Save the Rain

Third Quarterly Report 2019

July - September 2019

J. Ryan McMahon, II
County Executive

Save the Rain
www.savetherain.us

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION

VISION

To be a respected leader in wastewater treatment, storm water management, and the protection of our environment using state-of-the-art, innovative technologies and sound scientific principles as our guide.

MISSION

To protect and improve the water environment of Onondaga County in a cost-effective manner ensuring the health and sustainability of our community and economy.

CORE VALUES

E*xcellence*
T*eamwork*
H*onesty*
I*nnovation*
C*ost-Effectiveness*
S*afety*

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Project Progress

Report from the Commissioner

During the third quarter of 2019 we had several projects in construction, including the Harbor Brook Green Streets, which include: South Wilbur Avenue, Magnolia Street Green Street, Lakeview Avenue, and Richmond Avenue. As a whole, the projects will account for a total of 3.4 million gallons of runoff reduction annually in CSO 005, 006, 007, and 009. Construction of the Fairfield Avenue and Hutchinson Avenue Green Street projects in CSO 052 continued, which feature underground infiltration trenches and bioretention that capture an estimated 2.5 million gallons annually.

During the second quarter, the County progressed the design of multiple projects, including the South Salina Street Green Corridor, and various Green Streets in CSO 060/077. The CSO 010 Sewer Improvement project near Geddes on Fayette St progressed to 50% design. Washington Square Park and Wolf Street Road Reconstruction projects reached final design during the third quarter, with construction anticipated during the fourth quarter.

The Save the Rain Clean Water Fair had a very successful year which included rain barrel classes, equipment exhibits, interactive and educational activities, a bounce house, tours of the Metro Waste Water Treatment Facility, and Operational challenges between City and County teams.

The WEP team made significant effort towards completing an approvable Long Term Control Plan (LTCP) and supporting documentation, which includes a Financial Capability Assessment, and Long Term Fecal Coliform Trends Report, all of which will be submitted to the DEC early in the 4th quarter.

Respectfully Submitted

Frank Mento, P.E.

Commissioner

GRAY PROJECTS UPDATE

Gray Projects Update:

There were no gray projects underway in the Save the Rain program during the third quarter of 2019.

GREEN PROJECTS UPDATE

CSO Project Update:

Progress continues to be made on several Save the Rain projects during the third quarter of 2019.

Construction of the Harbor Brook Green Streets continued. The South Wilbur Avenue and Magnolia Street Green Street projects in CSO 009 and Lakeview Avenue Green Street project in CSO 006 were completed during the quarter. Featuring six infiltration trenches between the three projects, a total of 2.6 million gallons of runoff is captured on average, annually. The Richmond Avenue Green Street project in CSO 007 also began construction during the third quarter. When complete, the project will feature two infiltration trenches that capture runoff from Richmond Avenue and adjacent areas, totaling 640,000 gallons on average, annually.

Construction of the Fairfield Avenue and Hutchinson Avenue green street projects in CSO 052 continued in the third quarter with the completion of 60 percent of the work. The project, featuring five underground infiltration trenches and one bioretention area will capture an estimated 2.5 million gallons on average, annually. Completion of construction is anticipated during the fourth quarter.

The Berkeley Drive Road Reconstruction project in CSO 060/077 was also completed during the third quarter. Featuring the installation of seven infiltration manholes on Berkeley Drive between Stratford Drive and Dorset Road the project captures, on average 400,000 gallons annually. The use of the infiltration manholes allowed for the construction of these green infrastructure projects in limited available spaces. After the completion of the project, the City of Syracuse proceeded with their road reconstruction efforts.

Construction of the Washington Square Park and Wolf Street Road Reconstruction projects in CSO 075 reached final design during the third quarter with construction anticipated during the fourth quarter. A community meeting was held for the Washington Square Park project during the third quarter as well.

During the third quarter, the County progressed the design of multiple projects, including:

- South Salina Street Green Corridor (CSO 060/077)
- Elk Street Green Street (CSO 060/077)
- Robert Drive Green Street (CSO 060/077)
- Moore Avenue Green Street (CSO 060/077)
- Vincent Street Green Street (CSO 060/077)
- West Colvin Street Green Street (CSO 060/077)
- Warner Avenue Green Street (CSO 060/077)
- CSO 010 Sewer Improvement (CSO 010)
- Grand Avenue Road Reconstruction/Sewer Separation (CSOs 014 and 015)
- Grand Avenue Road Reconstruction/Sewer Abandonment (Harbor Brook Combined Sewershed)

Design work for these projects is anticipated to be finalized during the fourth quarter of 2019 and first quarter of 2020. Community meetings are scheduled for the Salina Street Green Corridor project early in the fourth quarter and additional community meetings are anticipated for the other projects in design as well.

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Project:	Grand Avenue Road Reconstruction/Sewer Abandonment
Project Owner:	City of Syracuse
Project Location:	Grand Avenue (Velasko Road to DePalma Avenue)
Sewershed:	Harbor Brook
CSO:	N/A
GI Technology:	Sewer Abandonment
Capture Area:	N/A
Runoff Reduction:	TBD
Construction Cost:	TBD
Prime Contractor:	DE Tarolli

FACT SHEET
Grand Avenue
Road Reconstruction/Sewer Abandonment

Project Description: The Road Reconstruction project on Grand Avenue further exemplifies the continued partnership between Onondaga County and the City of Syracuse. This project is another example of the City's Department of Public Works partnering with Onondaga County through their road reconstruction program for the inclusion of stormwater management. In this unique application, a sanitary sewer that is no longer used and is conveying significant groundwater to the Harbor Brook Interceptor Sewer will be plugged and abandoned, providing a benefit to the Harbor Brook combined sewershed as a whole.

The existing sanitary sewer that has been in place and unused for decades will be abandoned in place and plugged on both ends, stopping the flow of groundwater into the Harbor Brook Interceptor Sewer. By doing this, capacity in the Harbor Brook Interceptor Sewer will be freed, alleviating hydraulic restrictions downstream. Construction for this project is planned for 2019.

Limits of the Road Reconstruction/Sewer Abandonment Project on Grand Avenue are outlined in red on the map

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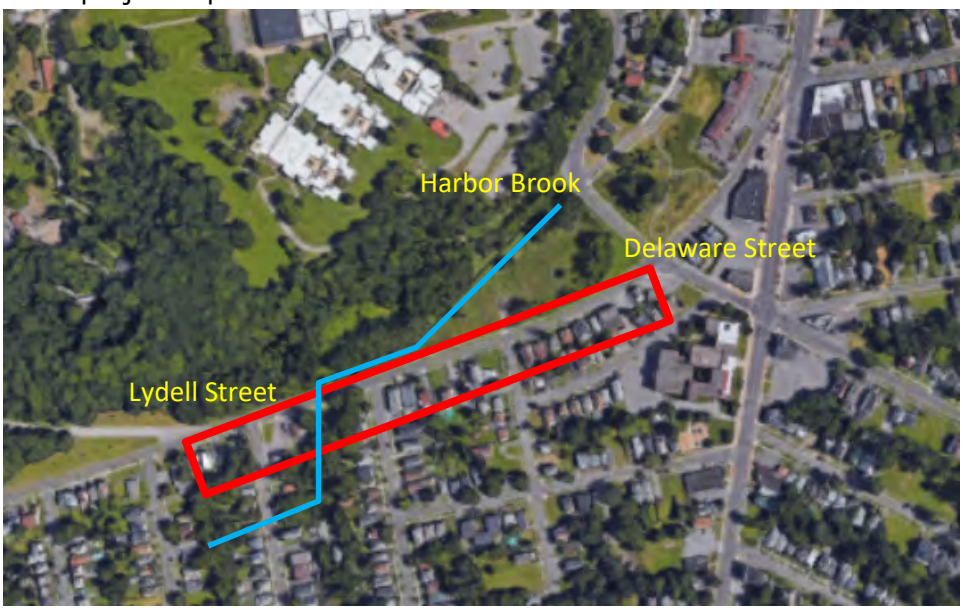
Project:	Grand Avenue Road Reconstruction/Sewer Separation
Project Owner:	City of Syracuse
Project Location:	Grand Avenue – Delaware Street to Lydell Street
Sewershed:	Harbor Brook
CSO:	014/015
GI Technology:	Sewer Separation
Capture Area:	89,400 sq ft.
Runoff Reduction:	1,250,000 gal/yr
Year Contracted:	2019
Construction Cost:	$275,000 (Estimated)
Prime Contractor:	Ballard Construction

FACT SHEET
Grand Avenue
Road Reconstruction/Sewer Separation

Project Description: The Road Reconstruction project on Grand Avenue further exemplifies the continued partnership between Onondaga County and the City of Syracuse. This project is another example of the City's Department of Public Works partnering with Onondaga County through their road reconstruction program for the inclusion of stormwater management. This application, within CSO 014/015, reduces pollution to Harbor Brook and Onondaga Lake.

Taking advantage of nearby Harbor Brook, this project will include the construction of a new separated storm sewer to capture the runoff from Grand Avenue and adjacent side streets within CSOs 014 and 015. An 18" storm sewer will be constructed along the north side of the street tying into multiple existing catch basins. By capturing this additional side-street runoff, the project is highly cost and capture efficient and benefits multiple CSO basins within the Harbor Brook sewershed due to capacity relief in the interceptor sewer. This project manages a total of 89,400 square feet of impervious drainage area, equating to approximately 1,250,000 gallons of stormwater runoff annually, in CSO 014/015. Construction for this project is planned for 2020.



Limits of the Road Reconstruction/Sewer Separation Project on Grand Avenue are outlined in red on the map above

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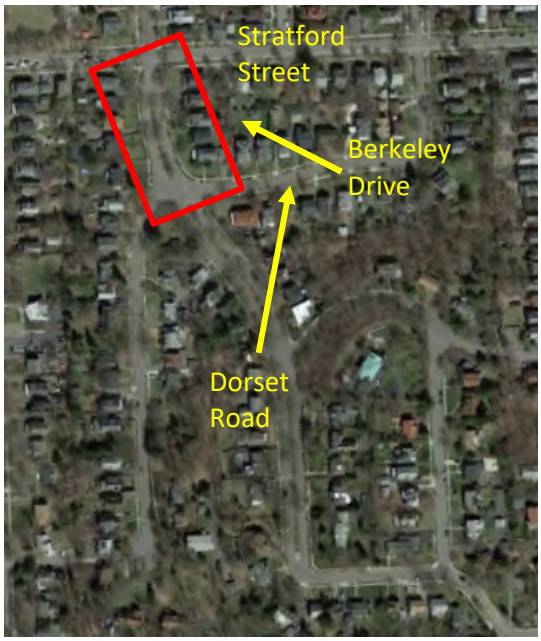
FACT SHEET
Berkeley Drive Road Reconstruction

Project:	Berkeley Drive Road Reconstruction
Project Owner:	City of Syracuse
Project Location:	Berkeley Drive (Stratford Street to Dorset Rd.)
Sewershed:	Midland
CSO:	060/077
GI Technology:	Infiltration Manholes
Capture Area:	48,190 sq ft.
Runoff Reduction:	400,000 gal/yr
Year Contracted:	2019
Construction Cost:	$150,000 (Estimated)
Prime Contractor:	Ballard Construction

Project Description: The Road Reconstruction project on Berkeley Drive further exemplifies the continued partnership between Onondaga County and the City of Syracuse. This project will be another example of the City's Department of Public Works partnering with Onondaga County through their road reconstruction program for the inclusion of green infrastructure. This application, within CSO 060/077, is intended to reduce combined sewer overflows to Onondaga Creek and Onondaga Lake.



Limits of the Road Reconstruction Project on Berkeley Drive

The project uses several infiltration manholes between Stratford Street and Windsor Place, to manage the runoff from Berkeley Drive. The infiltration manholes are a unique application of storage structures to manage stormwater in areas that have limited space to do so. Due to their small footprint and high storage volume, infiltration manholes offer greater efficiency and ease of construction than other similar green infrastructure technologies, like underground infiltration trenches. High flows from large rain events (above one inch over two hours) will flow back into the existing combined sewer system for safety. The streetscape will not look different after the work is complete, as the manholes are completely underground with no visible features at the surface. This project manages over 48,000 square feet of impervious drainage area, equating to approximately 800,000 gallons of stormwater runoff annually, in CSO 060/077.

Installation of the Infiltration Manholes on Berkeley Drive

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Project:	NWSI – Performance Park
Project Owner:	Private
Project Location:	Wyoming St at Marcellus St
Sewershed:	Clinton
CSO:	028
GI Technology:	Underground Infiltration Trench, Porous Pavement, Tree Planting, Added Green Space, Roof Drain Disconnect
Capture Area:	115,703 sq. ft.
Runoff Reduction:	2,189,400 gal/yr
Year Contracted:	2016
GIF Award:	$681,357.50

FACT SHEET
Near West Side Initiative Performance Park

Project Description: The Near Westside Initiative Performance Park GIF project, located at the corner Wyoming Street and Marcellus Street is currently under construction, with completion expected in 2019. The project transforms a 100% impervious vacant space into a neighborhood asset, complete with exercise equipment and a performance stage. The GIF work consists of the installation of underground infiltration trenches, porous pavement, and tree trenches which will store and disperse stormwater from more than 115,000 square feet of impervious surfaces back into the ground. The nearby building roof drains were disconnected from the combined sewer and routed to an underground, prefabricated storm trench chamber system. Porous pavement is being used for parking and other areas within the project as well. In total, 43 trees will be planted as part of the project and more than 17,000 square feet of conversion of impervious areas to green areas will occur in the project. Overall, the installed green infrastructure will capture approximately 2,189,400 gallons of stormwater runoff annually.

