BUFFALO
SEWER AUTHORITY

SPDES Permit No. NY0028410

Long Term Control Plan Semi-Annual Status Report
Reporting Period: *July through December 2018*

Amended Administrative Order
CWA-02-2014-3033

(Amends CWA-02-2012-3024)

March 2019

Long Term Control Plan Semi-Annual Status Report

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1. INTRODUCTION

The Buffalo Sewer Authority (Authority) received approval of its Long Term Control Plan (LTCP) from the United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC) on March 18, 2014. The Authority entered into an Amended Administrative Order on April 16, 2014 (herein after referred to as the AO), with the USEPA. This AO establishes a schedule for implementation of the Authority's LTCP, approved by the USEPA and NYSDEC.

The AO in part requires that the Authority submit written Semi-Annual Status Reports to the USEPA and NYSDEC by September 1st for current year January 1– June 30 reporting period, and March 1st for the previous calendar year July 1 – December 31 reporting period. The AO requires that the following be provided in each Semi-Annual Status Report:

- The project milestones, deadlines and other terms that the Authority is required to meet since the date of the last Semi-Annual Status Report, whether and to what extent the Authority has met those requirements, and the reason for any anticipated delays and/or noncompliance.
- A general description of the work completed during the reporting period and the applicability of the work to meet indicated design criteria, as well as the projection of work to be performed during the next reporting period and any anticipated delays for the upcoming work. Any changes in key personnel must also be noted.
- Enclosure of public meeting (if held) materials including: advertisements, handouts, formal meeting notes, and a summary of the meeting (see Attachment C).
- Copies (to USEPA only) of all monthly monitoring reports or other reports pertaining to combined sewer overflows (CSOs) and bypasses that Authority submitted to the NYSDEC during the reporting period. Please note DMRs are now submitted electronically directly to the USEPA and no dry weather overflows occurred during this period, so this item does not apply during this reporting period.

This report covers July through December 2018 which serves as Semi-Annual Report No. 10.

2. REQUIREMENTS DUE IN REPORTING PERIOD

Attachment A provides the current status of all projects listed in the Administrative Order. Issues with implementing these projects are detailed in Section 4 of this document.

This document serves as the March 1, 2019 semi-annual report.

Certificates of Acceptance and Occupancy for fully completed projects for this reporting period are included in Attachment D.

3. WORK COMPLETED IN CURRENT REPORTING PERIOD AND PROJECTION OF WORK TO BE PERFORMED NEXT REPORTING PERIOD

A general description of the work completed on LTCP projects during the current reporting period and the work projected to be performed during the next reporting period is provided in Attachment A. Items that have been completed have been highlighted orange.

A more detailed description of each project including the location and the goal to be achieved through each project is provided in Attachment B.

4. IMPLEMENTATION ISSUES

4.1 Hamburg Drain Optimizations

Preliminary design for the Hamburg Drain Optimizations was begun prior to January 1, 2014; however, detailed design was delayed due to high water levels in Lake Erie. As a result of this delay the March 18, 2016 Notice to Proceed deadline was exceeded. Upon further review of the proposed locations for sewer separation and/or green infrastructure, it was determined that sufficient sewer separation had already been conducted and/or extensive private investment requiring storm water detention/retention is expected in the drainage basins where this work was proposed. Construction has been completed on the Louisiana and Miami Streets and the Willert Park Green Infrastructure project. Design of the Mill Race In-Line Storage project is expected to begin during the next reporting period.

4.2 WWTP Improvement Project Alternative C2

Design of this project has been delayed due to the need to remove extensive quantities of grit which have accumulated in the system reducing WWTP capacity. Before further upgrades are considered, the existing issues must first be rectified to allow for accurate measurements of existing capacity to be conducted. The cleaning of the A-side influent channels, aeration basin 3 and both the A-side and B-side effluent channels was completed in two separate contracts for the facility. Phase 1 removal of the grit in the secondary system included the removal and disposal of over 1,210 wet tons of grit. Phase 2 of the grit removal project continued with grit removal for the remaining influent and effluent channels and consisted of the removal of an additional 240 wet tons of grit.

The Authority is now working on Phase 3 for the removal of grit from the aeration tanks in the secondary system. As part of this work, the aeration tanks need to be able to be fully taken out of service. While this has proved to be a difficult task, the Authority has developed a detailed plan and schedule to help expedite Phase 3. The Authority is currently purchasing equipment needed while also moving forward with the contract for equipment installation and removal of the remaining grit in the secondary system. The Authority met

with the NYSDEC on July 17, 2018 to present the plan and schedule for this preliminary work.

The Authority is now working with a consulting engineer for implementation of isolation of aeration tanks ad removal of remaining grit in the secondary system. This project is currently being advertised and is anticipated to have a Notice to Proceed at the end of April 2019. Substantial completion of this project is scheduled for July 31, 2020.

Following completion of this project, the Authority intends to secure the services of an engineer to review and evaluate in further detail the hydraulics of the WWTP. The Authority will then evaluate and rank requests for proposals from engineering firms for the WWTP Project Alternative C2 and anticipates awarding that contract(s) by September 2021. The initial notice to proceed for construction is expected to be issued in 2024 with completion in 2029.

4.3 North Relief-Interceptor

Preliminary subsurface investigation in conjunction with the North Relief-Interceptor concept has revealed concerns with the location of bedrock and the feasibility of the proposed tunnel location. Due to the noted concerns, the Authority has phased the proposed project. The initial phase, the Bird Avenue Underflow Sewer Project has been completed. Engineering for the second phase is expected to begin during the next reporting period.

5. CHANGES IN KEY PERSONNEL

There have been no changes in personnel during the reporting period.

6. PUBLIC MEETINGS

Public information brochures and informal public meetings regarding the Hertel at Deer Real Time Control project have taken place during the reporting period. The brochure is included in Attachment C.

7. MODEL MODIFICATIONS

The process of converting the hydraulic model from XP-SWMM to PC-SWMM has been completed. The final report is expected to be submitted early in the next reporting period.

8. GREEN INFRASTRUCTURE

The Rain Check 2.0 report, which focuses on the next generation of green infrastructure in Buffalo, is expected to be completed during the next reporting period.

9. CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Oluwole A. McFoy, P.E., General Manager

2/28/19
Date

Attachment A to the Semi-Annual Status Report: March 2019

Work Completed in Current Period/ Projection of Work to be Performed in Next Reporting Period

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Phase I Projects				
CSO 060 GI Project	---	---	Prior to 1/1/2014	Complete.
Bird/Lang RTC Projects	Construction Start	3/17/2014	2/24/2014	Complete
	Completion Date	9/2/2014	5/9/2016	Complete
	Operations/ Optimization (RTC)	9/3/2014 – 9/3/15	10/1/2016	Complete
Bird RTC Project	Construction Start	3/17/2014	2/24/2014	Complete
	Completion Date	9/2/2014	5/6/2016	Complete
	Operations/ Optimization (RTC)	9/3/2014 – 9/3/15	10/1/2016	Complete
Lang RTC Project	Construction Start	3/17/2014	2/24/2014	Complete
	Completion Date	9/2/2014	5/9/2016	Complete
	Operations/ Optimization (RTC)	9/3/2014 – 9/3/15	10/1/2016	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Foundation Projects				
Foundation 1 - Smith Street Storage	Engineering Start	3/18/2014	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2015	6/10/2015	Complete
	Notice to Proceed	3/18/2015		Complete
	Substantial Completion	3/18/2017	10/9/2017	Complete
CSO No. 026 Sewer Separation	Engineering Start	3/18/2014	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2015	4/3/2015	Complete
	Notice to Proceed	3/18/2015	7/8/2015	Complete
	Substantial Completion	3/18/2017	6/22/2016	Complete
CSO No. 026 RTC Structure	Engineering Start	3/18/2014	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2015	6/10/2015	Complete
	Notice to Proceed	3/18/2015	7/13/2016	Complete
	Substantial Completion	3/18/2017	10/9/2017	Complete
Foundation 2 - SPP Optimization (20 projects)	Engineering Start	3/1/2014	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2015	4/20/2015	Complete
	Notice to Proceed	3/1/2014	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017		
SPP 180 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/20/2015	Complete
	Notice to Proceed	---	9/8/2015	Complete
	Substantial Completion	3/18/2017	12/16/2015	Complete
SPP 331 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2015	4/20/2015	Complete
	Notice to Proceed	---	9/8/2015	Complete
	Substantial Completion	3/18/2017	12/16/2015	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
SPP 036 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	1/20/2014	Complete
	Notice to Proceed	---	5/30/2014	Complete
	Substantial Completion	3/18/2017	8/4/2014	Complete
SPP 217 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/3/2015	Complete
	Notice to Proceed	---	7/8/2015	Complete
	Substantial Completion	3/18/2017	12/21/2015	Complete
SPP 318 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/3/2015	Complete
	Notice to Proceed	---	7/8/2015	Complete
	Substantial Completion	3/18/2017	12/21/2015	Complete
SPP 097A Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/20/2015	Complete
	Notice to Proceed	---	9/8/2015	Complete
	Substantial Completion	3/18/2017	12/16/2015	Complete
SPP 122 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 163 Optimization	Engineering Start	---	3/1/2014	Complete
	Engineering Completion	---	11/25/2014	Complete
	Notice to Proceed	---	3/1/2015	Complete
	Substantial Completion	3/18/2017	8/6/2015	Complete
SPP 165 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
SPP 165A Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/4/2014	Complete
	Notice to Proceed	---	7/25/2014	Complete
	Substantial Completion	3/18/2017	11/3/2014	Complete
SPP 178 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 335B Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 336A Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	4/20/2015	Complete
	Notice to Proceed	---	9/8/2015	Complete
	Substantial Completion	3/18/2017	12/16/2015	Complete
SPP 341A Optimization	Engineering Start	---	1/1/2014	Complete
	Engineering Completion	---		This project is on hold pending the results of post-construction monitoring of Lang and Hazelwood RTCs.
	Notice to Proceed	---		
	Substantial Completion	3/18/2017		
SPP 342B Optimization	Engineering Start:	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 001 Optimization	Engineering Start:	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	3/27/2014	Complete
	Notice to Proceed	---	6/16/2014	Complete
	Substantial Completion	3/18/2017	12/12/2014	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
SPP 183 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 283 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
SPP 211 Optimization	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2017	Prior to 1/1/2014	Complete
Foundation 3 - Remaining RTC (14 sites)	Engineering Start	3/18/2016	8/9/2016	Ongoing
	Notice to Proceed	3/18/2017		
	Engineering Completion	3/18/2023		
	Substantial Completion	3/18/2024		
Hertel Northwest In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Hertel South (Hertel at Deer) In-Line Storage	Engineering Start	---	1/19/2018	Complete
	Engineering Completion	---	12/13/2018	Complete
	Notice to Proceed	---		Expected to be complete during the next reporting period
	Substantial Completion	3/18/2024		
Hertel Northeast In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Bird East In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
East Ferry In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Colorado In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
North Bailey In-Line Storage	Engineering Start	---	12/8/2017	Complete
	Engineering Completion	---	6/5/2018	Complete
	Notice to Proceed	---	10/16/2018	Complete
	Substantial Completion	3/18/2024		
South Bailey In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Roslyn In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Hazelwood (Kay) In-Line Storage	Engineering Start	---	8/9/2016	Complete
	Engineering Completion	---	9/22/2017	Complete
	Notice to Proceed	---	2/2/2018	Complete
	Substantial Completion	3/18/2024		Expected to be complete during the next reporting period

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Amherst Quarry Off-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Fillmore North In-Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Gibson CSO Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Montgomery CSO Line Storage	Engineering Start	---		
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Babcock Pump Station In-Line Storage	Engineering Start	---		Expected to be completed during the next reporting period
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Smith St. and Eagle St. In-Line Storage	Engineering Start	---		Expected to be completed during the next reporting period
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		
Broadway at Oak In-Line Storage	Engineering Start	---		Expected to be completed during the next reporting period
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2024		

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Foundation 4 - Hamburg Drain Optimizations	Engineering Start	3/18/2015	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2017	2/23/2017	Complete
	Notice to Proceed	3/18/2016	5/16/2017	Complete
	Substantial Completion	3/18/2018		
Foundation 4 - Hamburg Drain Storage	Engineering Start	3/18/2028		
	Engineering Completion	3/18/2030		
	Notice to Proceed	3/18/2030		
	Substantial Completion	3/18/2032		
Mill Race In-Line Storage	Engineering Start	---		Expected to be completed during the next reporting period
	Engineering Completion	---		
	Notice to Proceed	---		
	Substantial Completion	3/18/2032		
WWTP				
WWTP Improvement Project Alternative C2	Engineering Start	9/1/2021		See 4.2. As requested on Nov. 8, 2018, BSA submitted a written Request for Extension that reflects these amended dates for Eng start and completion and construction start.
	Engineering Completion	6/15/2024		
	Notice to Proceed	11/1/2024		
	Substantial Completion	12/31/2029		

