pump station rehabilitation as a result of existing equipment reaching the end of its useful life.

e) White Pond Parkway Sewer Extension (File 2015-049-00)
Extend and reconstruct the existing sanitary sewer system to serve the proposed development on White Pond Parkway.

f) Dan Street Sewer Separation (CSO Rack 13) (File 2012-060-00)
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 13 drainage basin.

g) Mud Run Pump Station and Storage Basin (File 2012-048-05)
Rehabilitation of the Mud Run Pump Station in addition to the construction of a 1.4 MG storage basin to contain the 10-yr frequency 24-hour duration storm event.

h) Mud Run I/I Rehabilitation (File 2012-048-08)

CIPP reconstruction of the sanitary sewer system to reduce/eliminate inflow and infiltration.

i) Mud Run I/I Repairs (File 2012-048-07)
Open-cut reconstruction of the sanitary sewer system to reduce/eliminate inflow and infiltration.

j) Middlebury Separation Green Project (CSO Rack 5&7) (File 2013-043-01)
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 5 and 7 drainage basins.

k) Seiberling Street Sewer (File 2013-030-00)
Construction of a 24" diameter sanitary sewer on Seiberling Street from Innovation Way to Archwood Avenue based on the Sanitary Sewer Master Plan developed in 2009 for the Goodyear Redevelopment Area. In addition, the project will include sewer lining, replacement of a few minor local sewers to maintain service to several existing businesses, and abandonment of sewers that will not be utilized after completion of the project.

l) CSO Rack 12 Storage Basin (File 2012-066-00)
Construction of a 6.5 MG storage basin to control combined sewer overflows.

m) CSO Rack 14 Storage Basin (File 2012-067-00)
Construction of a 2.0 MG storage basin to control combined sewer overflows.

n) Main Outfall Sewer Cap (File 2012-052-00)
Rehabilitation of 7,795 feet of the 90"x144" Main Outfall Sewer by providing a new, reinforced, pneumatically placed mortar cap.

o) West Emerling Improvements (File 2014-011-00)
Reconstruction of approximately 270 feet of 8-inch diameter sanitary sewer and construction of one new manhole on this sewer.

p) Tallmadge Firestone Sewer Lining (File 2015 -026-00)
Rehabilitate the existing combined sewers in Tallmadge Avenue, Firestone Boulevard and Firestone Parkway

q) Merriman Separation Green Project (CSO Rack 36) (File 2013-045-01)
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 36 drainage basin.

r) CSO Rack 21 Sewer Separation (File 2012-024-00)
The existing combined sewer system is being separated into a storm water system and a sanitary sewer system. This will eliminate combined sewer overflows from the Rack 21 drainage basin.

s) Howard Storage Basin (File 2013-044-00)
Construction of a 2.4 MG storage basin to control combined sewer overflows.

t) Rack 34 Emergency (File 2016-039-00)
Reconstruct approximately 150 feet of existing 30-inch combination sewer.

D. Root control program activities were conducted in accordance with Item 2.K of the approved CMOM program. The Root List, part of the overall Trouble Spot List, requires more frequent attention than the system wide maintenance activities. The City's approach is to inspect each of these root list locations on a modified schedule, and provide cleaning only when it is determined those pipes are in need of maintenance.

The City of Akron continues to monitor the pilot program of utilizing a chemical root control for sanitary sewer assets 402255, 402456, 406262, 418222, 432377, and 435635. The City of Akron had contracted with Duke's Root Control Incorporated to perform this application. The City continues to monitor these assets with Duke's Root Control in order to evaluate the results of this program to determine if it is more effective and economical to use this approach versus mechanical cutting, performed by in-house crews, thereby freeing up resources to perform other proactive, system work.

E. Training activities were conducted on the following topics. Date of training and number of employees receiving training are indicated in Table 3-5.

Table 3-4 Training Activities

Date	Course Title/Description	Number of Employees
8/23, 8/24, 8/25, 8/26, 8/30/2016	Confined Space	36
9/27, 9/28, 9/29, 9/30/2016	Back to Basics	41
10/19, 10/20, 10/21, 10/25/2016	Home & Work Safety	37
11/2, 11/3, 11/9, 11/16, 11/17, 11/18/2016	Snow & Ice Training (Refresher & Full)	28
12/9, 12/12, 12/13/2016	Safety First – Night Work	36
12/14/2016	Chain Saws	12

3.G Grease Control Program

In accordance with Grease Control provisions in the approved CMOM program, this program includes inspection and/or cleaning of the known trouble spots on what was previously called the "Speed Rodder List."

3.G.1 List of SSO and CSS Releases Caused by Fats, Oils, and Grease (FOG)

Table 3-5 Releases Caused by Fats, Oils and Grease

Date	Location	Type of Release (SSO, Rack, Property Backup)	Add to FOG Trouble Spot List
7/25/2016	278 Shawnee Path	Property backup	Yes
10/22/2016	204 Darrow Rd	Property backup	Yes
12/21/2016	970 Cordova	Property backup	Yes
12/22/2016	750 White Pond	Property backup	Yes

3.G.2 List of FOG Trouble Spots

A complete list of FOG Trouble Spots inspected and/or cleaned during the reporting period is included in Appendix G.