Construction of the underground storage chamber infiltration trench system

Disconnection of the roof drain from the adjacent building and plumbing to the installed green infrastructure

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FACT SHEET
Green Streets in CSO 060/077 Sewershed

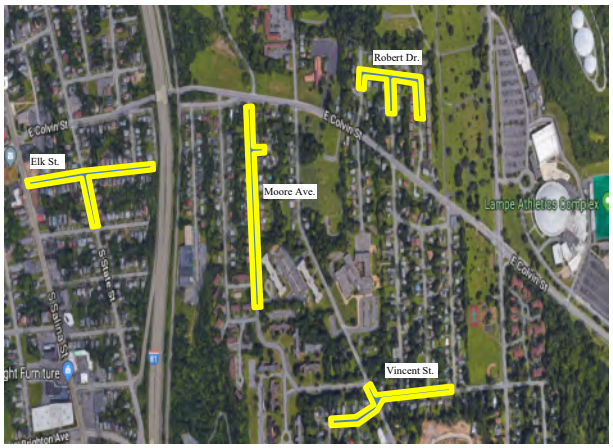
Project:	Green Streets in CSO 060/077
Property Owner:	City of Syracuse
GI Technologies:	Bioswales, Infiltration Trenches
Project Locations:	Elk St. between S. Salina St. & Dougal Ave.; Moore Ave. between Penta Dr. & E. Colvin St.; Robert Dr. between Hughes Ln. & E. Colvin St.; Vincent St. between Burten St. & Harriette Ave.; W. Colvin St. between Midland Ave. & Hunt Ave.; Warner Ave. between Midland Ave. & Hope Ave.
Sewershed:	Midland
CSO:	060/077
Capture Area:	435,495 sq. ft. (total, all areas)
Runoff Reduction:	8,021,000 gal/year (total)
Year Contracted:	TBD
Anticipated Cost:	$4,497,600

Project Description: The Green Streets in CSO 060/077 Sewershed projects are comprehensive green street applications located on multiple streets within the CSO 060/077 sewershed. This is a high priority sewershed that discharges frequently during rain events. The green streets are listed below and include capture area and runoff reduction estimates:

- Elk St. (Anticipated Summer 2020)
  Capture Area: 51,784 sq. ft.
  Runoff Reduction: 1,000,000 gal/yr
  Anticipated Project Cost: $422,300
- Moore Ave. (Anticipated Summer 2020)
  Capture Area: 57,490 sq. ft.
  Runoff Reduction: 1,110,000 gal/yr
  Anticipated Project Cost: $810,000
- Robert Dr. (Anticipated Summer 2020)
  Capture Area: 72,727 sq. ft.
  Runoff Reduction: 1,400,000 gal/yr
  Anticipated Project Cost: $470,000
- Vincent St. (Anticipated Summer 2020)
  Capture Area: 106,000 sq. ft.
  Runoff Reduction: 2,050,000 gal/yr
  Anticipated Project Cost: $1,210,000
- W. Colvin St. and Warner Ave
  (Anticipated Summer 2020)
  Capture Area: 150,000 sq. ft.
  Runoff Reduction: 2,450,000 gal/yr
  Anticipated Project Cost: $1,525,000

Each design implements green infrastructure applications at key points along these streets in order to capture stormwater and enhance local urban streetscapes. Each project also incorporates the installation of infiltration trenches underneath the roadway, tree planters, and bioswales throughout the project areas.

Project Locations In Yellow Boxes



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Project:	CSO 010 Catch Basin Separation and Outfall Modifications
Project Owner:	City of Syracuse
Project Location:	West Fayette St. and South Geddes St. Intersection to Harbor Brook
Sewershed:	Harbor Brook
CSO:	010
Technology:	Catch Basin Disconnection/Outfall Reconfiguration
Stormwater Reduction:	1,585,000 gal/yr
Year Contracted:	2020 Anticipated
Construction Cost:	$800,000 (Engineer's Estimate)

FACT SHEET
CSO 010 Catch Basin Disconnection

Project Description: The CSO 010 Catch Basin Separation and Outfall Modifications project is to improve stormwater flows into Harbor Brook instead of the Harbor Brook Interceptor Sewer. The existing catch basins at and in the vicinity of South Geddes and West Fayette Street are connected to the CSO 010 combined sewer. Approximately 90,000 square feet of impervious area drains to these catch basins. By disconnecting these catch basins from the combined sewer and improving the flows to Harbor Brook, the stormwater volume at CSO 010 and the combined sewer is expected to reduce by 1,585,000 gallons per year. Furthermore, the project is expected to reduce overflows at other downstream CSO's (as predicted by the County's SWMM model). This is a significant benefit for a minimally invasive and low-cost project.

CSO 010 Drainage Area Schematic

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Project:	Washington Square Park
Project Owner:	City of Syracuse Parks Department
Project Location:	Washington Square – at Park Street and LeMoyne Avenue
Sewershed:	Hiawatha
CSO:	075
GI Technologies:	Infiltration, Porous Pavement
Capture Area:	71,000 sq. ft. (estimated)
Runoff Reduction:	1,250,000 gal/yr (estimated)
Year Contracted:	2019
Cost:	$322,000 (estimated)
Prime Contractor:	D.E. Tarolli and J&J Landscaping

FACT SHEET
Washington Square Park

Project Description: Washington Square Park is one of the many projects planned through the collaborative efforts of the Onondaga County Save the Rain and the City of Syracuse Parks and Recreation Department. Washington Square was dedicated for park purposes in 1839 and continues to serve the recreational needs of the community as a neighborhood park.

The primary goal of this project is to reduce the volume of stormwater flowing into the combined sewer system along Park Street – all within the CSO 075 area. This CSO discharges on average 17 times a year, making it one of the more frequent discharging CSOs remaining in the County's combined sewer system. This project will implement underground infiltration systems with two different construction methods, one being a porous basketball court with an underground infiltration, and another underground trench using modular storage units. This green infrastructure captures runoff from the park and surrounding areas, totaling 71,000 square feet of drainage area. Stormwater slowly soaks into the ground or is stored for the duration of a storm then slowly released back to the system, eliminating excess runoff into the sewer system and improving the overall stormwater management and drainage in this area.

A secondary goal of this project is to enhance Washington Square Park. Enhancements will include a new basketball court, half-court and a timer-controlled water fountain.

It is anticipated that the Washington Square Park project will remove an estimated 1,250,000 gallons of stormwater runoff per year from the combined sewer in the CSO 075 area.

Planned Green Infrastructure in Washington Square Park

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FACT SHEET
Green Streets in CSO 052 Sewershed

Project:	CSO 052 Green Streets
Project Owner:	City of Syracuse
Project Location:	Elmhurst, South, Fairfield, Fletcher, and Hutchinson Avenues and Charmouth Drive
Sewershed:	CSO 052
Technology:	Infiltration Trench, Bioretention
Runoff Reduction:	5,800,000 gal/yr (total, estimated)
Project Cost:	$2,150,000
Construction:	Phase 1 (2018) – D.E. Tarolli Phase 2 (2019) – EZ Paving
Prime Contractors:	D. E. Tarolli/EZ Paving

Project Description: The Green Streets in CSO 052 Project is another example of the Save the Rain Program targeting a specific priority area for green infrastructure implementation. This project, within the high priority CSO 052 sewershed, is intended to reduce pollution to Onondaga Creek and Onondaga Lake. The project will be located on six streets within the City: Elmhurst Avenue, South Avenue, Charmouth Drive, Fairfield Avenue, Fletcher Avenue, and Hutchinson Avenue.

This Green Streets project will use two types of green infrastructure technologies: underground infiltration trenches, and rain gardens (also known as bioretention). These green infrastructure practices will provide water quality and quantity improvements through infiltration and storage, thereby reducing stormwater contribution to the combined sewer system. This increased capture will reduce sewer overflows. In total, the project consists of 18 underground infiltration trenches and 1 rain garden. The underground infiltration trenches provide a very high capture volume without an obtrusive footprint at the surface, maximizing cost efficiency.

Upon completion of all six streets, the project will capture runoff from approximately 8.8 acres of impervious area, reducing stormwater runoff to the sewer by approximately 5.8 million gallons annually. Project areas include:

- **2018 Construction** (completed)
  - Charmouth Drive from Robineau Road to Arlington Avenue – 6 underground infiltration trenches; annual stormwater runoff capture: 1,800,000 gallons (Completed - $587,500)
  - South Avenue from W. Brighton to Eastman avenues – 4 underground infiltration trenches; annual runoff capture: 938,000 gallons (Completed - $326,400)
  - Elmhurst Avenue from Bishop Avenue to Hunt and Randall Avenues 3 underground infiltration trenches; annual runoff capture: 1,222,000 gallons (Completed - $418,000)
- **2019 Construction**
  - Fairfield Avenue from Fletcher to South Avenues – 1 underground trench using modular storage units, 1 bioretention area; annual stormwater runoff capture: 437,000 gallons.
  - Hutchinson Avenue from Clayton to South Avenues and Fletcher Avenue from Hutchinson to Fairfield avenues – 4 underground infiltration trenches; annual stormwater runoff capture: 1,497,000 gallons.

Project Locations

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Underground infiltration trench installation on South Avenue

Underground infiltration trench installation on South Avenue

Completed infiltration trench awaiting new pavement on Elmhurst Avenue

Final product: in front of Elmhurst School on South Avenue

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FACT SHEET
Green Streets in Harbor Brook Sewershed

Project:	Green Streets in Harbor Brook
Property Owner:	City of Syracuse
GI Technologies:	Rain Gardens, Infiltration Trenches, Tree Plantings
Project Locations:	Lakeview Ave. between W. Fayette St. & W. Marcellus St.; S. Wilbur Ave. between Conservation Pl. & W. Marcellus St.; Richmond Ave. between Liberty St. & N. Geddes St.; N. Geddes Street at W. Genesee St.
Sewershed:	Harbor Brook
CSOs:	005, 006, 007, 009
Capture Area:	194,106 sq. ft. (total)
Runoff Reduction:	3,427,095 gal/year (total)
Year Contracted:	2019
Bid Price:	$1.5 million (total)
Contractors:	D.E. Tarolli and J&J Landscaping

Project Description: The Green Streets in Harbor Brook Sewershed projects are comprehensive green street applications located on multiple streets within the Harbor Brook sewershed. CSOs 005, 006, 007 and 009 are high priority sewersheds that discharge frequently during rain events. The candidate streets are listed below with capture area and runoff reduction estimates:

- Lakeview Avenue (CSO 006)
  Capture Area: 37,619 sq. ft.
  Runoff Reduction:664,193 gal/yr
- Magnolia Street (CSO 009)
  Capture Area: 89,300 sq. ft.
  Runoff Reduction: 1,576,662 gal/yr
- South Wilbur Avenue (CSO 009)
  Capture Area: 19,901 sq. ft.
  Runoff Reduction: 351,368 gal/yr
- Richmond Avenue (CSO 007)
  Capture Area: 36,298 sq. ft.
  Runoff Reduction:640,870 gal/yr
- North Geddes Street (CSO 007)
  Capture Area: 10,988 sq. ft.
  Runoff Reduction:194,002 gal/yr

Location Map

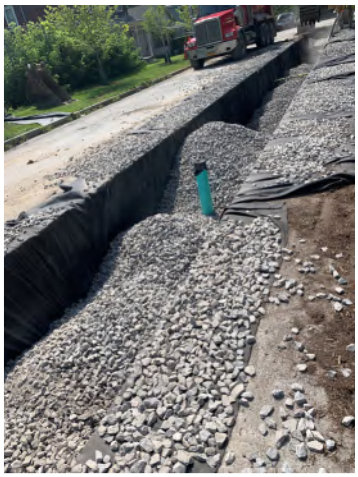
Wilbur Avenue Infiltration Trench

Magnolia Street Tree Plantings

This project incorporated infiltration trenches, rain gardens (also known as bioretention), and tree plantings to manage stormwater runoff from Lakeview Avenue, Magnolia Avenue, South Wilbur Avenue, Richmond Avenue and North Geddes Street.

Infiltration trenches capture water in an underground stone trench located beneath a roadway. From there, it slowly infiltrates to groundwater. A rain garden is a depressed, vegetated area that receives stormwater runoff from adjacent paved areas. The runoff then infiltrates to groundwater or is released to the atmosphere through evapotranspiration.

When complete, these green streets will capture a total of 3,427,095 gallons of stormwater annually.


Magnolia Street Infiltration Trench

Wilbur Avenue Catch Basin to Infiltration Trench

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FACT SHEET
Salina Street Green Corridor

Project:	Salina Street Green Corridor
Property Owner:	City of Syracuse
Project Location:	South Salina Street between East Colvin Street and East Newell Street
Sewershed:	Midland
CSO:	060/077
GI Technology:	Porous pavers, tree trenches with modular tree cells, bioretention, infiltration trenches
Capture Area:	291,610 sq ft.
Runoff Reduction:	5,149,000 gal/yr
Year Contracted:	TBD
Construction Cost:	$2,400,000 (estimated)

Project Description: The South Salina Street Green Corridor project is a major green infrastructure project that creates a strong visual and physical link along South Salina Street. The project builds upon recent public works improvements, incorporating green infrastructure such as tree trenches with modular tree cells for enhanced growth and porous pavers into traffic-calming streetscape designs. The designs feature landscape buffers between vehicular and pedestrian zones, and enhanced pedestrian facilities. The County received a $1.2 million grant from NYSEFC through the Green Innovation Grant Program (GIGP) for the project, the sixth GIGP grant the County has received to date.

This South Salina Street Green Corridor project involves the design and construction of a green street on the section of South Salina Street between East Colvin Street and East Newell Street, in the heart of the Salina Street business area. The project is a significant collaboration between the County, City, and South Salina Street business and community stakeholders and will address a considerable amount of stormwater runoff once completed. In addition to large-scale capture, the project provides a showcase for the implementation of GI in urban settings in a highly-travelled area of the City. The project includes enhanced soil volume tree trenches, porous pavers, flexible porous pavement, underground infiltration trenches, and stormwater chamber storage. Almost 300,000 square feet of impervious drainage area is managed within the project, equating to a runoff reduction of 5.1 million gallons annually.

Photo Simulations of the South Salina Street Green Corridor Project

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Project:	Wolf Street Road Reconstruction
Project Owner:	City of Syracuse
Project Location:	Wolf Street (Salina Street to Lodi Street)
Sewershed:	Hiawatha
CSO:	075
GI Technology:	Underground Infiltration Trench
Capture Area:	116,500 sq ft.
Runoff Reduction:	576,000 gal/yr
Year Contracted:	2019
Construction Cost:	$150,000.00 (estimated)
Prime Contractor:	Ballard Construction

FACT SHEET
Wolf Street
Road Reconstruction

Project Description: The Road Reconstruction project on Wolf Street further exemplifies the continued partnership between Onondaga County and the City of Syracuse. This project is another example of the City's Department of Public Works partnering with Onondaga County through their road reconstruction program for the inclusion of green infrastructure. This application, within CSO 075, reduces pollution to Onondaga Creek and Onondaga Lake.