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Green Infrastructure Projects				
Green 1 - Pilot Projects – 267-acres of GI control	Engineering Start	3/1/2014	Prior to 1/1/2014	Complete
	Engineering Completion	3/18/2016		Complete
	Substantial Completion	3/18/2018	12/31/2016	Complete.
2001-2016 Residential (traditional) Demolitions	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	12/31/2016	Complete.
2001 - 2016 Commercial and Industrial Demolitions	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	12/31/2016	Complete.
Green 2 – 410 acres of GI Control	Engineering Start:	3/18/2019	Prior to 1/1/2014	Complete
	Engineering Completion:	3/18/2023		
	Substantial Completion:	3/18/2024		
2017 - 2024 Demolitions	Engineering Start		Prior to 1/1/2014	Complete.
	Engineering Completion:			
	Substantial Completion:	3/18/2018		
Green Demolition Pilot Project	Engineering Start		Prior to 1/1/2014	Complete
	Engineering Completion			Complete
	Substantial Completion		7/31/2017	Complete.
PUSH Blue Projects	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	7/1/2015	Complete.
Carlton Street Porous Asphalt	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	7/25/2014	Complete.
Fillmore Avenue Porous Parking and Green Lots	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	4/23/2015	Complete.
Ohio Street	Engineering Start	---	Prior to 1/1/2014	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2018	12/1/2014	Complete.
Kenmore Avenue	Engineering Start	---	4/30/2014	Complete
	Engineering Completion		4/20/2015	Complete
	Substantial Completion	3/18/2018	3/1/2017	Complete.
Genesee Street	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	6/8/2015	Complete
	Substantial Completion	3/18/2018	6/1/2017	Complete.
Allen Street	Engineering Start	---	Prior to 1/1/2014	Green infrastructre will no longer be implemented as part of the Allen Street streetscape project due to site constraints.
	Engineering Completion	---		
	Substantial Completion	3/18/2018		
Willert Park	Engineering Start	---	6/1/2016	Complete
	Engineering Completion	---	2/1/2017	Complete
	Substantial Completion	3/18/2018		
Northland Ave	Engineering Start	---	7/1/2016	Complete
	Engineering Completion	---	3/1/2017	Complete
	Substantial Completion	3/18/2018		
Niagara Street Phase 1: Elmwood Street to Virgina Street	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	3/19/2014	Complete
	Substantial Completion	3/18/2018	12/1/2016	Complete.
Niagara Street Phase 2: Virgina Street to Porter Avenue	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	6/3/2015	Complete
	Substantial Completion	3/18/2018	11/16/2017	Complete.
Niagara Street Phase 3: Hampshire Street to Scajaquada	Engineering Start	---	10/28/2015	Complete
	Engineering Completion	---	3/21/2018	Complete
	Substantial Completion	3/18/2018		
Niagara Street Phase 4:	Engineering Start	---	10/28/2015	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Phase 4: Scajaquada Expressway to	Engineering Completion	---	6/13/2018	Complete
	Substantial Completion	3/18/2018		

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Niagara Street Phase 5: Porter Avenue to Hampshire Street	Engineering Start	---	10/28/2015	Complete
	Engineering Completion	---		
	Substantial Completion	3/18/2018		
Green 3 – 375 acres of GI Control	Engineering Start:	3/18/2023		
	Engineering Completion:	3/18/2028		
	Substantial Completion:	3/18/2029		
Green 4 – 263 acres of GI Control	Engineering Start:	3/18/2028		
	Engineering Completion:	3/18/2033		
	Substantial Completion:	3/18/2034		
Gray Projects				
CSOs 014/15 – Erie Basin In-line storage and optimization projects	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	3/18/2014	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2015	12/29/2014	Complete
SPPs 206A&B	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	5/30/2014	Complete
	Substantial Completion	3/18/2015	12/29/2014	Complete
SPP 035	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	Prior to 1/1/2014	Complete
	Substantial Completion	3/18/2015	5/31/2014	Complete

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
SPP 036	Engineering Start	---	Prior to 1/1/2014	Complete
	Engineering Completion	---	Prior to 1/1/2014	Complete
	Notice to Proceed	---	5/30/2014	Complete
	Substantial Completion	3/18/2015	12/5/2014	Complete
CSO 013 – Satellite storage, conveyance, FM & PS	Engineering Start	3/18/2019		
	Engineering Completion	3/18/2020		
	Notice to Proceed	3/18/2020		
	Substantial Completion	3/18/2022		
North Relief – Interceptor	Engineering Start	3/18/2019	5/15/2015	Complete; See 4.3.
	Engineering Completion	3/18/2022		
	Notice to Proceed	3/18/2022		
	Substantial Completion	3/18/2026		
CSOs 010, 008/010, 061, 004 – Underflow capacity upsizing	Engineering Start	3/18/2021		
	Engineering Completion	3/18/2023		
	Notice to Proceed	3/18/2023		
	Substantial Completion	3/18/2024		
SPP 337 (CSO 053) – Satellite storage, conveyance, FM & PS	Engineering Start	3/18/2023		
	Engineering Completion	3/18/2025		
	Notice to Proceed	3/18/2025		
	Substantial Completion	3/18/2027		
SPP 336A&B (CSO 053) – Satellite storage, conveyance, FM & PS	Engineering Start	3/18/2024		
	Engineering Completion	3/18/2026		
	Notice to Proceed	3/18/2026		
	Substantial Completion	3/18/2029		

Project Name	Project Milestone	AO Project Deadline	Actual Completion Dates	Project Status
Jefferson Avenue & Florida Street (CSO 053) – Satellite storage, conveyance and FM	Engineering Start	3/18/2025		
	Engineering Completion	3/18/2027		
	Notice to Proceed	3/18/2027		
	Substantial Completion	3/18/2030		
CSO 055 – Satellite storage, conveyance, FM & PS	Engineering Start:	3/18/2027		
	Engineering Completion:	3/18/2030		
	Notice to Proceed:	3/18/2030		
	Substantial Completion:	3/18/2034		
CSOs 028/044/047 - Satellite storage, conveyance, FM & PS	Engineering Start:	3/18/2028		
	Engineering Completion:	3/18/2031		
	Notice to Proceed:	3/18/2031		
	Substantial Completion:	3/18/2034		
CSO 052 – Satellite storage, conveyance, FM & PS	Engineering Start:	3/18/2030		
	Engineering Completion:	3/18/2032		
	Notice to Proceed:	3/18/2032		
	Substantial Completion:	3/18/2034		
CSO 064 – Satellite storage, conveyance, FM & PS	Engineering Start:	3/18/2030		
	Engineering Completion:	3/18/2032		
	Notice to Proceed:	3/18/2032		
	Substantial Completion:	3/18/2034		