As stated in previous semi-annual reports, to optimize the current schedule for the cleaning of locations suspected to have recurring grease accumulation, in 2013, the City began the CCTV inspection of each grease location on or around the next scheduled cleaning cycle to determine if significant grease accumulation has occurred. Based on the findings of the CCTV inspection, the frequency of cleaning at each grease location is adjusted accordingly. With the improvements initiated to control FOG at the source, it is anticipated that scheduled cleaning will be less efficient than periodic inspection, and cleaning only when needed.

3.G.3 FOG Education Efforts Undertaken During Reporting Period

The following educational efforts were undertaken and completed during the reporting period:

A. Akron Waterways Renewed Team developed a Program Website (http://akronwaterwaysrenewed.com) which includes a link to the City's educational FOG brochure, among the topics covered was that of the proper handling of fats, oils, and grease.

Section 4: Mud Run Pump Station

4.A Status of Mud Run Study and Report of Findings

Status of Study and Report of Findings

No activity during this reporting period. The Report of Findings was submitted to USEPA on January 15, 2012.

Date of Report Completion

No activity during this reporting period. Report of Findings submitted on January 15, 2012, per the Consent Decree.

Project Cost Incurred During Reporting Period

Report complete. No costs incurred during the reporting period.

4.B Status of Mud Run Pump Station Remedial Report

Status of Remedial Report

The Remedial Report is complete.

Date of Report Completion

The Remedial Report was completed on October 15, 2012. Additional comments were received after completion and were included in the revised Remedial Report submitted on August 13, 2013. Final written approval dated February 26, 2014 was received via email on March 3, 2014.

Project Cost Incurred During Reporting Period

Report complete. No costs incurred during the reporting period.

4.C Status of Mud Run Pump Station Design and Construction of Projects

Projects Status

Table 4-1 shows the current status of the Mud Run Pump Station design projects. Table 4-2 shows the current status of the Mud Run Pump Station construction projects.

Table 4-1 Status of Mud Run Pump Station Design Projects

Project	Status
Mud Run Trunk Sewer Lining	Design complete
Sevilla Trunk Sewer Reconstruction	Design 90% complete
Mud Run Pump Station Improvements	Design complete
Mud Run Storage Basin Improvements	Design complete
Mud Run District Capacity Improvements	Design complete
Mud Run District Infiltration/Inflow Improvements	Design complete

Table 4-2 Status of Mud Run Pump Station Construction Projects

Project	Status
Mud Run Trunk Sewer Lining	Construction is 100% complete
Sevilla Trunk Sewer Reconstruction	Construction begins Spring 2017
Mud Run Pump Station and Storage Basin Improvements***	Construction is 100% complete
Mud Run District Capacity Improvements***	Construction is 100% complete
Mud Run District I/I Repairs	Construction is 100% complete
Mud Run District I/I Rehabilitation	Construction is 80% complete
NOTE: *** projects indicate those required for CD compliance.	

Construction of the Mud Run Pump Station and Storage Basin is complete. The contractor will be complete with final punch list and close-out documentation.

Mud Run District I/I Repairs was completed December of 2016.

Mud Run District I/I Rehabilitation started pre-TV and pre-cleaning in February of 2016. The contractor complete sewer lining December 2016. The contractor is currently 80% complete.

The Mud Run District Capacity Improvements project is complete. The completion date was September 16, 2015.

Anticipated Date of Report Completion

The Report of Findings was completed on January 15, 2012. The Remedial Report was submitted on August 13, 2013. Approval of the Remedial Report was issued on February 26, 2014. On October 31, 2014, a letter was issued by USEPA that agrees to extend the October 15, 2015 construction deadline set forth in paragraph 25 of the Consent Decree to January 8, 2016 in order to construct and achieve full operation of the projects approved under the Mud Run Pump Station Remedial Report. The projects marked with *** will require an Achievement of Full Operation date of January 8, 2016 to be in compliance with the Consent Decree. The other projects are not required to be completed by January 8, 2016 since the anticipated I/I reductions were not used in determining the required storage basin capacity to meet the Consent Decree requirements.

Project Cost Incurred During Reporting Period

Mud Run District Capacity Improvements - $0.00
Mud Run Pump Station & Storage Basin - $25,000
Mud Run District I/I Repairs - $1,877,302.43
Mud Run District I/I Rehabilitation - $2,122,338.50

Section 5: Supplemental Environmental Project

The City's third and final payment to the Supplemental Environmental Project (SEP) escrow account was made during the January – July 2011 reporting period. No additional SEP payments are due; therefore, no payments were made during the current reporting period.

Section 6: Other Necessary Information

Not applicable

List of Abbreviations and Acronyms

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
WAS	Waste Activated Sludge
WPCLF	Water Pollution Control Loan Fund
WPCS	Water Pollution Control Station
WRF	Water Reclamation Facility (See: WPCS)