The project proposes two underground infiltration trenches between Salina Street and Lodi Street, to manage the runoff from Wolf Street and parts of Lodi Street and North Salina Street. The infiltration trenches are designed to maximize the stormwater capture for the benefit of the environment. The trenches will be constructed in series and have an overflow back into the combined sewer. The streetscape will not look different after the proposed work is completed, as the trenches are completely underground with no visible features at the surface. This project will manage a total of 116,500 square feet of impervious drainage area, resulting in the annual capture of approximately 576,000 gallons of stormwater runoff in CSO 075. Construction is planned for 2019.

Example Underground Infiltration Trench

Limits of the Road Reconstruction Project on Wolf Street are outlined in red on the map above

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GREEN IMPROVEMENT FUND

Green Improvement Fund Update:

During the third quarter of 2019, one new GIF application was received for 701 North Salina Street that is currently under technical review.

One GIF Committee meeting was held during the third quarter as well to review two GIF projects. Construction of one GIF project continued during the quarter (GIF 151 – Near Westside Initiative, Performance Park) with completion scheduled for later in the year. Two other GIF projects are anticipated to begin and complete construction during the fourth quarter; GIF 141 – Factory Direct Furniture and GIF 162 – Northside Learning Center.

Green Improvement Fund Summary (as of 9/30/19)

Projects Completed	98
Contract/Implementation Phase	15
Projects in Award Phase	2
Applications Under Review	1
Inactive/Ineligible	57
Total Applications Received	**173**

METRO WWTP PHOSPHORUS PROJECTS/TMDL/AMBIENT MONITORING PROGRAM UPDATE

ACJ Quarterly Status Report – 3rd Quarter 2019

Metro WWTP Projects

2019 Ambient Monitoring Program (AMP)

Onondaga County met its ACJ obligation to conduct the comprehensive Ambient Monitoring Program from 1998 through 2018 to monitor and document the effectiveness of the Metropolitan Syracuse Wastewater Treatment Plant upgrades and CSO abatement projects completed during these years.

Onondaga Lake water quality has been in steady-state since 2007, with modest inter-annual variations. Accordingly, several sampling program reductions were implemented, following NYSDEC's approval, for the 2019 lake monitoring program. The program is now comparable to New York State's Citizens Statewide Lake Assessment Program (CSLAP) and monitoring programs for other post-TMDL (Total Maximum Daily Loads) lakes in the State. The monitored parameters focus on trophic state to ensure there is no backsliding of water quality.

The County implemented an extensive biological monitoring program as part of the AMP to meet three goals: evaluate aquatic habitat of the lake and streams, track primary productivity (trophic state), and characterize the lake's biological community. The County successfully met these goals for two decades discontinued the AMP Biological Sampling Programs for Onondaga Lake and its tributaries in 2019.

The regulatory goal of the ACJ is to bring segments of the Onondaga Lake tributaries affected by Onondaga County's municipal discharges into compliance with designated best uses pursuant to 6 NYCRR (*New York Code, Rules and Regulations*) Parts 701 and 703. The 2019 tributary monitoring program is now limited only to sampling CSO tributaries (Onondaga Creek, Harbor Brook, Ley Creek).

WATER QUALITY MONITORING PROGRAM EVENTS (July – September 2019)

Tributary Sampling Event Summary

July 2019:

- Tributary Bacteria sampling events: July 10, 18 and 25
- Tributary Biweekly sampling events: July 2 and 16

August 2019:

- Tributary Bacteria sampling events: August 8, 15 and 22
- Tributary Biweekly sampling events: August 6 and 20

September 2019:

- Tributary Quarterly sampling event: September 4
- Tributary Bacteria sampling events: September 12, 19 and 26
- Tributary Biweekly sampling event: September 17

Onondaga Lake Sampling Summary

July 2019:

- Lake Biweekly sampling events: July 9 and 23

August 2019:

- Lake Biweekly sampling events: August 13 and 27

September 2019:

- Lake Biweekly sampling events: September 10 and 24

Tributary Bacteria Compliance (May - July 2019)

Fecal Coliform compliance was not assessed for the months of February & March 2019. As per the AMP 2019 Work Plan, five (5) Fecal Coliform samples per month at the AMP Tributary sampling sites are limited during the April to October disinfection period. The following table summarizes the results of the bacteria compliance assessment for samples collected at the routine AMP CSO tributary sampling sites during the May through July tributary sampling events.

Tributary
Bacteria Monthly Compliance Assessment[1]
(May - July 2019)

Sampling Site	Compliance		
Harbor Brook	May	June	July
Velasko Road	√	√	√
Hiawatha Boulevard	X	X	X
Onondaga Creek			
Dorwin Avenue	√	X	X
Kirkpatrick Street	X	X	X
Ley Creek			
Park Street	X	X	X
Thompson Road	X	X	X

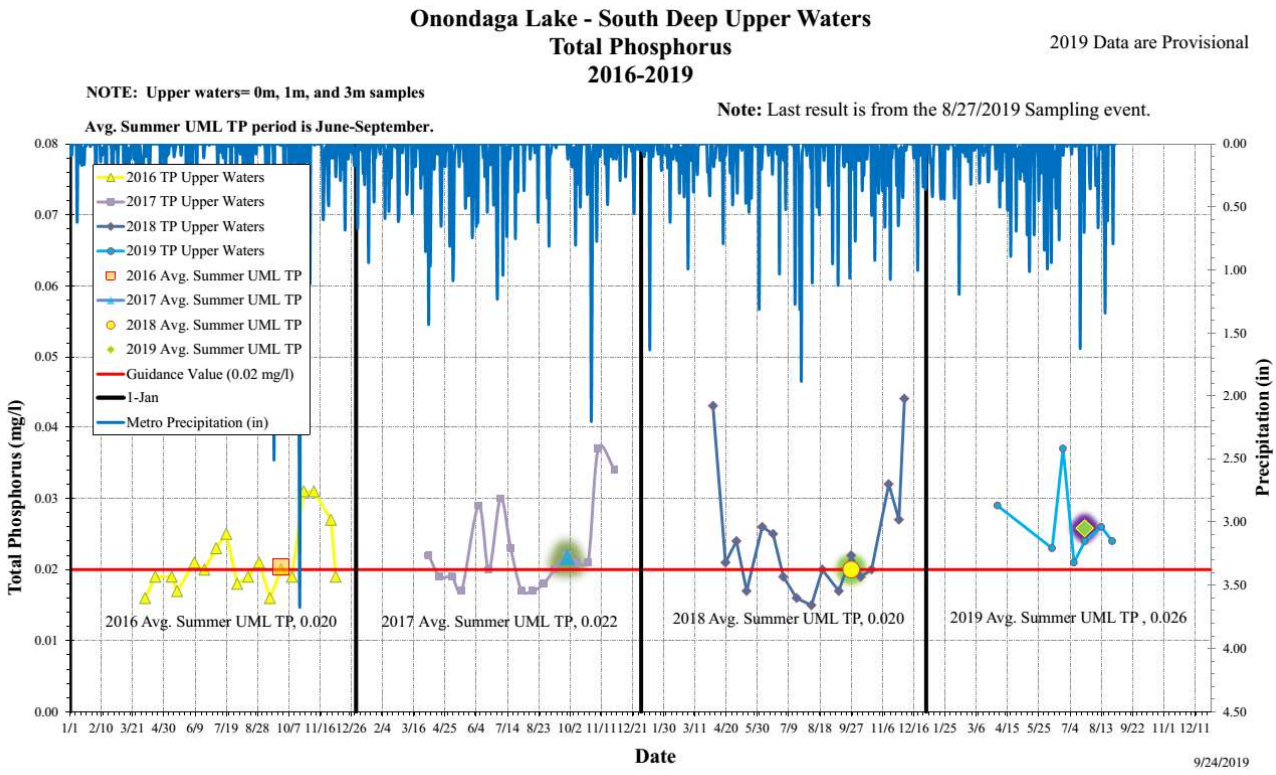
[1]*Compliance assessed with the applicable NYS Ambient Water Quality Standard (AWQS) for Fecal Coliform bacteria in the surface water as set forth in 6NYCRR Part 703.4 as follows:*
"The monthly mean geometric mean, from a minimum of five examinations, shall not exceed 200."

Onondaga Lake Water Quality, 2019

Total Phosphorus

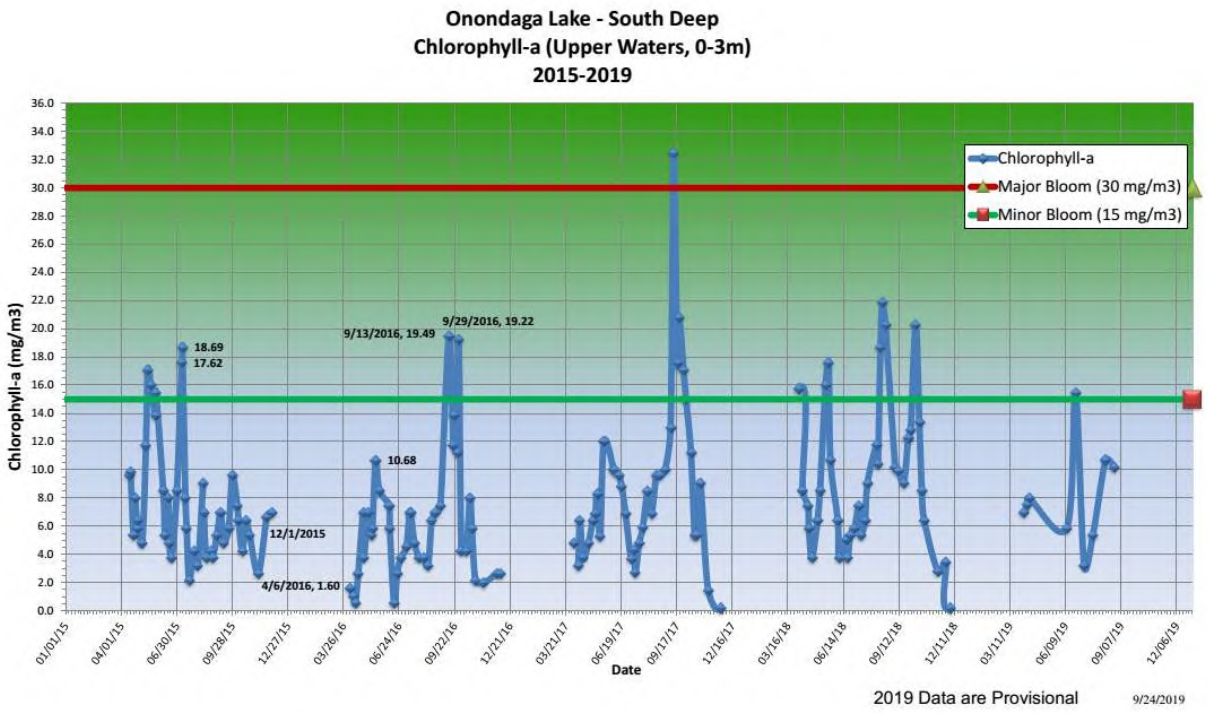
Phosphorus is the limiting nutrient for algal growth in Onondaga Lake. Too much phosphorus causes excessive algae, which in turn makes the water appear green and cloudy, and contributes to low oxygen levels in the deep water. New York State has promulgated a narrative standard for phosphorus in water: "*None in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages*" (NYSCRR §703.2). For ponded waters the narrative standard is interpreted using a guidance value of 20µg/L calculated as the average total phosphorus concentration in the lake's upper waters between June 1 and September 30. The phosphorus total maximum daily load (TMDL) target is a numeric endpoint that ensures protection of the designated best uses of a water body.

The ultimate measure of the success of the Onondaga Lake Phosphorus TMDL is the extent to which the in-lake total phosphorus criteria and beneficial uses are achieved. Since 2007, summer average (data from June through September) total phosphorus in the upper waters (0-3 meters) of the lake has been close to 20 ppb (µg/L), which NYS has established as a guidance value for determining a lake's suitability for recreational uses. The AMP tracks the summer average total phosphorus (TP) concentration in the lake's upper waters. The figure below presents the results of the summer average TP concentrations of the upper waters of Onondaga Lake from 2016 through August 27, 2019.



Chlorophyll-*a*

Less phosphorus in the lake has resulted in fewer and less severe algal blooms. Occurrences of phytoplankton blooms, subjectively defined for the AMP as Chlorophyll-*a* concentrations of 15 µg/L and 30 µg/L for minor (impaired conditions) and major blooms (nuisance conditions), respectively, have decreased dramatically since implementation of Actiflo®. No major algal blooms have been measured in Onondaga Lake in the past eight summers (June-September), based on laboratory measurements.



The NYSDEC Division of Water issues "water-bodies with blue-green algae notices" for several regional lakes (see http://www.dec.ny.gov/chemical/77118.html for more information). Many varieties of algae are beneficial to lakes, providing the basis of the food chain that supports the entire ecosystem. Other types, like cyanobacteria (also known as blue-green algae), can produce toxins that are harmful to humans and can even cause death to animals that consume it (referred to collectively as harmful algal blooms (HABs)). Large blooms, even non-toxic ones, affect ecosystem health. Algae blooms most frequently occur in nutrient-rich waters, particularly during hot, calm weather.

On July 12, 2019, a suspicious small and localized HABs bloom was observed to have accumulated along the shoreline of Willow Bay. WEP reported this as a “suspected” blue green bloom using the reporting form to submit a report to the NYS HABS web site. A sample was also collected by WEP for the Upstate Freshwater Institute (UFI) Lab to check with a Fluoroprobe which is used to classify algal components of freshwaters into four classes (Blue-Green algae, Green algae, Diatoms, and Cryptophytes) and for a Microscopic Visual Identification of the sample which provides a non-quantitative scan (presence/absence of cyanobacteria/bluegreen algae and indication of dominant genus if present). The sample confirmed the presence of a cyanobacteria HAB which mostly consisted of the blue-green algae Dolichospermum. Harmful algal blooms (HABs) pose a threat to human and aquatic ecosystem health and cause economic damages. Cyanobacterial HABs represent a substantial threat to drinking-water supplies, aquatic ecosystem health, and safe recreational uses of freshwater resources in New York. In 2019, several lakes (including the Finger Lakes) HABs were reported to have been either suspicious or confirmed by NYS.

Localized bloom observed along the Willow Bay shoreline, July 12, 2019.

LEGISLATIVE/REGULATORY/ MEDIA UPDATE

Legislative/Regulatory Update

Action Items for the County Legislature (July – September)

- Authorizing the Execution of an Order on Consent Relative to the Settlement of an Enforcement Action Brought by the NYS DEC (Ley Creek).