Attachment B to the Semi-Annual Status Report: March 2019

Detailed Project Descriptions

Project Name	Project Description	Project Purpose*
Phase I Projects		
CSO 060 GI Project	This project consisted of the construction of 4768 CF of rain garden on Windsor, Parkdale and Elmwood Avenues between Bird and Forest Avenues and 39,600 SF of permeable pavement on Clarendon and Claremont Avenues between Bird and Forest Avenues, installation of a Stormceptor unit at Bird Avenue and Granger Place and a total of 6,125 LF of 12-30 inch sewer designed to carry street flow to the existing storm overflow sewer on Forest Avenue from the above mentioned street segments. Additionally, weirs were raised in SPPs 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, and 240.	This project was designed to treat 13,600 cf of stormwater runoff from the 0.9 inch water quality storm event and remove 49.5 cfs of peak flow from the combined sewer system. Thereby reducing overflows through SPPs 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, and 241 to CSO 060. Together with other LTCP projects, this project is projected reduce CSO 060 discharges to Scajaquada Creek based on the 1993 Modified Typical Year (TY) to negligible activations and flow.
Bird/Lang RTC Projects	These RTC projects utilize available capacity of large sewers to provide flow control measures during wet weather events through the use of gates which allow continuous dry weather underflow.	
Bird RTC Project	The Bird RTC Project is located on Bird Avenue between Parkdale Avenue and Hoyt Street.	The Bird RTC project is designed to provide 1.01 MG of storage volume, thereby reducing discharges through SPP 013 to CSO 004. Together with other LTCP projects, this project is projected reduce CSO 004 discharges to the Black Rock Canal based on the TY to 3 activations.
Lang RTC Project	The Lang RTC Project is located on Lang Avenue between Courtland Avenue and Hagen Street.	The Lang RTC project is designed to have a storage volume of 0.84 MG, thereby reducing discharges through SPP 340 to CSO 053. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the 1993 Modified Typical Year (TY) to 4 activations.

Project Name	Project Description	Project Purpose*
Foundation Projects		
Foundation 1 - Smith Street Storage	Originally envisioned as a single project, these two projects have been separated to realize cost advantages due to the different levels of skill required for the projects and to expedite the sewer separation component.	
CSO No. 026 Sewer Separation	This project consisted of the installation of collection sewers for street receiver flows on Leddy Street, South Park Avenue, Owahn Place, Prenatt Street, Bolton Place, St. Stephen's Place, and Buffalo River Place, tributary to to SPP 88 and 90, in order to discharge these storm flows downstream of regulators, in conjuction with the optimization projects for SPP 217 and SPP 318.	Together with the Smith Street in-line storage project, the Smith Street partial sewer separation project is designed to divert storm flows directly to the Smith Street Drain thereby reducing CSO 026 discharges. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 6 activations or less.
CSO No. 026 RTC Structure	The second contract consists of an in-line storage project which is designed to detain wet weather flows along the western side of Smith Street using a weir structure between the I-190 and the I-190 off ramp within the Smith Street Drain for discharge to the South Interceptor thereby diverting combined sewer flows from CSO 026.	Together with the Smith Street partial sewer separation project, the Smith Street in-line storage project is designed to divert and detain the equivalent of a storage volume of 1.94 MG, thereby reducing CSO 026 discharges. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 6 activations or less.
Foundation 2 - SPP Optimization (20 projects)	Project consists of multiple smaller projects that will overlap in engineering and construction. SEE DETAILS FOLLOWING FOR SPECIFIC PROJECTS	In general, these projects will reduce discharges to the CSOs by detaining flows within the BSA's system through the modification of existing control structures.
SPP 180 Optimization	This project consisted of raising of the weir associated with SPP 180 by 2.0' along its entire length. SPP 180 is located on Delaware Avenue at the intersection with West Delavan. As part of the revised SPP 331 Optimization, this weir will be raised an additional 1.75' along its entire length.	The SPP 180 Optimization project was designed to increase the capacity of the CSS at SPP 180 thereby decreasing CSO 006 discharges. Together with other LTCP projects, this project is projected to reduce CSO 006 discharges to the Black Rock Canal based on the TY to 4 activations.

Project Name	Project Description	Project Purpose*
SPP 331 Optimization	SPP331 is located at the intersection of Elmwood Avenue and West Delavan Avenue. Preliminary plans were for the diversion of flows from this point through a new sewer to Bird Avenue along the centerline of Elmwood Avenue. This would have required major disruption of a very high traffic commercial area and was deemed impractical. Plans have been developed to instead divert the same flow that was to have been diverted through this project through a system of localized weir modifications rather than extensive pipe installation. These modifications include raising the weir at SPP 180 by 1.75' and the bench located in SPP 332 on the northeast quadrant of Gates Circle which currently directs dry weather flows into the interceptor will be removed and replaced with a 6.2' weir and restored sewer trough which will direct dry weather flows into the Bird Avenue trunk sewer.	The SPP 331 Optimization project is designed to increase the underflow capacity at SPP 331 thereby decreasing CSO 006 discharges. Together with other LTCP projects, this project is projected to reduce CSO 006 discharges to the Black Rock Canal based on the TY to 4 activations.
SPP 036 Optimization	This project consisted of the reconstruction of 35' of 30" sewer associated with SPP 036 to reverse the slope. It was located on Church Street between the off and on ramps of the Skyway (State Route 5).	The SPP 036 Optimization project was designed to increase the underflow capacity at SPP 036 thereby decreasing CSO 015 discharges. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Erie Basin through CSO 015 to 0 activations.
SPP 217 Optimization	In association with the Smith Street partial sewer separation project, this project consisted of the removal of two bottom orifice plates totaling 1.42' in height, increasing the orifice size and conveyance capacity of the Emslie Street Sewer. SPP 217 is located on Emslie Street at its intersection with Eagle Street.	The SPP 217 Optimization project is designed to increase the underflow capacity at SPP 217 thereby decreasing CSO 026 discharges. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.