- Authorizing the County Executive to Enter into a Contract with the US Department of the Interior for the Operation and Maintenance of Stream Gaging Stations.

Action Items for the Environmental Protection Committee (September)

- None to Report.

dh

MONTHLY

digital marketing report

better every day

Save the Rain

Quarterly Report

July - September, 2019

Objectives & Actions

1,667,320	4,995
Impressions	Clicks

Objective

To raise awareness of the Save The Rain's Connect The Drop program. Through raising awareness of this program, we hope to decrease the litter in Onondaga County and help keep Onondaga Lake clean.

Actions

Channels: We utilized Facebook/Instagram, a Facebook Page Likes campaign, YouTube, and Display ads for our Q3 campaigns.

Targeting:

We targeted people 18 and older living in Onondaga County.

Social Overview - Page Likes

36,765	3.13	115,187	942
Reach	Frequency	Impressions	Page Likes

Ad	Ad Name	Social Ad Set	Reach	Freq	Impr	Page Likes
	Likes Most	Save The Rain Page Likes	36,765	3.13	115,187	942

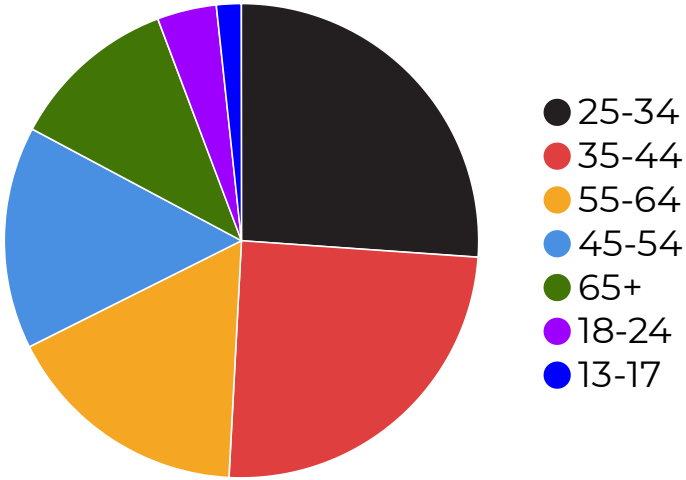
Social Overview: Static Ads

83,286	6.47	539,021	2,462	0.46%	575
Reach	Frequency	Impressions	Clicks	CTR	Post Rxns

Ad	Ad Name	Social Ad Set	Reach	Freq	Impr	Clicks	CTR	Post Rxns	Shares
	Static Ad 3	Litter - FB/IG - Interest	67,344	3.81	256,454	1,312	0.51%	344	39
	Static Ad 4	Litter - FB/IG - Interest	45,062	6.27	282,567	1,150	0.41%	231	49

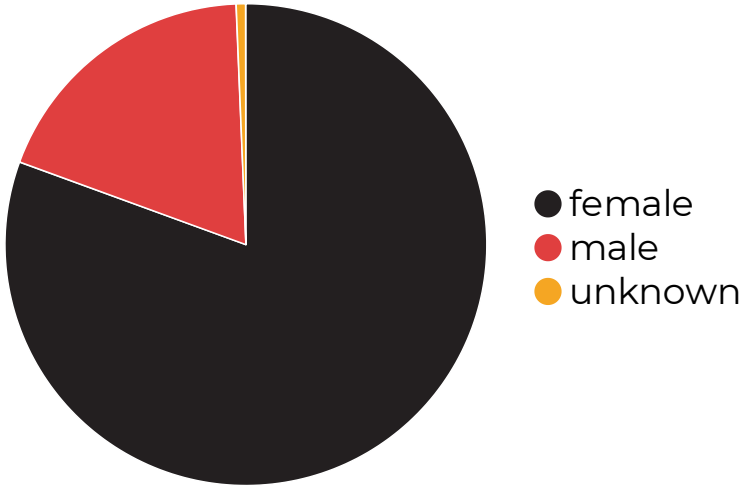
Social Demographics: Page Likes

AGE GROUP PAGE LIKES



Age	Likes
25-34	246
35-44	233
55-64	158
45-54	143
65+	108
18-24	38
13-17	16

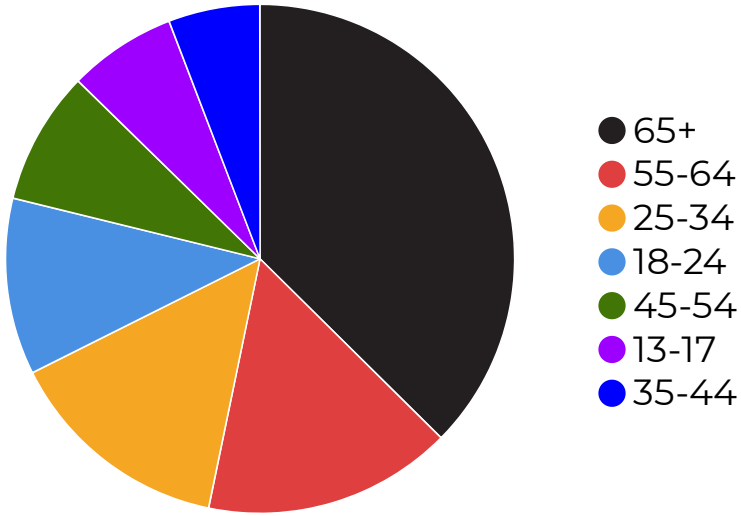
GENDER PAGE LIKES



Gender	Likes
female	759
male	177
unknown	6

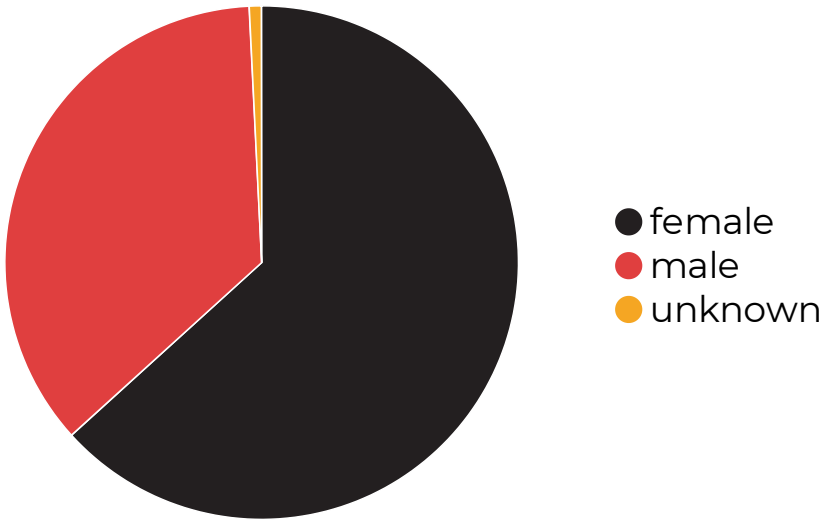
Social Demographics: Clicks

AGE GROUP CLICKSHARE



Age	Clicks
65+	921
55-64	390
25-34	354
18-24	276
45-54	209
13-17	169
35-44	143

GENDER CLICKSHARE



Gender	Clicks
female	1,558
male	885
unknown	19

Display

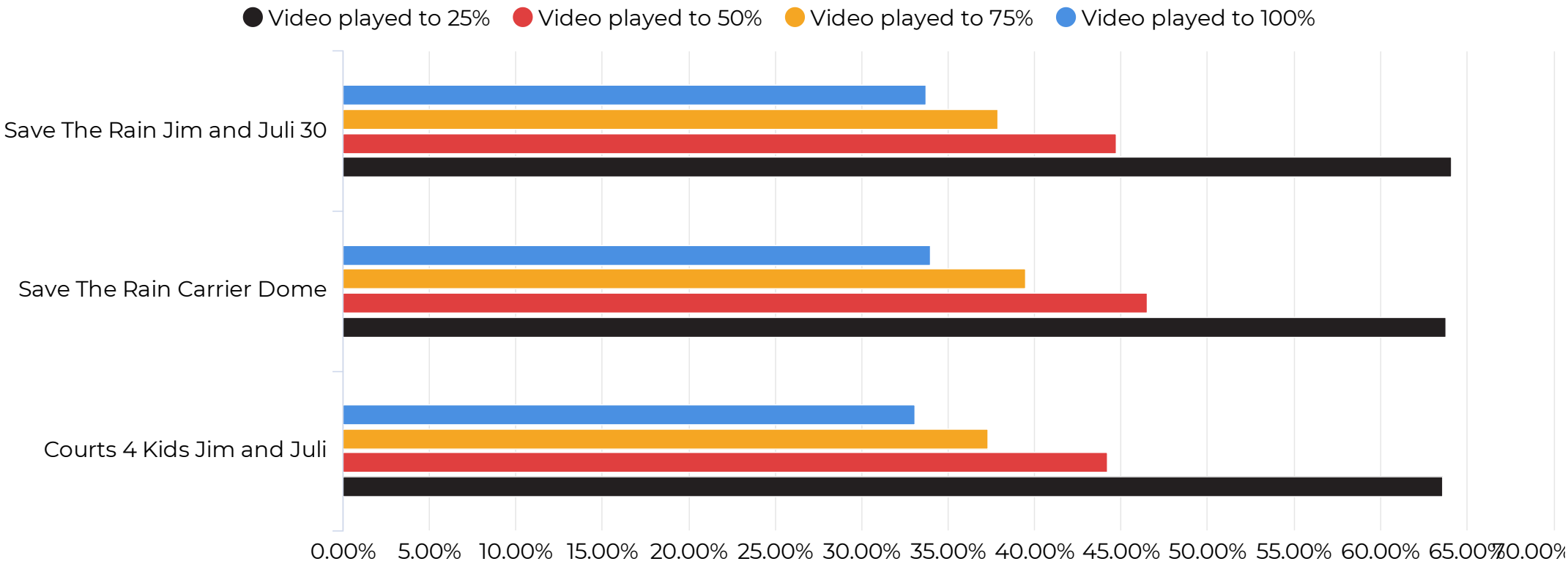
905,510	2,414	0.27%
Impressions	Clicks	CTR

Ad Display	Impr	Clicks	CTR
Ad name: Save_the_Rain_poster-0213-sc2.jpg; 300 x 250 savetherain.us 	527,412	1,307	0.25%
Ad name: Save_the_Rain_lead-0213-sc2.jpg; 728 x 90 savetherain.us 	274,184	945	0.34%
Ad name: Save_the_Rain_sky-0213-sc2.jpg; 160 x 600 savetherain.us 	31,140	100	0.32%
Ad name: Save_the_Rain_970x66-0213-sc2.jpg; 970 x 66 savetherain.us 	6,098	43	0.71%

YouTube

174,278	138	58,003	33.28%
Impressions	Clicks	Views	View rate

Video Title	Impr	Clicks	Views	View Rate
Courts 4 Kids Jim and Juli	100,613	64	33,120	32.92%
Save The Rain Carrier Dome	52,381	40	17,729	33.85%
Save The Rain Jim and Juli 30	21,284	34	7,154	33.61%



Google Analytics: Digital Hyve Campaigns

Digital Hyve Campaigns

5,498
Pageviews

3,701
New Users

4,674
Sessions

79.18%
% New Sessions

1.18
Pages / Session

2:29
Avg. Time on Page

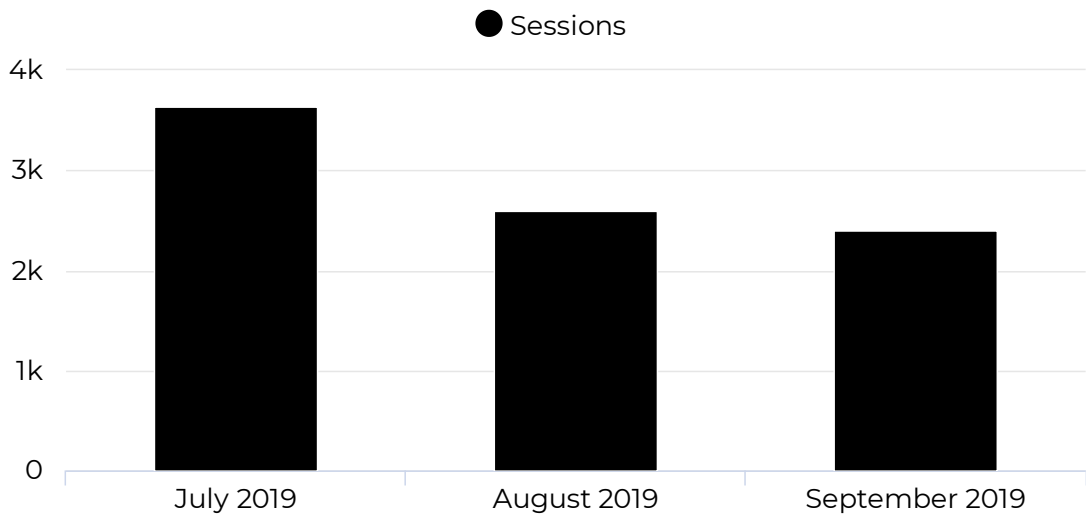
81
How You Can Help Button Click

22
Block Litter Button Click

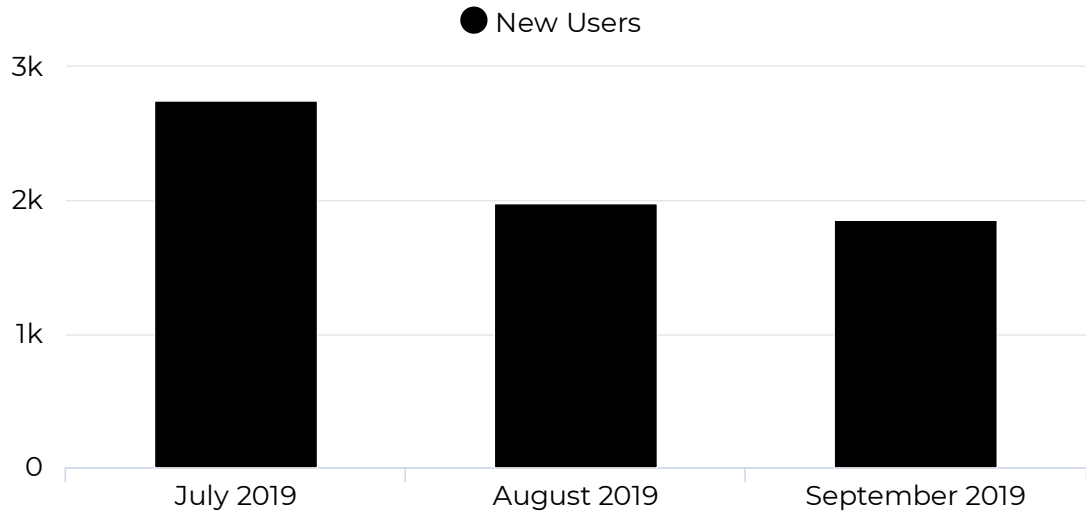
43
Rain Barrels Button Click

18
Plant Street Trees Button Click

OVERALL WEBSITE TRAFFIC



OVERALL WEBSITE TRAFFIC



SOURCE BREAKDOWN - DIGITAL HYVE CAMPAIGNS

Campaign Analysis

Save the Rain

Digital Hyve campaigns in Q3 2019 once again saw growth in total engagement, with almost 5,000 total ad clicks and just under 1.7 million total impressions served across all platforms.