Project Name	Project Description	Project Purpose*
SPP 318 Optimization	In association with the Smith Street partial sewer separation project, this project consisted of the removal of an orifice plate, increasing the orifice size and conveyance capacity of the Clinton Avenue Sewer. SPP 318 is located east of the intersection of Fillmore Avenue and Clinton Street.	The SPP 318 Optimization project is designed to increase the underflow capacity at SPP 318 thereby decreasing CSO 026 discharges. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.
SPP 097A Optimization	This project consisted of abandoning an inactive combined sewer, converting another to a storm sewer and abandoning the underflow connection. SPP 097A is located at the intersection of the extension of Prenatt and Orlando Streets.	The SPP 097A Optimization project is designed to eliminate SPP 097A thereby decreasing CSO 026 discharges. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.
SPP 122 Optimization	This project consisted of raising of the weir associated with SPP 122 by 0.5' along its entire length. SPP 122 is located on South Legion Drive just north of the intersection with Meriden Street.	The SPP 122 Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 122 thereby decreasing CSO 037 discharges. Together with other LTCP projects, this project is projected to reduce CSO 037 discharges to the Buffalo River based on the TY to 3 activations.
SPP 163 Optimization	The SPP 163 Weir Optimization project consisted of replacing the existing weir with a new weir 0.75' higher. It is located to the East of the intersection of Fillmore Avenue and Northland on Northland Avenue.	The SPP 163 Optimization project is designed to increase the flow volume conveyed by the CSS at SPP 163 thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 165 Optimization	This project consisted of raising of the weir associated with SPP 165 by 0.5' along its entire length. SPP 165 is located on Fillmore Avenue just north of the intersection with East Delavan Street.	The SPP 165 Optimization project was designed to increase the capacity of the CSS at SPP 165 thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 165A Optimization	The weir associated with SPP 165A located at the intersections of Fillmore and Kensington Avenues.	The SPP 165A Optimization project was designed to increase the capacity of the CSS at SPP 165A by raising the weir by 0.75' and upsizing 675' of 15" pipe to 18” pipe to reduce CSOs in association with CSO 053. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.

Project Name	Project Description	Project Purpose*
SPP 178 Optimization	This project consisted of raising of the weir associated with SPP 178 by 0.5' along its entire length. SPP 178 is located on Masten Avenue just north of the intersection with Northland Avenue.	The SPP 178 Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 178 thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 335B Optimization	This project consisted of raising of the weir associated with SPP 335B by 1.0' along its entire length. SPP 335B is located on Hager Street just south of the intersection with Florida Street.	The SPP 335B Optimization project was designed to increase the flow volume conveyed by CSS at SPP 335B thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 336A Optimization	This project has been constructed in association with the SPP 331 optimization. The project consist sof removing a sluice gate and orifice plate and modifying the existing structure by changing the existing side channel opening from 24" to 30". SPP 336A is located on Humboldt Parkway North of the Scajaquada Drain.	The SPP 336A Optimization project is designed to increase the underflow capacity of the CSS at SPP 336A thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 341A Optimization	SPP 341A is located on Genesee Street east of Kerns Avenue. This project is on hold pending the results of post-construction monitoring of Lang and Hazelwood RTCs.	The SPP 341A Optimization project would increase the flow volume conveyed by the CSS at SPP 341A thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations. Field conditions may require modification to this planned optimization.
SPP 342B Optimization	This project consisted of raising of the weir associated with SPP 342B by 1.0' along its entire length. SPP 342B is located on Sprenger Avenue adjacent to Schiller Park.	The SPP 342B Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 342B thereby decreasing CSO 053 discharges. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.

Project Name	Project Description	Project Purpose*
SPP 001 Optimization	The weir associated with SPP 001 located at the discharge of Cornelius Creek into the Niagara River and tributary to CSO 055 has been raised 1.0' to reduce CSOs.	The SPP 001 Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 001 thereby decreasing CSO 055 discharges. Together with other LTCP projects, this project is projected to reduce CSO 055 discharges to the Niagara River based on the TY to 9 activations.
SPP 183 Optimization	This project consisted of raising of the weir associated with SPP 183 by 2.0' along its entire length. SPP 183 is located at the intersection of Bradley Avenue and Dewitt Street.	The SPP 183 Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 183 thereby decreasing CSO 059 discharges. Together with other LTCP projects, this project is projected to reduce CSO 059 discharges to Scajaquada Creek based on the TY to 0 activations.
SPP 283 Optimization	SPP 283 is located in the median between the I-190 South ramp to Porter Avenue and a service road near the West Side Rowing Club. This project consisted of removing an orifice plate which restricted flows from entering the Swan Trunk and the installation of a new 1.0' tall weir to restrict flows from discharging through CSO 063.	The SPP 283 Optimization project was designed to increase the underflow capacity of the CSS at SPP 283 thereby decreasing CSO 063 discharges. Together with other LTCP projects, this project is projected to reduce CSO 063 discharges to the Niagara River based on the TY to 4 activations.
SPP 211 Optimization	This project consisted of constructing a weir to an elevation above the overflow raised pipe invert at SPP 211. SPP 211 is located at the South East corner of the intersection of Clinton and South Ogden Streets.	The SPP 211 Optimization project was designed to increase the flow volume conveyed by the CSS at SPP 211 thereby decreasing CSO 066 discharges. Together with other LTCP projects, this project is projected to reduce CSO 066 discharges to the Buffalo River based on the TY to 4 activations.

Project Name	Project Description	Project Purpose*
Foundation 3 - Remaining RTC (14 sites)	These RTC projects propose to utilize available capacity in the CSS to provide flow control measures during wet weather events through the use of active controls.	In general, these projects are designed to reduce discharges to the CSOs through the detention of flows within the BSA's CSS system.
Hertel Northwest In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is within the northern portion of the two large combined sewers which are located under Hertel Avenue.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 055 discharges to the Niagara River based on the TY to 9 activations.
Hertel South (Hertel at Deer) In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is within the southern portion of the two large combined sewers which are located under Hertel Avenue.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 055 discharges to the Niagara River based on the TY to 9 activations.
Hertel Northeast In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. This project will be located within the northern portion of the two large combined sewers which are located under Hertel Avenue.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 055 discharges to the Niagara River based on the TY to 9 activations.
Bird East In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. This project will be located to the east of the above mentioned Bird RTC project along the same Bird Avenue sewer.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 004 discharges to the Black Rock Canal based on the TY to 3 activations.

Project Name	Project Description	Project Purpose*
East Ferry In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is along the Ferry Street sewer upstream of its leaping weir overflow to the Scajaquada Drain north of Florida Street.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
Colorado In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is along the Colorado Avenue sewer which runs underneath the manufacturing facility located at 1001 East Delavan Avenue.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
North Bailey In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is along Bailey Avenue north of Scajaquada Street.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
South Bailey In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is along Bailey Avenue north of Scajaquada Street and south of the afore mentioned North Bailey In-Line Storage project.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
Roslyn In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is near Roslyn Street on Lang Avenue.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.

Project Name	Project Description	Project Purpose*
Hazelwood (Kay) In-Line Storage	This RTC project, now known as Hazelwood, is proposed to utilize available capacity in the CSS capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is on Hazelwood Avenue between East Delavan and Easton Avenues.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
Amherst Quarry Off-Line Storage	This RTC project proposes to utilize available capacity within the active Amherst Quarry to provide flow control measures during wet weather events, once downstream capacity is available, flows will then be pumped back into the system. The Amherst Quarry is located in an area bounded by Parkridge Avenue, East Amherst Street, and Hewitt Avenue.	This RTC project is proposed to utilize available capacity of the quarry to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 053 discharges to Scajaquada Creek based on the TY to 4 activations.
Fillmore North In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. This project is proposed to be located on Fillmore Avenue, however pending the results of post-construction monitoring, it may be eliminated depending on the efficancy of the Smith Street Storage project.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.