Once again our social campaigns produced a high volume of engagement, with more than 2,400 ad clicks and 1,500 visitors referred to the site. 942 page likes for Save the Rain's Facebook page were generated from our campaigns, a result that's consistent with previous quarters. In Q3 we utilized two different static ads, delivering more than half a million impressions and registering a high CTR of 0.46%. Ad engagement was also strong, represented by 575 post reactions and 88 shares.

Display and YouTube campaigns in Q3 saw tremendous growth, with close to 1.2 million ad impressions served and more than 2,800 users referred by these tactics. Through YouTube we generated 58,000 video views.

In Q3, Digital Hyve campaign-referred sessions reached 4,600, on overall 80% increase over Q2. More importantly, 3,700 new visitors were introduced to the Save the Rain site, fulfilling a part of our overall strategy of growing brand awareness among local audiences.

Once on the site, users from Digital Hyve campaigns registered strong conversion engagement. Total conversions from our campaigns were almost identical to Q2, with 81 "How You Can Help" clicks, 43 clicks on the "Rain Barrels" link, 22 "Block Litter" clicks, and 18 "Plant Street Trees" clicks. Engagement with these key actions are a vital indication that our campaigns are referring users most likely to seek further information about Save the Rain's services and offerings, and to provide leads for future engagement.

FINANCIAL UPDATE

Financial Update

Contracts

New Contracts

- **Community-Based Tree Planting and Maintenance.**
- Contract with Onondaga Earth Corps, Inc. to hire and train youth on tree planting and maintenance as part of Save the Rain program.
- Contract Amount: $372,485.46. Executed: 7/18/19.

- **Green Infrastructure Maintenance.**
- Contract with Onondaga Earth Corps, Inc. for maintenance of green infrastructure installed under Save the Rain program.
- Contract Amount: $236,435.00. Executed: 7/18/19.

Amendments to Existing Contracts

- **Green Improvement Fund**
- Contract with RJ Westcott Holdings, LLC amended to reimburse additional green improvements in the Midland sewershed.
- Amendment Amount: $56,233. Executed: 8/7/19.

Change Orders

- **None to report.**

Funding

Grants & Loans

Federal EPA Funds

- Reimbursements **requested**: None
- Reimbursements **received:** None

Federal Army Corps of Engineers Funds

- Reimbursements **requested:** None
- Reimbursements **received:** None

- GIGP Grants
  Requested: None
  Received: None

EFC Reimbursements **Received:**

LT Midland $105,450.00 on 7/12/19.
LT Midland $3,735,668.32 on 7/12/19
LT Midland $86,036.64 on 8/16/19

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Clinton/Lower MIS CSO Improvements

Summary of Current and County Authorizations

	Total Project Costs		
Project **/Task**/Line Item	Total Proposed Budget	Expended To 9/30/19	Authorization Remaining
Clinton Street CSO Facility Planning (Original)			
Engineering Services (EEA)	$ 751,266	$ 751,266	$ (0)
Original Facility Plan Subtotal	**$ 751,266**	**$ 751,266**	**$ (0)**
Clinton Street CSO Conveyances Project			
Contract No. 1 - Phase 1 Conveyances (Delaney)	$ 14,478,053	$ 14,478,053	$ (0)
Contract No. 2 - Phase 2A Conveyances (Delaney)	$ 4,074,455	$ 4,074,455	$ (0)
Engineering/Construction Services (CDM/C&S)	$ 2,738,000	$ 2,738,000	$ 0
Conveyances Subtotal	**$ 21,290,508**	**$ 21,290,508**	**$ (0)**
Clinton Storage Project (1)			
Construction Estimate	$ 77,742,858	$ 79,831,600	$ (2,088,742)
Engineering Services (EEA and others)	$ 12,122,013	$ 11,925,712	$ 196,301
Construction Management and Administration (CDM/C&S)	$ 4,833,411	$ 4,521,602	$ 311,809
Construction Testing (CME)	$ 327,847	$ 277,716	$ 50,131
			$ -
CSO Storage Subtotal	**$ 95,026,129**	**$ 96,556,631**	**$ (1,530,502)**
Facility Plan for CSOs 027 & 029			
Construction Estimate	$ 3,100,000		$ 3,100,000
Engineering Services (Ch2MHill)	$ 91,211	$ 91,186	$ 25
Engineering Services (TBD) Floatables Arcadis	$ 782,032	$ 65,899	$ 716,133
County Administration and Other Costs	$ -		$ -
Facility Plan Subtotal	**$ 3,973,243**	**$ 157,085**	**$ 3,816,158**
Clinton/Lower MIS Green Implementation Program			
Construction Contracts incl. GIF Public/Private	$ 38,508,611	$ 33,657,142	$ 4,851,469
Ch2MHill Program Management & Engineering	$ 15,900,000	$ 11,982,384	$ 3,917,616
Green Subtotal	**$ 54,408,611**	**$ 45,639,526**	**$ 8,769,085**
Program Management			
Project Management (CDM/C&S)			$ -
Project Management for Facility Plan (CDM/C&S) (2)	$ -		$ -
Program Management Subtotal	**$ -**	**$ -**	**$ -**
Miscellaneous County Costs			
Land Acquisition	$ 3,726,350	$ 3,726,350	$ -
IMA	$ 4,861,000	$ 3,959,746	$ 901,254
Legal	$ 126,115	$ 415,813	$ (289,698)
Consulting (John Clare & Mezey)	$ 301,334	$ 226,334	$ 75,000
Debt	$ 234,885	$ 884,828	$ (649,943)
Other	$ 310,738	$ 740,944	$ (430,206)
Contingency	$ 489,863		$ 489,863
Miscellaneous Subtotal	**$ 10,050,285**	**$ 9,954,014**	**$ 96,271**
	$ 185,500,042	**$ 174,349,031**	**$ 11,151,011**
Authorized Budget 185,500,042			

Notes:

(1) Includes engineering costs from original Clinton RTF Project

(2) CDM/C&S Project Management costs are included in the total facility plan costs

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Harbor Brook Drainage Basin CSO Abatement

Summary of Current and Proposed Costs, and County Authorizations

	Total Project Costs		
Project/Task/Line Item	Total Proposed Budget	Expended to 9/30/19	Authorization Remaining
Harbor Brook CSO Abatement Project			
Original Engineering Expenses	**$ 5,500,000**	**$ 5,500,000**	**$ -**
HBIS Replacement and CSO Abatement Project			
Construction Contract No. 1 (1) (JJ Lane)	$ 18,289,918	$ 23,391,425	$ (5,101,507)
Other Miscellaneous Work	$ 2,482,920	$ -	$ 2,482,920
Engineering/Construction Sevices (CDM/C&S)	$ 2,012,615	$ 2,651,315	$ (638,700)
County Administration and Other Costs	$ 114,547	$ 957,977	$ (843,430)
HBIS Replacement and CSO Abatement Project Total	**$ 22,900,000**	**$ 27,000,718**	**$ (4,100,718)**
Lower Harbor Brook Storage & Conveyance			
Construction Estimate (with contingency)	$ 34,502,000	$ 29,468,827	$ 5,033,173
Engineering Services (EEA)	$ 4,200,000	$ 3,971,487	$ 228,513
Barton & Loguidice (flood plain dev permit)	$ -	$ 4,600	$ (4,600)
Engineering Services (CDM/C&S)	$ 3,390,000	$ 1,497,536	$ 1,892,464
Project Escalation to Midpoint of Construction	$ 2,280,000	$ 5,360,579	$ (3,080,579)
Lower Harbor Brook Storage & Conv Total	**$ 44,372,000**	**$ 40,303,030**	**$ 4,068,970**
Harbor Brook CSOs FCF Program			
Construction Estimate	$ 12,000,000		$ 12,000,000
Engineering Services (Arcadis)	$ 1,878,731	$ 144,843	$ 1,733,888
County Administration and Other Costs	$ 800,000	$ 15,300	$ 784,700
Project Escalation to Midpoint of Construction	$ 400,000		$ 400,000
FCF Program Total	**$ 15,078,731**	**$ 160,143**	**$ 14,918,588**
Other Harbor Brook Green			
Construction Contracts incl. GIF Public/Private & Rain Barrels	$ 13,000,000	$ 18,258,621	$ (5,258,621)
O'Brien & Gere Wetlands disinf project	$ -	$ 106,332	$ (106,332)
CH2MHILL Cso 018 Monitoring	$ -	$ 185,599	$ (185,599)
Ch2MHill Engineering & Program Management	$ 3,650,000	$ 6,758,488	$ (3,108,488)
Harbor Brook Green Project Total	**$ 16,650,000**	**$ 25,309,040**	**$ (8,659,040)**
Program Management			
Project Management (CDM/C&S)	$ 499,269	$ 2,813,628	$ (2,314,359)
Project Management for FCF Plan Implem (CDM/C&S)	$ -		
Program Management Total	**$ 499,269**	**$ 2,813,628**	**$ (2,314,359)**
Harbor Brook Mitigation	**$ 3,500,000**	**$ 3,265,000**	**$ 235,000**
Total Costs for Harbor Brook CSO Area under 4th Stip	**$ 108,500,000**	**$ 104,351,558**	**$ 4,148,442**

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Midland CSO Abatement

Summary of Current and Proposed Costs, and County Authorizations

	Total Project Costs		
Project/Task/Line Item	Total Proposed Budget	Expended to 9/30/19	Authorization Remaining
Midland Ave. RTF & Conveyances			
Midland Phase 1 Conveyances - Construction	$1,836,434	$1,836,434	$0
Midland Phase 2 RTF & Conveyances - Construction	$53,372,689	$53,372,689	$0
Midland Demolition Contracts - Construction	$748,483	$748,483	$0
Other Construction	$137,000	$136,342	$658
Phase 1 and 2 Engineering (Parsons & EEA)	$14,717,163	$12,503,353	$2,213,810
CME Construction Testing	$227,341	$219,815	$7,526
RTF Modifications (Construction, Eng, CM, Admin)	$ 3,000,000		$3,000,000
Facility Plan Total	**$ 74,039,110**	**$ 68,817,116**	**$ 5,221,994**
			$ 5,221,994
CSO 044 Conveyances Project			
Contract No. 6. - JJ Lane	$ 12,296,549	$ 12,098,662	$ 197,887
Construction Contingency 5%	$ 64,800	$ 66,130	$ (1,330)
Engineering Services (EEA)	$ 750,000	$ 729,224	$ 20,776
Construction Management Sevices (CDM/C&S) see below			$ -
Conveyances Project Total	**$ 13,111,349**	**$ 12,894,017**	**$ 217,332**
			$ 217,332
FCF Facility Plan			
Construction Estimate	$ 1,300,000	$ 38,802	$ 1,261,198
Engineering Services (Arcadis and others)	$ 623,954	$ 46,039	$ 577,915
Construction Management and Administration	$ 210,000		$ 210,000
Project Escalation to Midpoint of Construction	$ -		
Clinton Storage Project Total	**$ 2,133,954**	**$ 84,841**	**$ 2,049,113**
			$ 2,049,113
Facility Plan for Midland CSOs			
Construction Estimate	$ 14,900,000	$ -	$ 14,900,000
Engineering Services (Ch2MHill)	$ 121,401	$ 121,368	$ 33
Engineering Services, County Admin, ect (TBD)	$ 3,720,000	$ 219,284	$ 3,500,716
Facility Plan Total	**$ 18,741,401**	**$ 340,652**	**$ 18,400,749**
			$ 18,400,749
Midland Green Implementation Program			
Construction Contracts incl. GIF Public/Private	$ 7,500,000	$ 15,656,823	$ (8,156,823)
Ch2MHill Program Management & Engineering	$ 3,618,155	$ 3,478,980	$ 139,175
Jacobs Mangement & Engineering	$ 299,481	$ 226,832	$ 72,649
Clinton Green Program Total	**$ 11,417,636**	**$ 19,362,635**	**$ (7,944,999)**
			$ (7,944,999)
Program Management			
Project Management (CDM/C&S) includes CSO 044	$ 6,530,602	$ 6,641,383	$ (110,781)
Project Management for Facility Plan (CDM/C&S) (1)		$ -	
Program Management Total	**$ 6,530,602**	**$ 6,641,383**	**$ (110,781)**
			$ (110,781)
Miscellaneous County Costs			
Land Acquisition	$ 1,809,802	$ 1,809,802	$ -
IMA			
Legal	$ 182,323	$181,975	$ 348
Consulting (John Clare & Mezey)	$ 194,317	$ 194,317	$ -
Debt	$ 635,031	$ 755,580	$ (120,549)
Contingency	$ 2,591,117	$ -	$ 2,591,117
Other	$ 526,211	$ 529,813	$ (3,602)
Miscellaneous Costs Total	**$ 5,938,801**	**$ 3,471,486**	**$ 2,467,315**
Total Cost for Midland project under 4th stipulation	**$ 131,912,853**	**$ 111,612,130**	**$ 20,300,723**
Authorized Master Budget $128,300,000			

Notes:

(1) CDM/C&S Project Management costs are included in the total facility plan costs

Onondaga County Lake Improvement Project

4th Stipulation of the ACJ

Sewer Separation of CSO Areas 022/038/040/045/046A/046B/047/048/050/051/053/054

Summary of Current and Proposed Costs, and County Authorizations

	Total Project		
Project/Task/Line Item	Total Proposed Budget	Expended to 9/30/19	Authorization Remaining
Sewer Separation Construction Contracts			
CSO 024 (Falter)	$698,864	$698,864	$0
CSO 053/054 (Falter)	$2,000,817	$2,000,817	$0
CSO 038//40/046A/046B (Falter)	$3,598,931	$3,524,487	$74,444
CSO 047/048 (Falter)	$1,654,022	$1,654,022	$0
CSO 050 (Lane)	$4,362,188	$4,362,188	$0
CSO 051 (Lane)	$5,037,280	$5,037,280	$0
CSO 022/045 (Lane ed Joy)	$6,750,000	$5,611,423	$1,138,577
Construction Total	**$24,102,102**	**$22,889,082**	**$1,213,020**
Service Contracts (Engineering /Consulting /Program Management)			
ACE	$484,286	$484,286	$0
CDM/C&S	$1,446,468	$1,997,539	-$551,071
CME	$109,492	$49,704	$59,788
Department of the Army	$153,504	$153,504	$0
Spectra	$437,996	$437,996	$0
Engineering/Management Total	**$2,631,746**	**$3,123,029**	**-$491,283**
Miscellaneous County Costs			
City of Syracuse	$135,084	$479,637	-$344,553
Consulting (John Clare & Mezey)	$101,425	$101,425	$0
Debt	$116,269	$142,816	-$26,547
Legal	$14,235	$14,235	$0
GREEN	$569,885	$49,988	$519,897
Other	$13,540	$4,093	$9,447
Miscellaneous Costs Total	**$950,438**	**$792,193**	**$158,245**
Total	**$27,684,286**	**$26,804,304**	**$879,982**
Authorized by Legislature $27,684,286			

Onondaga County Lake Improvement Project

Save The Rain Education and Outreach Grant

Summary of Current and Additional Costs, and County Appropriations

Sept 2019

Funding Sources			Appropriations
Program Funding			
09,10,11 Appropriations			$ 875,000
2011 Suburban Green Infrastructure			$ 200,000
2012 Appropriation			$ 400,000
2011 Trolley Lot Parking Mitigation Appropriation*			$ 125,000
2012 Green grant education			$ 200,000
2013 Green Grant education			$ 400,000
2014 Green Grant education			$ 400,000
2015 Green Grant education			$ 100,000
2016 Green Grant education			$ 185,000
2017 Green Grant education			$ 185,000
2018 Green Grant education			$ 170,000
2019 Green Grant education			$ 225,000
Total Appropriation			$ 3,465,000
Funding Uses			
Retz Advertising + Design	**Contract Amount**	**Expended to 9/30/19**	**Difference + (-)**
2010/2011 Marketing Services	$ 411,789	$ 411,789	
2012 Marketing Services	$ 224,303	$ 224,303	
Marketing Services Subtotal	$ 636,092	$ 636,092	*$ (0)*
Environmental Finance Center Education and Outreach	**Contract Amount**	**Expended to Date**	**Difference + (-)**
Environmental Finance Center Staff	$ 100,155	$ 84,510	
Onondaga Environmental Institute	$ 110,212	$ 70,623	
ESF	$ 49,937	$ 27,024	
Onondaga Earth Corps	$ 13,040	$ 2,833	
Baltimore Woods Nature Center	$ 22,601	$ 22,601	
Purchased Services (ASLF)	$ 7,937	$ 20,000	
SubTotal	$ 303,882	$ 227,590	
Non-Labor Expenses (EFC)			
Printing-Outreach	$ 21,000	$ 10,131	
Postage	$ 4,000	$ 78	
Travel	$ 1,200	$ 1,359	
Facilities Rental	$ 5,200	$ 35	
Program-related Supplies - Other	$ 3,000	$ 2,022	
Web -based Marketing Efforts	$ 1,000	$ -	

Training Supplies and Materials	$ 4,000	$ -	
Indirect/Overhead	$ 60,614	$ 50,328	
SubTotal	$ 100,014	$ 63,953	
2011 Education and Outreach	$ 346,677	$ 346,677	
2012 Education and Outreach	$ 241,815	$ 241,815	
2013 Education and Outreach	$ 237,758	$ 237,758	
2014 Education and Outreach	$ 350,126	$ 350,125	
Education & Outreach Subtotal	$ 1,176,376	$ 1,176,376	$ 0
Baltimore Woods			
Supplies	$ 20,625	$ 20,625	$ 0
Transport	$ 45,933	$ 45,933	$ (0)
Travel	$ 6,492	$ 6,492	$ 0
Env Educator Hours	$ 79,161	$ 79,161	$ (0)
Administrative Hours	$ 56,272	$ 56,272	$ (0)
Dev & other	$ 8,984	$ 8,984	$ 0
Baltimore Education & Outreach	$ 217,466	$ 217,466	$ -
Miscelaneous Ed/Outreach Expenses	**Contract Amount**	**Expended to 9/30/19**	**Difference + (-)**
2010/2011 Miscellaneous Exp.	$ 105,764	$ 105,764	
2012 Miscellaneous Exp.	$ 79,852	$ 79,852	
2013 Miscellaneous Exp	$ 34,158	$ 34,158	
2014 Miscellaneous Exp	$ 46,657	$ 46,657	
2015 Miscellaneous Exp	$ 20,988	$ 20,988	
2016 Miscellaneous Exp	$ 48,494	$ 48,494	
2017 Miscellaneous Exp	$ 24,168	$ 24,168	
2018 Miscellaneous Exp	$ 58,894	$ 58,894	
2019 Miscellaneous Exp	$ 164,569		
Travel			
Purchase card/Petty cash		$ 970	
Catering at the Zoo		$ 2,154	
The paige seeds		$ 1,891	
Indolf Inc		$ 9,895	
Action printwear		$ 3,482	
Rain Barrels		$ 39,205	
Enviro world	$ -	$ -	
MOST	$ 50,000.00	$ 47,500	
7 Enterprises Marketing	$ 300,000.00	$ 188,746	
Focus Greater Syr	$ 20,000	$ 20,000	
OEI - RB Workshops	$ 32,668	$ 32,668	
Pinckney Hugo Grp	$ 399,562	$ 399,562	
Environmental Design and Research	$ 20,000	$ 20,000	
2010/2011 media	$ 28,750	$ 28,750	
2012 Media	$ 541	$ 541	
	$ -	$ -	$ -
Miscellaneous Subtotal	$ 1,435,065	$ 1,214,340	$ 220,725

STR Education and Outreach Totals	**Contract Amount**	**Expended to 9/30/19**	**Difference + (-)**
	$ 3,465,000	**$ 3,244,274**	**$ 220,726**
Remaining Balance			**$ 220,726**

APPENDIX

Sept 2019

	FINANCIAL TRACKING SUMMARY: FEDERAL & STATE GRANTS/LOANS APPROVED & RECEIVED										
		NYS	NYS	FED EPA	FED EPA	SHORT-TERM	SHORT-TERM	LONG-TERM	LONG-TERM	ACE	ACE
	PROJECT	GRANT	GRANT	GRANT	GRANT	EFC LOAN	EFC LOAN	EFC LOAN	EFC LOAN	GRANT	GRANT
PROJECT NAME	BUDGET	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED
METRO - CURRENT											
AERATION SYSTEM UPGRADE	$8,500,000	$5,834,381	$5,834,381			$7,365,000	$6,868,954	$1,049,185	$14,613		
AMMONIA REMOVAL DEMO	$2,000,000	$1,145,109	$1,145,109			Full-Scale	$202,078				
BIOSOLIDS-MECHANICAL THICKENERS[c]								$14,676,422	$14,711,148		
DIGESTER MOD/CHEMICAL STORAGE	$5,600,000	$4,319,819	$4,319,819			$4,938,419	$4,938,419	$775,509	$154,126		
DIGITAL SYSTEM IMPROVEMENTS	$2,900,000	$1,563,317	$1,563,317			$1,849,000	$1,849,000	$285,682	$3,833		
MISCELLANEOUS IMPROVEMENTS	$1,400,000										
ODOR CONTROL	$7,700,000							$7,413,199	$7,389,197		
AMMONIA REMOVAL FULL SCALE/ STAGE II PHOSPHORUS REMOVAL	$190,000,000	$47,331,203	$47,331,203	$54,705,015	$54,705,015	$108,000,000	$105,860,930	$17,200,000	$989,323		
PHOSPHORUS REMOVAL PILOT	$5,000,000					Full Scale	$1,936,991				
PHOS TREAT OPTIMIZATION (587601)		$3,760,556	$1,880,278			$9,613,444	$5,983,228				
CSO - CURRENT											
CLINTON ST CONVEYANCE & RTF	$31,245,000	$56,370,000	$56,166,991			$70,288,890	$41,834,264	$78,568,119	$40,145,066		
ERIE BLVD SEW SEP STORAGE	$3,000,000	$1,700,000	$1,700,000			$2,301,876	$2,094,314	$923,162	$216,543		
FRANKLIN ST FCF	$3,200,000	$3,828,053	$3,828,053			$4,726,762	$4,589,759	$1,179,012	$296,823		
HARBOR BROOK FCF	$250,000	$384,200	$384,200					$343,500	$348,596		
HARBOR BROOK CSO ABATEMENT	$5,444,000	$3,880,000	$3,880,000	$14,003,569	$15,378,304	$53,689,500	$46,700,136	$62,477,416	$26,445,334		
HIAWATHA INTERCEPTOR/RTF[a]	$8,000,000							$2,710,169	$37,749	$3,406,000	$3,406,000
KIRKPATRICK ST PUMP STATION	$5,642,000	$7,502,302	$7,502,302			$12,000,000	$10,940,632	$4,246,376	$828,115		
MALTBIE ST FCF	$250,000	$211,097	$211,097			$212,000	$188,106				
MIDLAND AVE CONVEYANCE	$3,000,000	$26,055,238	$26,055,238	$34,900,616	$33,525,880						
MIDLAND AVE PHASE II & RTF	$45,000,000					$15,000,000	$15,000,000	$37,339,317	$24,577,829		
MIDLAND AVE PHASE III	$27,000,000					$10,000,000					
MIDLAND AVE MITIGATION COSTS											
NEWELL ST FCF[b]	$1,310,000	$367,737	$367,737								
ONONDAGA CREEK FCF	$3,000,000	$442,154	$442,154								
SEWER SEPARATION[a]	$7,704,000							$11,332,407	$10,276,648	$14,050,177	$14,050,177
SIPHON REHABILITATION	$1,230,000	$870,768	$870,768			$1,435,500	$1,024,433	$140,623	$1,958		
TEALL BROOK FCF	$175,000	$1,045,162	$1,045,162			$1,236,594	$1,094,139	$188,809	$5,743		
WEST ST SEWER SEPARATION	$1,000,000	$2,299,460	$2,299,460			$3,059,716	$2,481,443	$395,540	$6,621		
OTHER											
AMBIENT WATER MONITORING	$8,000,000										
OXYGENATION DEMO	$2,400,000										
SEQR REGULATORY	$50,000										
TOTAL DOLLARS	***$380,000,000**	$168,910,556	$166,827,269	$103,609,200	$103,609,200	$305,716,701	$253,586,826	$241,244,447	$126,449,264	$17,456,177	$17,456,177

***Original budget figures were based on 1997 dollars**

NYS includes awards beyond original pledge (i.e. civic strip)

(a) NOTE: PROJECT IS US ARMY CORPS OF ENGINEERS PROJECT

(b) NOTE: PROJECT RECEIVED $40,500 COST SHARE GRANT FROM (NYSERDA)

(c)NOTE: PROJECT RECEIVED $87,500 COST SHARE GRANT FROM (NYSERDA)

Lake Improvement Project Status Report For The Period Ending 9/30/2019

	Project Title	ACJ START DATE	ACJ FINISH DATE	COUNTY FINISH DATE	ORIGINAL BUDGET(2)	AUTHORIZED BUDGET	ENGINEER	
	METRO - Current							
1	AERATION SYSTEM UPGRADE		7/1/2002	01/03/00	$ 8,500,000	$ 6,925,115	EEA	1
2	AMMON. REMOVAL DEMONSTRATION	11/1/1998	3/1/2000	12/31/99	$ 2,000,000	$ 1,347,187	EEA	2
3	BIOSOLIDS - MECHANICAL THICKENERS					$ 14,815,674		3
4	DIGESTER MOD/CHEMICAL STORAGE		7/1/2002	10/31/00	$ 5,600,000	$ 5,092,545	C&S	4
5	DIGITAL SYSTEMS IMPROVEMENTS		7/1/2002	06/31/01	$ 2,900,000	$ 3,520,317	Systems Integrated	5
6	MISCEL. IMPROVEMENTS		7/1/2002	01/31/99	$ 1,400,000	$ 1,400,000		6
7	ODOR CONTROL		7/1/2002	12/20/00	$ 7,700,000	$ 8,393,855	OBG	7
8	AMMONIA REMOVAL FULL SCALE/	10/1/2001	11/1/2003	11/01/03	$ 125,000,000	$ 128,688,040	EEA	8
	STAGE II PHOSPHORUS REMOVAL	10/1/2003	4/1/2005		$ 65,000,000			
9	PHOSPHORUS REMOVAL - PILOT	4/1/2006	4/1/2007	12/31/00	$ 5,000,000	$ 4,111,714	EEA	9
	PHOSPHORUS OPTIMIZATION (587601)					$ 2,840,000	GHD	
	CSO - Current							
10	CLINTON ST. CONVEYANCE/	5/1/2003	5/1/2007	10/28/06	$ 15,987,190	$ 185,500,042	EEA	10
	CLINTON ST. RTF	5/1/2007	1/1/2012	12/28/10	$ 15,258,090			
11	ERIE BLVD STORAGE SYSTEM		7/1/2002	04/13/02	$ 3,000,000	$ 2,684,523	Barton & Loguidice	11
12	FRANKLIN ST. FCF	4/26/1999	5/1/2000	05/01/00	$ 3,200,000	$ 4,948,516	EEA	12
13	HARBOR BROOK FCF		7/1/2002	07/01/02	$ 250,000	$ 889,109	EEA	13
14	HARBOR BROOK CSO ABATEMENT		7/1/2002		$ 5,443,980	$ 108,500,000	Moffa & Assoc.	14
15	HIAWATHA INTERCEPTOR/RTF (3)		7/1/2002	12/31/00	$ 8,000,000	$ 6,047,183	EEA/Parsons	15
16	KIRKPATRICK ST. PUMP STATION		7/1/2002	10/29/02	$ 5,641,860	$ 12,558,335	EEA	16
17	MALTBIE STREET FCF	8/31/1998	7/1/2002	04/26/99	$ 250,000	$ 362,028	EEA	17
18	MIDLAND AVE RTF & CSO ABATEMENT	5/1/1999	5/1/2004	12/06/00	$ 75,000,000	$ 131,912,853	EEA	18
19	MIDLAND AVE MITIGATION COSTS					$ 3,000,000		19
20	NEWELL STREET RTF		7/1/2002	07/01/01	$ 1,310,000	$ 473,132	Moffa & Assoc.	20
21	ONONDAGA CREEK FCF		7/1/2002	07/01/02	$ 3,000,000	$ 648,342	Parsons	21
22	SEWER SEPARATION		1/1/2012	01/01/12	$ 7,703,880	$ 27,684,286	OBG	22
23	SIPHON REHABILITATION		7/1/2002	06/11/99	$ 1,230,000	$ 1,026,391	C&S	23
24	TEALL BROOK FCF		7/1/2002	12/01/01	$ 175,000	$ 1,235,346	EEA	24
25	WEST ST SEWER SEPARATION	5/1/1999		01/14/00	$ 1,000,000	$ 2,720,572	CHA	25
26	ERIE BLVD CSO ABATEMENT						New Project	26
	OTHER							
27	AMBIENT WATER MONITORING(4)		7/1/2002		$ 8,000,000			27
28	OXYGENATION DEMO PROJECT	5/1/1999	4/1/2003	02/25/04	$ 2,400,000	$ 10,087		28
29	SEQRA REGULATORY COMPLIANCE(1)				$ 50,000		Parsons	29
	TOTAL DOLLARS (2)			*	$ 380,000,000	$ 667,335,192		
	***Original budget figures were based on 1997 dollars**							