Project Name	Project Description	Project Purpose*
Gibson CSO Line Storage	This project is proposed to utilize the available capacity of the CSO pipe downstream of the SPP, but before the discharge point or outfall. It would be designed to convey water to prevent surface flooding and overflows through upstream SPPs. Once the storm event has subsided, it would be designed to dewater back into the combined system. The dewatering rate would be controlled so that it would not cause overflows downstream from the control structure. The proposed project location is on Gibson Street, however pending the results of post-construction monitoring, it may be eliminated depending on the efficancy of the Smith Street Storage project.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.

Project Name	Project Description	Project Purpose*
Montgomery CSO Line Storage	This project is proposed to utilize the available capacity of the CSO pipe downstream of the SPP, but before the discharge point or outfall. It would be designed to convey water to prevent surface flooding and overflows through upstream SPPs. Once the storm event has subsided, it would be designed to dewater back into the combined system. The dewatering rate would be controlled so that it would not cause overflows downstream from the control structure. The proposed project location is along the railroad right-of-way near Montgomery Street, however pending the results of post-construction monitoring, it may be eliminated depending on the efficancy of the Smith Street Storage project.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 3 activations.
Babcock Pump Station In-Line Storage	This RTC project is proposed to modify the function of an existing pump station to utilize available capacity of a large sewer to provide flow control measures during wet weather events. The proposed project location is at the existing pump staion on New Babcock Street at Howard Street.	This RTC project is proposed to utilize available capacity within the collection system to reduce the peak flow into the Swan Trunk. Together with other LTCP projects, this project is projected to reduce CSO 027 discharges to the Buffalo River based on the TY to 6 activations.
Smith at Eagle In-Line Storage	This RTC project is proposed to utilize available capacity in the Smith St Drain to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is upstream of the existing CSO 026 RTC project on Smith St. and Eagle St.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 026 discharges to the Buffalo River based on the TY to 6 activations.
Broadway at Oak In-Line Storage	This RTC project is proposed to utilize available capacity in the collection system to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is on Broadway St. at Oak St.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 017 discharges to the Buffalo River based on the TY to 6 activations.

Project Name	Project Description	Project Purpose*
Foundation 4 - Hamburg Drain Optimizations	This project will entail several in-system optimizations, e.g. rerouting of flows, installation of weirs, partial sewer separations etc. and/or green infrastructure to reduce the overflow events at a number of upstream SPPs in order to control flows through CSOs 017, 022, and 064. These optimizations would be located within the Hamburg Basin.	These optimization projects are proposed to increase the flow volume conveyed by the CSS upstream of the SPPs and diverting stormwater flows out of the CSS thereby decreasing CSO 017, 022, and 064 discharges. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Buffalo River through CSO 017 to 4 activations, CSO 022 to 5 activations, and CSO 064 to 3 activations.
Foundation 4 - Hamburg Drain Storage	Together with the Hamburg Drain Optimizations, this project would be designed to provide the equivalent of 5 MG of offline storage. This facility would be located within the Hamburg Basin and may involve the installation of RTCs.	This storage project is proposed to provide off-line storage thereby decreasing CSO 017, 022, and 064 discharges. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Buffalo River through CSO 017 to 4 activations, CSO 022 to 5 activations, and CSO 064 to 3 activations.
Mill Race In-Line Storage	This RTC project is proposed to utilize available capacity of a large sewer to provide flow control measures during wet weather events while allowing continuous dry weather underflow. The proposed project location is on Larkin Street near Roseville Street.	This RTC project is proposed to utilize available capacity within the collection system to detain flows until downstream capacity becomes available. Together with other LTCP projects, this project is projected to reduce CSO 017 discharges to the Buffalo River based on the TY to 6 activations.
WWTP		
WWTP Improvement Project Alternative C2	The proposed project is expected to rehabilitate the existing primary clarifiers by adding high rate disinfection and provide additional secondary clarifiers at the Bird Island WWTP.	This project would be designed to provide treatment of wet weather flows and increased secondary treatment capacity.

Project Name	Project Description	Project Purpose*
Green Infrastructure Projects		
Green 1 - Pilot Projects – 267-acres of GI control	Projects consist of multiple green infrastructure projects that will overlap in engineering and construction.	In general, this phase is designed to control stormwater flow from 267 acres of impervious area in the various sewer sheds within the targeted areas.
2001-2016 Residential Demolitions	This project consists of the demolition of vacant houses thereby replacing impervious with pervious surfaces.	This project is designed to remove 256 total acres of impervious area and manage stormwater on site.
2001-2016 Commercial and Industrial Demolitions	This project consists of the demolition of commercial and industrial structures thereby replacing impervious with pervious surfaces.	This project is designed to control stormwater flow from 78 total acres of impervious area.
Green 2 – 410 acres of GI Control	These projects will consist of multiple green infrastructure projects that will overlap in engineering and construction. Details will be provided in future reports.	In general, these projects would be designed to retain stormwater flow from 410 acres of impervious area in the various sewer sheds in the targeted areas.
2017 -2024 Demolitions	This project consists of the demolition of vacant and dilapidated structures thereby replacing impervious surface with pervious surface	This project is designed to control stormwater flow for each post demolition vacant lot. Total acreate TBD on a rolling basis depending upon demolitions completed.
Green Demolition Pilot Project	A three year pilot study where the City of Buffalo's demolition specifications were altered to allow for the use of shallow bioretention to increase onsite infiltration	Over the course of the pilot project the revised demolition specifications/bioretention approach was applied to 221 sites impacting a total of 19.03 acres.
PUSH Blue Projects	PUSH-Buffalo will install rain gardens, porous pavement and a green roof and distribute rain barrels within the CSO 012 sewershed.	This project is designed to control stormwater flow from 1 acre of impervious area.
Carlton Street Porous Asphalt	This project consisted of the installation of pervious pavement to retain stormwater from the area tributary to the Right-of-Way on Carlton Street between Michigan and Jefferson Avenues in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from a 5.9 acre sewershed.

Project Name	Project Description	Project Purpose*
Fillmore Avenue Porous Parking Lots and Green Lots	This project consisted of the installation of porous pavement parking lots and modified rain gardens to retain stormwater from the area tributary to the Right-of-Way of Fillmore Avenue in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 0.4 total acres of impervious area.
Ohio Street	This project consisted of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way on Ohio Street in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 6.1 total acres of impervious area.
Kenmore Avenue	This project consists of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way on Kenmore Avenue in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 5.17 total acres of impervious area.
Genesee Gateway Project	This project consists of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way on Genesee Street in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 2.8 total acres of impervious area.
Allen Street	This project will consist of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way for the portion of Allen Street between Main Street and Elmwood Avenue in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 2.5 total acres of impervious area.
Niagara Street Phase 1: Elmwood Street to Virgina Street	This project consists of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way for the length of Niagara Street in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 2 total acres of impervious area.

Project Name	Project Description	Project Purpose*
Niagara Street Phase 2: Virgina Street to Porter Avenue	This project consists of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way for the length of Niagara Street in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 7.3 total acres of impervious area.
Niagara Street Phase 3: Hampshire Street to Scajaquada Expressway	This project consists of the installation of green infrastructure to retain stormwater from the area tributary to the Right-of-Way for the length of Niagara Street in the City of Buffalo as part of the City's streetscape project.	This project is designed to control stormwater flow from 15 total acres of impervious area in MS4 drainage areas and 25.5 in CSO drainage areas.
Niagara Street Phase 4: Scajaquada Expressway to Ontario Street		
Niagara Street Phase 5: Porter Avenue to Hampshire Street		
Green 3 – 375 acres of GI Control	These projects will consist of multiple green infrastructure projects that will overlap in engineering and construction. Details will be provided in the Phase 2 Green Infrastructure Master Plan.	In general, these projects would be designed to retain stormwater flow from 375 acres of impervious area in the various sewer sheds in the targeted areas.
Green 4 – 263 acres of GI Control	These projects will consist of multiple green infrastructure projects that will overlap in engineering and construction. Details will be provided in the Phase 2 Green Infrastructure Master Plan.	In general, these projects would be designed to retain stormwater flow from 263 acres of impervious area in the various sewer sheds in the targeted areas.

Project Name	Project Description	Project Purpose*
Gray Projects		
CSOs 014/15 – Erie Basin In-line storage and optimization projects	**SEE DETAILS FOLLOWING FOR SPECIFIC PROJECTS**	
SPPs 206A&B	A new 113,000 gallon in-line storage facility was constructed in association with SPPs 206A&B to reduce CSOs at CSO 014. This site is located at Trenton Road/ Village Court north east of Fourth Street.	This project was designed to provide in-line storage thereby decreasing CSO 014 discharges through SPPs 206A&B. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Erie Basin through CSO 014 to 2 activations.
SPP 035	A new 50,000 gallon in-line storage facility was constructed between the Genesee Trunk and Swan Trunk sewers to create additional storage capacity in association with SPP 035 (CSO 015). This project is located to the north west of the intersection of South Elmwood Avenue and West Genesee Street.	This project was designed to provide in-line storage thereby decreasing CSO 015 discharges through SPP 35. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Erie Basin through CSO 015 to 0 activations.
SPP 036	This project consisted of the reconstruction of 35' of 30" sewer associated with SPP 036 to reverse the slope. This site is located on Church Street between the off and on ramps of the Skyway bridge (State Route 5).	This sewer reconstruction project was designed to increase the underflow capacity of the CSS thereby decreasing CSO 015 discharges. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Erie Basin through CSO 015 to 0 activations.
CSO 013 – Satellite storage, conveyance, FM & PS	CSO 013 is located at the extension of Virginia Street, in LaSalle Park, into the Black Rock Canal, the structure is tentatively planned to be built between the last SPP structure and the Canal. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	This storage project would provide off-line storage thereby decreasing CSO 013 discharges. Preliminary design is for a 0.3 MG offline storage facility. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Black Rock Canal through CSO 013 to 4 activations.

Project Name	Project Description	Project Purpose*
North Relief – Interceptor	The original conception of this project was of a deep tunnel relief sewer to run in the vicinity of Niagara Street between Bird Avenue and Albany Street with an additional line connecting the tunnel to the WWTP influent siphon. Preliminary design is for 5,310' of 96"pipe and 571' of 120" pipe. Due to site constraints this project may be redesigned.	The purpose of this project is to reduce discharges through CSOs 004, 011, and 012, by creating a new relief sewer thereby creating offline storage capacity capacity in the CSS. Together with other LTCP projects, this project is projected based on the TY to reduce discharges to the Black Rock Canal through CSO 004 to 3 activations, CSO 011 to 4 activation, and CSO 012 to 2 activations.

Project Name	Project Description	Project Purpose*
CSOs 010, 008/010, 061, 004 – Underflow capacity upsizing	This project will consist of upsizing of underflow piping to maximize flow to the interceptors. This project is tentatively proposed for between Breckenridge Street and Brace Street along the I-190 with an extension along Brace Street across Niagara Street.	This underflow capacity upsizing project would increase the capacity of the CSS thereby decreasing CSO 010, 008, 061 and 004 discharges. Together with other LTCP projects, this project is projected based on the 1993 Modified Typical Year to reduce discharges to the Black Rock Canal through CSO 004 to 3 activations, CSO 010 to 1 activations, CSO 008 to 0 activations, and CSO 061 to 4 activations.
SPP 337 (CSO 053) – Satellite storage, conveyance, FM & PS	SPP 337 is located at Colorado Street North of Scajaquada Street. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 53 to the Scajaquada Creek. Preliminary design is for a 0.7 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to Scajaquada Creek based on the TY to 4 activations.
SPP 336A&B (CSO 053) – Satellite storage, conveyance, FM & PS	SPP 336A&B are located on Humboldt Parkway on each side of the Scajaquada Drain. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 53 to the Scajaquada Creek. Preliminary design is for a 4.2 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to Scajaquada Creek based on the TY to 4 activations.
Jefferson Avenue & Florida Street (CSO 053) – Satellite storage, conveyance and FM	The proposed location for this facility is in the vicinity of the intersection of Jefferson Avenue and Florida Street. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 53 to the Scajaquada Creek. Preliminary design is for a 2.6 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to Scajaquada Creek based on the TY to 4 activations.
CSO 055 – Satellite storage, conveyance, FM & PS	For CSO 055, the proposed storage facility would be located upstream of the regulator, near Military Road. At this location, an offline facility would be constructed and flows above 26 MGD (instantaneous peak) would be diverted from the South Hertel Trunk sewer into the storage facility. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 55 to the Niagara River. Preliminary design is for a 7.5 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to the Niagara River through CSO 55 based on the TY to 9 activations.