(1) SEQR costs are reflected in the individual projects under total payments to date
(2) Original budget figures were based on 1997 dollars
(3) Hiawatha project costs did not all appear on county account partial ACE
(4) AMP is paid through operating funds not in projects

Lake Improvement Project Status Report For The Period Ending 9/30/2019

SOFT COST CONTRACTS	CONSTRUCTION CONTRACT AMOUNTS		TOTAL PAYMENTS TO DATE	FORECASTED COSTS	TOTAL ESTIMATED COST	OVER/UNDER BUDGET	% COMPLETED EXPENDITURES
$ 352,747	$ 6,473,110		$ 6,925,115		$ 6,925,115	$ (1,574,885)	100.00%
$ 1,346,856			$ 1,347,187		$ 1,347,187	$ (652,813)	100.00%
$ 1,266,345	$ 13,131,105		$ 14,815,674		$ 14,815,674	$ 14,815,674	100.00%
$ 748,386	$ 4,357,480		$ 5,092,545		$ 5,092,545	$ (507,455)	100.00%
$ 451,713	$ 2,974,514		$ 3,520,317		$ 3,520,317	$ 620,317	100.00%
			$ 1,400,000		$ 1,400,000	$ -	100.00%
$ 999,299	$ 6,956,868		$ 8,393,855		$ 8,393,855	$ 693,855	100.00%
$ 21,289,868	$ 106,962,810		$ 128,688,040		$ 128,688,040	$ (61,311,960)	100.00%
$ 4,055,734			$ 4,111,714		$ 4,111,714	$ (888,286)	100.00%
$ 1,749,597			$ 14,674,455	$ 9,520,545	$ 24,195,000	$ 24,195,000	60.65%
$ 34,294,218	$ 127,115,744		$ 174,448,611	$ 11,051,431	$ 185,500,042	$ 154,254,762	94.04%
$ 901,556	$ 1,734,929		$ 2,684,523		$ 2,684,523	$ (315,477)	100.00%
$ 973,543	$ 3,920,238		$ 4,948,516		$ 4,948,516	$ 1,748,516	100.00%
$ 436,363	$ 373,370		$ 889,109		$ 889,109	$ 639,109	100.00%
$ 22,748,443	$ 77,385,459		$ 104,351,566	$ 4,148,434	$ 108,500,000	$ 103,056,020	96.18%
$ 540,945	$ 5,535,152		$ 6,047,183		$ 9,453,183	$ 1,453,183	63.97%
$ 2,520,394	$ 9,882,154		$ 12,558,335		$ 12,558,335	$ 6,916,475	100.00%
$ 109,483	$ 152,418		$ 362,028		$ 362,028	$ 112,028	100.00%
$ 26,070,792	$ 75,550,125		$ 111,612,131	$ 20,300,722	$ 131,912,853	$ 56,912,853	84.61%
			$ 3,000,000	$ -	$ 3,000,000	$ 3,000,000	100.00%
$ 472,572			$ 473,132		$ 473,132	$ (836,868)	100.00%
$ 503,551			$ 648,342		$ 648,342	$ (2,351,658)	100.00%
$ 2,600,778	$ 22,879,464		$ 26,804,304	$ 879,982	$ 27,684,286	$ 19,980,406	96.82%
	$ 1,021,823		$ 1,026,391		$ 1,026,391	$ (203,609)	100.00%
$ 320,039	$ 903,566		$ 1,235,346		$ 1,235,346	$ 1,060,346	100.00%
$ 403,332	$ 2,311,126		$ 2,720,572		$ 2,720,572	$ 1,720,572	100.00%
					$ -		
			$ 23,644,014	$ -	$ -		
$ 10,087			$ 10,087		$ 10,087	$ (2,389,913)	100.00%
$ 125,166,639	$ 469,621,456		$ 666,433,091	$ 45,901,114	$ 692,096,192	$ 320,146,192	

Sept 2019

	Project Title	TOTAL PAYMENTS TO DATE 9-30-19	TOTAL PAYMENTS TO DATE 6-30-19	Change
	METRO - Current			
1	AERATION SYSTEM UPGRADE	$ 6,925,115	$ 6,925,115	$ -
2	AMMON. REMOVAL DEMONSTRATION	$ 1,347,187	$ 1,347,187	$ -
3	BIOSOLIDS - MECHANICAL THICKENERS	$ 14,815,674	$ 14,815,674	$ -
4	DIGESTER MOD/CHEMICAL STORAGE	$ 5,092,545	$ 5,092,545	$ -
5	DIGITAL SYSTEMS IMPROVEMENTS	$ 3,520,317	$ 3,520,317	$ -
6	MISCEL. IMPROVEMENTS	$ 1,400,000	$ 1,400,000	$ -
7	ODOR CONTROL	$ 8,393,855	$ 8,393,855	$ -
8	AMMONIA REMOVAL FULL SCALE/	$ 128,688,040	$ 128,688,040	$ -
	STAGE II PHOSPHORUS REMOVAL	$ -	$ -	
9	PHOSPHORUS REMOVAL - PILOT	$ 4,111,714	$ 4,111,714	$ -
	PHOSPHORUS OPTIMIZATION	$ 14,674,455	$ 14,564,126	$ 110,329
	CSO - Current			$ -
10	CLINTON ST. CONVEYANCE/	$ 174,448,611	$ 174,349,031	$ 99,580
	CLINTON ST. RTF	$ -	$ -	$ -
11	ERIE BLVD STORAGE SYSTEM	$ 2,684,523	$ 2,684,523	$ -
12	FRANKLIN ST. FCF	$ 4,948,516	$ 4,948,516	$ -
13	HARBOR BROOK FCF	$ 889,109	$ 889,109	$ -
14	HARBOR BROOK CSO ABATEMENT	$ 104,351,566	$ 103,827,486	$ 524,080
15	HIAWATHA INTERCEPTOR/RTF	$ 6,047,183	$ 6,047,183	$ -
16	KIRKPATRICK ST. PUMP STATION	$ 12,558,335	$ 12,558,335	$ -
17	MALTBIE STREET FCF	$ 362,028	$ 362,028	$ -
18	MIDLAND AVE RTF & CSO ABATEMENT	$ 111,612,131	$ 111,394,851	$ 217,280
19	MIDLAND AVE MITIGATION COSTS	$ 3,000,000	$ 3,000,000	$ -
20	NEWELL STREET RTF	$ 473,132	$ 473,132	$ -
21	ONONDAGA CREEK FCF	$ 648,342	$ 648,342	$ -
22	SEWER SEPARATION	$ 26,804,304	$ 26,788,524	$ 15,780
23	SIPHON REHABILITATION	$ 1,026,391	$ 1,026,391	$ -
24	TEALL BROOK FCF	$ 1,235,346	$ 1,235,346	$ -
25	WEST ST SEWER SEPARATION	$ 2,720,572	$ 2,720,572	$ -
26	ERIE BLVD CSO ABATEMENT	$ -	$ -	$ -
	OTHER			$ -
27	AMBIENT WATER MONITORING	$ 23,644,014	$ 23,635,615	$ 8,399
28	OXYGENATION DEMO PROJECT	$ 10,087	$ 10,087	$ -
29	SEQRA REGULATORY COMPLIANCE	$ -	$ -	$ -
				$ -
	TOTAL DOLLARS	$ 666,433,091	$ 665,457,644	$ 975,447

Chronology
of
Project Construction Starts

	Status	Location
Pre-ACJ Signing (1/20/98)		
• General Improvements	Complete	Metro
• Odor Control and Residuals Handling	Complete	Metro
1998		
• Digital Systems Upgrade	Complete	Metro
• Ammonia Removal Demonstration	Complete	Metro
• Aeration System Upgrade	Complete	Metro
• Hiawatha RTF - ACOE	Complete	Regional Market
• Newell St. RTF Demo/Improvements	Complete	W.Newell/Vale St.
• Maltbie St. FCF	Complete	Maltbie/Plum St.
• Siphon Rehab	Complete	Various
1999		
• Digester Modifications/Chemical Storage	Complete	Metro
• Franklin St. FCF	Complete	I-690/Franklin
• West Street Sewer Separation	Complete	W. Genesee, Plum, Tracy, N. West St.
• Ammonia Trackdown	Complete	Metro
2000		
• Midland Ave. Conveyance Phase I	Complete	Tallman/Oxford St.
• Phosphorus Removal – Phase I Pilot	Complete	Metro
2001		
• Erie Blvd. Storage System Upgrade	Complete	Franklin to Teall
• Full Scale Ammonia Removal/ Stage II Phosphorus Removal	Complete	Metro
• Kirkpatrick St. Pump Station & Force Main	Complete	Kirkpatrick St.
• Onondaga Creek FCF	Complete	Inner Harbor
• Teall Brook FCF	Complete	Teall Ave.
• Water Street Sewer Separation (CSO 024)	Complete	Water Street
2002		
• Harbor Brook FCF	Complete	W.Hiaw./I-690
• Brighton Ave Sewer Separation (CSO 053/054)	Complete	Brighton/Bishop Ave

	Project	Status	Location
2004			
	• Tallman/Onondaga Sewer Separation (CSO 038, 040, 046A &046B)	Complete	Tallman/Onondaga
	• Midland Phase II RTF/Conveyances	Complete	Blaine/Oxford St.
2005			
	• Phosphorus Removal – Phase II Pilot	Complete	Metro
	• Biosolids Handling Improvements	Complete	Metro
2006			
	• Sewer Separation – CSO 047 & 048	Complete	South Ave/ Bissell St.
2007			
	• Sewer Separation – CSO 050	Complete	Parkway/Rockland
	• Clinton Phase I Conveyances	Complete	
2008			
	• Clinton Phase IIA Conveyances	Complete	
2009			
	• Sewer Separation – CSO 051	Complete	Colvin St.
2010			
	• Harbor Brook Interceptor Sewer	Complete	Velasko/Fayette
2011			
	• Midland CSO 044	Complete	W. Castle/South Ave
	• Clinton Storage Facility	Complete	Armory Square
	• Lower Harbor Brook (Conveyance & Storage)	Complete	Hiawatha/State Fair Blvd.
	• Save the Rain Green Projects	Authorized/Underway	Various
	• CSO 022 Sewer Separation Project	Authorized/Underway	West Genesee/Franklin
	• CSO 045 Sewer Separation Project	Authorized/Underway	South Avenue
2012			
	• Save the Rain Green Projects	Completed	Various
2013			
	• Save the Rain Green Projects	Completed	Various
2014			
	• Save the Rain Green Projects	Completed	Various
	• Harbor Brook CSO 063 Conveyances Project	Underway	Hiawatha/State Fair Blvd.