Project Name	Project Description	Project Purpose*
CSOs 028/044/047 - Satellite storage, conveyance, FM & PS	The proposed location for this facility is underneath the Tops parking lot between South Park Avenue and the Buffalo River. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 28 to the Buffalo River and through CSOs 047 and 044 to Cazenovia Creek. Preliminary design is for a 2.3 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges based on the TY to 6 activations through CSO 028, 2 activations through CSO 044 and 3 activations through CSO 047.
CSO 052 – Satellite storage, conveyance, FM & PS	The proposed location for this facility is in the vicinity of South Ogden Street between Mineral Springs Road and Cazenovia Creek. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 52 to the Buffalo River. Preliminary design is for a 0.6 MG offline storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to the Buffalo River through CSO 052 based on the TY to 3 activations.
CSO 064 – Satellite storage, conveyance, FM & PS	The proposed location for this facility is in the vicinity of the confluence of Ohio, Louisiana and Saint Claire Streets. The proposed satellite storage facility would consist of a covered, concrete, underground tank.	The purpose of this project is to reduce discharges through CSO 064 to the Buffalo River. Preliminary design is for a 0.1 MG off-line storage facility. Together with other LTCP projects, this project is projected reduce CSO discharges to the Buffalo River through CSO 064 based on the TY to 3 activations.

***Note:** Black Rock Canal Performance Criterion is 4 Activations in the Typical Year
Buffalo River Performance Criterion is 6 Activations in the Typical Year
Cazenovia Creek - B Performance Criterion is 4 Activations in the Typical Year
Cazenovia Creek - C Performance Criterion is 6 Activations in the Typical Year
Erie Basin Performance Criterion is 2 Activations in the Typical Year
Niagara River Performance Criterion is 9 Activations in the Typical Year
Scajaquada Creek - Performance Criterion is 4 Activations in the Typical Year

Attachment C to the Semi-Annual Status Report: March 2019

Public Meeting Materials

What will change in my neighborhood once the project is completed?

The only thing visible from the surface following construction will be four new manhole covers and an access hatch in Hertel Avenue at Deer Street, and a control panel on the east side of Deer Street.

Will this project increase the risk that my basement will backup?

No. While the project will modify the local sewer system, these modifications will not increase the likelihood of basement backups.

Will this project affect the integrity of the sewer system?

No. The existing sewer system is in excellent condition despite its age. The new chamber has been designed and will be constructed using state of the art materials and construction methods.

Hertel at Deer Real Time Control Project: Fact Sheet

BUFFALO SEWER AUTHORITY

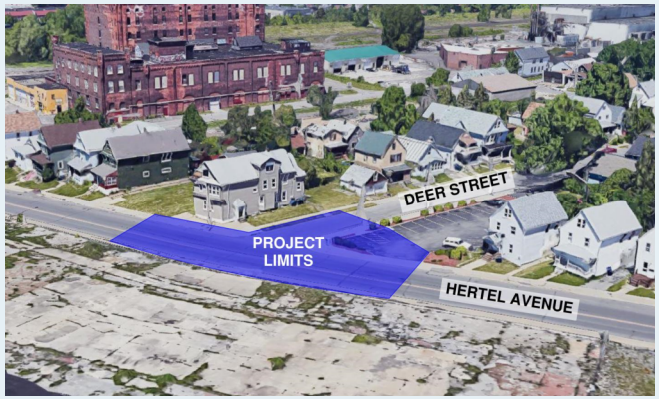
Buffalo Sewer Authority

1038 City Hall
65 Niagara Square
Buffalo, NY
14202

Phone: 716-851-4664

Why is the Buffalo Sewer Authority doing this project?

The Buffalo Sewer Authority (BSA) is working together with the Environmental Protection Agency and the New York State Department of Environmental Conservation on a 20-year Long Term Control Plan (LTCP). The LTCP is focused on significantly improving water quality of the local water bodies and waterways. A portion of the LTCP involves improvements to the existing sewer system.



Project Location Map

What does this project involve?

The Hertel at Deer project will reduce combined sewer overflows by controlling flow to the Bird Island Wastewater Treatment Plant in wet weather. The implementation of this project will cost approximately $4,000,000.

How was this project designed?

This project was designed by Licensed Professional Engineers who are highly proficient in water and wastewater conveyance and treatment.

Where can I find design details?

Plans and specifications are located at the BSA's office at 1038 City Hall.

When and what can I expect during construction?

Construction is expected to start in the Spring of 2019, and conclude at the end of 2019. The construction work will be completed in phases. First, temporary traffic controls will be installed on Hertel Avenue at Deer Street intersection that will prevent vehicle traffic in either direction. Residences within the vicinity of the project will still be easily accessible during construction. **Hertel Avenue will remain closed from Foundry to Short Street for the duration of construction.** Once temporary controls are installed, existing utilities in Hertel Avenue will be moved. Hertel Avenue at Deer Street will then be excavated to install the Real Time Control (RTC) Chamber, which is a concrete chamber with moveable gates. When construction is complete, the contractor will remove the traffic controls and restore the work area.

In addition to traffic disturbances, other disturbances such as noise and dust will occur while heavy machinery is operated for the excavation. Odors from the sewer may also be present during construction, and these temporary disturbances will be minimized as much as possible. The BSA will have a full-time representative onsite during construction to answer any questions or complaints. If you would like further information, please call or email Catherine Knab, Principal Sanitary Engineer, at the BSA at (716) 851-4664 or cknab@buffalosewer.org.

Attachment D to the Semi-Annual Status Report: March 2019

Certificates of Acceptance and Occupancy

ITEM NO. 27

CONTRACT NO. 81700002

CERTIFICATE OF ACCEPTANCE AND OCCUPANCY

PROJECT: CSO No. 026 RTC Structure

BID: $3,997,000.00

CONTRACTOR: Mark Cerrone, Inc.
2368 Maryland Avenue
Niagara Falls, NY 14305

WHEREAS: The Principal Sanitary Engineer and staff have certified that the Contractor completed the work in accordance with the plans and specification on May, 31, 2018; and

WHEREAS In Item No. 26, on September 26, 2018 the contract value was decreased by $130,995.31.

NOW THEREFORE
BE IT RESOLVED: That the Board of the Buffalo Sewer Authority hereby finds and determines that:

a. The work to be performed under the terms of the Contract has been complete and is accepted;

b. The date of entrance and occupancy be fixed as of May, 31, 2018;

c. The maintenance period commence on May, 31, 2018;

d. Final payment be made to the Contractor in the amount of $193,300.28, making the final cost of the Contract $3,866,004.69.

MOTION TO APPROVE

MADE BY MS. PETRUCCI

2ND BY MR. ROOSEVELT

AYES 4 NOES

Board Meeting of September 26, 2018