CONTRACTORS FOR
CONSTRUCTION PROJECTS
Metro Treatment Plant

AERATION SYSTEM UPGRADE	
Bongiovanni Construction (General)	$ 5,626,956.41
Ridley Electric (Electrical)	$ 846,154.00
DIGITAL SYSTEM UPGRADE	
Systems Integrated	$ 2,974,514.27
ODOR CONTROL CONTRACT #1	
Falconet, Inc. (General)	$ 4,872,660.53
Scriba Electric (Electrical)	$ 315,580.30
Burns Bros. (Heating/Ventilation)	$ 82,459.00
Burns Bros. (Plumbing)	$ 50,168.00
ODOR CONTROL CONTRACT #2	
Murnane Construction	$ 1,636,000.00
PHASE III IMPROVEMENTS CONTRACT 1 - DIGESTER & LAGOON IMPROVEMENTS	
Maxim Construction	$ 645,730.74
PHASE III IMPROVEMENTS CONTACT 2 - CHEMICAL STORAGE & FEED FACILITIES	
C.O. Falter Construction Corp. (General)	$ 2,527,300.08
Barry & Barry Electrical Co. (Electrical)	$ 193,665.22
Burns Bros. (HVAC)	$ 224,232.51
Edward Joy Company (Plumbing)	$ 38,669.35
PHASE III IMPROVEMENTS CONTRACT 3 - DIGESTER & LAGOON CLEANING	
Waste Stream Environmental Inc.	$ 727,881.80
FULL SCALE AMMONIA/PHOSPHORUS REMOVAL - FIELD OFFICE	
James & Son Construction	$ 28,388.00
Resun Leasing, Inc.	$ 112,224.00
Ridley Electric Co.	$ 32,295.00
Burns Brothers	$ 18,440.00
FULL SCALE AMMONIA/PHOSPHORUS REMOVAL	
U.S. Filter - Kruger Products, Inc.	$ 8,261,182.00
U.S. Filter - Kruger Products, Inc.	$ 3,918,080.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
Metro Treatment Plant

FULL SCALE AMMONIA/PHOSPHORUS REMOVAL

SITE PREPARATION - CONTRACT 2

C.O. Falter Construction Corp. (General)	$ 22,243,604.98
Ridley Electric (Electrical)	$ 255,627.00
C.O. Falter Construction Corp. (Pile Testing)	$ 431,008.00
Moretrench Environmental	$ 4,602,086.57

PILE INSTALLATION - CONTRACT 3

M.A. Bongiovanni Construction	$ 9,045,731.95

GENERAL - CONTRACT 4

The Pike Company (General)	$ 46,860,263.46
Ridley Electric Co. (Electrical)	$ 6,927,238.00
Edward Joy Company (HVAC)	$ 3,009,057.61
Burns Brothers (Plumbing/Fire Protection)	$ 1,217,583.74

BIOSOLIDS HANDLING IMPROVEMENTS

C. O. Falter Construction Corp. (General)	$ 10,929,016.19
Ridley Electric (Electrical)	$ 1,476,223.00
Airside Technology (HVAC)	$ 532,187.00
Burns Bros. (Plumbing)	$ 173,679.09
Independent Field Svs (Cogen)	$ 18,019.75

CSO's

CLINTON CONVEYANCES PHASE I & 2A

The Delaney Group, Inc.	$ 14,478,053.39
The Delaney Group, Inc.	$ 4,074,455.32
SIDA	$ 2,634,999.43
MOU (City of Syracuse)	$ 168,000.00
MOU City of Syracuse (Connective Corridor)	$3,825,000.00

CLINTON CSO ABATEMENT

Ruston Paving (Farmers' market Lot)	$ 188,046.14
Davis Wallbridge (Pearl St/Lot 3)	$ 635,873.93
Davis Wallbridge (Townsend St.)	$ 476,625.39
J&B (Pirro Conv. Center)	$ 1,083,727.39
C.O. Falter (War Memorial)	$ 692,298.87
Ridley (War Memorial)	$ 447,957.66
Economy Paving (On Center)	$ 1,094,119.49
J&B (Erie Canal Museum)	$ 73,480.00
Jett Industries (Clinton Storage)	$ 79,762,239.12
Joy Process Mechanical (Cistern War Memorial)	$ 82,615.00
C&S Technical (Cistern War Memorial)	$ 233,652.56
Green Culture (Rain Barrels)	$ 44,335.50
Syracuse Utilities (Duct Bank)	$ 59,982.56
Water Cooling Corp. (Storage Tank)	$ 2,875.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

MOU City of Syracuse (Road Reconstruction)	$	638,997.06
MOU City of Syracuse (Dr. Weeks)	$	89,000.00
MOU City of Syracuse (Bank Alley)	$	108,000.00
MOU City of Syracuse (Upstate)	$	1,500,000.00
Wallbridge (Streetscape/Water St)	$	1,432,437.86
Ruston Paving (Sunnycrest Parking Lot)	$	410,372.20
MA Bongiovanni Inc.	$	3,000.00
Acts II Construction (Skiddy Park)	$	550,916.44
D.E. Tarolli (Otisco Street)	$	1,847,459.81
Orchard Earth & Pipe (Syr School dist Park Lot)	$	430,172.42
Slate Hill Construction (E. Water St)	$	147,952.84
Davis Wallbridge (Onon Cty Pub Library)	$	320,291.95
Tumbers, Schichtels Nursery (Trees), Martisco, Dixie, Pro Scapes	$	991,497.10
Acts II (Seymour Academy)	$	373,309.00
Paul R. Vitale (City Lot 4)	$	607,852.44
John R. Dudley (Leavenworth Park)	$	719,311.20
VIP (Onon Public Library)	$	51,382.74
Ballard Construction (Westcott Comm Ctr)	$	52,500.00
Cornerstone Paving (Oswego St)	$	109,046.54
John Dudley Construction (W. Onondaga St.)	$	1,371,475.75
Barrett Paving (W. Fayette St.)	$	588,982.07
Davis Wallbridge (Westcott St.)	$	870,263.89
ProScapes (Sunnycrest Arena) & C&S Sweeping	$	89,441.47
Acts II (E. Washington St)	$	155,591.53
John R. Dudley (690 Downspout)	$	597,965.65
Josall (Maganelli Comm Ctr)	$	378,400.00
Spectra (Butternut Circle)	$	65,640.00
Barton & Loguidice (State St)	$	159,400.00
D E Tarolli (annual green)	$	2,099,385.19
J&J Landscape (annual green)	$	297,362.48
King & King Architects (GIF)	$	100,000.00
Jefferson Clinton Commons (GIF)	$	100,000.00
ESF Foundation, Abby Lane Housing (GIF)	$	78,000.00
Hotel Skyler (GIF)	$	100,000.00
Near West Side Initiatives, Inc. (GIF)	$	22,730.69
Near West Side Initiatives, Inc. (GIF)	$	78,000.00
Tash Taskale (GIF)	$	100,011.00
St. Lucy's Church (GIF)	$	125,000.00
Putnam Properties (GIF)	$	75,757.00
Centro (GIF)	$	65,390.00
500 W. Onondaga St. Inc. (GIF)	$	52,740.00
CNY Jazz Arts Foundation (GIF)	$	52,188.00
Jim & Juli Boeheim Foundation (GIF)	$	163,203.51
Home Headquarters, Inc. (GIF)	$	40,500.00
Galleries of Syr, 147 E. Onondaga St. (GIF)	$	100,000.00
Syracuse Housing (GIF)	$	120,290.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

Kopp Billing Agency (GIF)	$	25,300.00
CNY Philanthropy (GIF)	$	62,700.00
American Beech (GIF)	$	53,050.00
Park Central Presbyterian Church (GIF)	$	61,050.00
Loon Creek (GIF)	$	137,350.00
NHW Syracuse (GIF)	$	129,400.00
McMahan/Ryan Child Advocacy (GIF)	$	178,050.00
Jeffrey DeRoberts (GIF)	$	99,311.00
Bethany Baptist Church (GIF)	$	343,333.00
St. Lucy's Church (GIF)	$	69,000.00
500 W. Onondaga St. Inc. (GIF)	$	34,347.00
Onondaga Commons LLC (GIF)	$	124,200.00
Onondaga Commons LLC (GIF)	$	198,300.00
Onondaga Commons LLC (GIF)	$	175,787.00
Onondaga Commons LLC (GIF)	$	77,800.00
Gemmi Boy (GIF)	$	47,537.00
Mr. Lady Bug (GIF)	$	46,700.00
Grace Episcopal Church (GIF)	$	99,000.00
Snapse Downtown (GIF)	$	35,700.00
360 Warren Associates (GIF)	$	107,864.00
Housing Visions Unlimited (GIF)	$	194,650.00
Near West Side Initiatives, Inc. (GIF)	$	34,500.00
Scannell Properties (GIF)	$	204,000.00
Genesee Armory (GIF)	$	144,400.00
Third National Associates (GIF)	$	533,300.00
Center for Peace & Social Justice (GIF)	$	57,700.00
Graham Millwork (GIF)	$	90,500.00
Onondaga Commons LLC (GIF)	$	124,100.00
Onondaga Commons LLC (GIF)	$	33,400.00
Onondaga Commons LLC (GIF)	$	294,300.00
PEACE (GIF)	$	52,200.00
Syracuse Business Center (GIF)	$	517,000.00
Erie Bruce Corp (GIF)	$	151,700.00
538 Erie Boulevard West (GIF)	$	130,850.00
Near West Side Initiatives, Inc. (GIF)	$	94,300.00
UAS (GIF)	$	57,600.00
Brewster Medical (GIF)	$	221,000.00
Richmond UAS Properties (GIF)	$	299,200.00
Taksum Assoc. (GIF)	$	45,200.00
Zip Networks (GIF)	$	205,775.00
Ra lin Inc. (GIF)	$	137,000.00
Ra lin Inc. (GIF)	$	238,400.00
Butternut St. LLC (GIF)	$	104,430.00
Nojaim Inc. (GIF)	$	234,800.00
St. Joseph's Hospital Health Center (GIF)	$	145,900.00
Auto Row (GIF)	$	138,000.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

WCNY (GIF)	$	98,527.00
Auto Row (GIF)	$	164,000.00
University Hill Apts. (GIF)	$	36,500.00
J C Smith Inc. (GIF)	$	84,411.00
St. Joseph's Hospital Health Center (GIF)	$	33,100.00
Housing Visions Unlimited (GIF)	$	70,200.00
R J Westcott (GIF)	$	125,750.00
R J Westcott (GIF)	$	130,400.00
R J Westcott (GIF)	$	18,000.00
Nick's Garage (GIF)	$	382,000.00
Tan A Grocery (GIF)	$	52,000.00
Consuela's-Tato Britter Transp. (GIF)	$	38,237.50
Auto Row (GIF)	$	147,600.00
Jorge Auto Repair (GIF)	$	109,500.00
Pyramids Halal Meat (GIF)	$	49,000.00
Lisa Welch (GIF)	$	32,877.00
Heritage Lincoln (GIF)	$	654,600.00
JNJ (GIF)	$	83,200.00
900 E Fayette (GIF)	$	65,800.00
712-715 E Fayette Group (GIF)	$	47,600.00
Gadsen Property (GIF)	$	58,000.00
MPL Armory m(GIF)	$	48,000.00
Near West Side (GIF)	$	681,658.00
North Side Learning (GIF)	$	189,000.00
751 N Salina LLC (GIF)	$	53,800.00
Lisa Welch (GIF)	$	40,423.00
800 Block (GIF)	$	170,500.00

ERIE BOULEVARD STORAGE SYSTEM

M. Hubbard Construction	$	1,556,752.00
Ridley Electric (Electrical)	$	154,059.00
Endeco/YSI (SE33923)	$	24,117.90

FRANKLIN STREET FCF

Burns Bros (Mechanical)	$	179,167.67
Scriba Electric (Electrical)	$	144,640.61
Burns Bros. (Plumbing)	$	28,400.00
Maxim	$	3,568,029.43

HARBOR BROOK CSO ABATEMENT

Joseph J. Lane Construction (Interceptor Sewer Replacement)	$	23,391,425.07
Bette Cring (Elephant Barn Greening)	$	207,701.00
John Dudley Construction (Geddes St)	$	279,068.06
J&B Installations (Hazard Library/Erie Canal Museum)	$	67,275.00
Economy Paving (Rosamond Gifford Zoo)	$	688,638.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

J.J. Lane (Lower HB)	$ 5,373,078.94
A.J. Montclair (HB CSO Storage)	$ 260,000.00
C.O. Falter (HB CSO Storage)	$ 30,259,100.80
Davis Wallbridge (Onon Cty Pub Library)	$ 378,920.43
Cornerstone Paving (Parking Lots)	$ 149,195.48
Green Culture	$ 80,665.00
Tumbers, Schichtels Nursery (trees), Proscapes, Dixie	$ 347,542.53
City of Syracuse	$ 3,342,875.63
VIP	$ 51,382.74
Steadman Old Farm	$ 11,480.00
Bette Cring (Zoo Wetlands)	$ 1,290,064.10
Marcellus Const. (CSO 063)	$ 5,612,007.53
OnSite	$ 8,755.00
J J Lane (CSO 18)	$ 4,370,168.29
Patricia Electric (Wetland Pilot)	$ 197,767.56
MOU City of Syracuse (Road Reconstruction)	$ 138,165.00
Davis Wallbridge (Wadsworth Park)	$ 345,524.55
Acts II (Lewis Park)	$ 217,285.58
J & J Landscape (Annual Green)	$ 25,807.00
DE Tarolli (Green Structures)	$ 12,576.00
Knapp Electric (Wetlands)	$ 41,856.00
Vitale Excavating (Bedding Sand), Butler Fence	$ 232,533.35
Barton & Loguidice	$ 4,600.00
NYSARC, Inc. (GIF)	$ 78,907.14
Vibrant Spaces, LLC (GIF)	$ 153,618.00
James Ranalli, W. Genesee (GIF)	$ 616,100.00
Vibrant Spaces, LLC (GIF)	$ 198,680.00
Brooklyn Pickle (GIF)	$ 30,555.00
St. Patrick's Loft (GIF)	$ 177,300.00
Smith Housing (GIF)	$ 52,600.00
Richard Destito (GIF)	$ 232,200.00
Burnet Park Newstand (GIF)	$ 60,622.00
Visiting Nurse Assoc. of CNY (GIF)	$ 60,349.20
All Times (GIF)	$ 92,600.00

HARBOR BROOK FCF

C.O. Falter Construction Corp. (General)	$ 373,370.21

KIRKPATRICK ST. PUMP STATION & FORCE MAIN

C.O. Falter Construction Corp.	$ 4,398,009.12
C.O. Falter Construction Corp.	$ 4,425,766.31
Patricia Electric	$ 761,184.63
King & King Mechanical	$ 245,569.51
G.J. Adams Plumbing	$ 51,624.16

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

MALTBIE STREET FCF	
Over & Under Piping	$ 152,418.00
MIDLAND AVENUE CONVEYANCES	
Marcellus Construction (General)	$ 1,836,434.47
MIDLAND AVENUE PHASE II CONVEYANCES & RTF	
Empire Dismantlement Corp. (Demolition)	$ 457,681.50
Murnane Building Contractors, Inc. (General)	$ 47,929,392.75
Ridley Electric Company (Electrical)	$ 2,904,771.00
MIDLAND AVENUE PHASE III CONVEYANCES	
Titan Wrecking & Environmental, LLC (Demolition)	$ 290,801.39
Edward Joy Company (HVAC)	$ 2,053,808.50
Edward Joy Company (Plumbing)	$ 484,717.17
Tumbers, Schichtels Nursery, Ballantyne, Other(Batcon)	$ 595,409.00
J.J. Lane	$ 12,098,662.37
Acts II (Hugh's Magnet School Parking Lot)	$ 314,439.81
Davis Wallbridge (Onon Cty Pub Library)	$ 116,033.35
J & J Landscape (annual green)	$ 92,997.00
VIP (Onon Public Library)	$ 25,691.39
Green Culture (Rain Barrels)	$ 44,335.50
Weather Guard Tecta (USPO Salina St)	$ 242,860.00
MOU City of Syracuse (Road Reconstruction)	$ 408,332.04
MA Bongiovanni (storage Tank)	$ 66,130.00
MOU City of Syracuse (ESF)	$ 100,000.00
Env. Design (Gazones Stormwater)	$ 118,172.50
Barton & Loguidice (green design)	$ 334,800.00
D E Tarolli (Annual green)	$ 2,606,540.28
Marcellus Construction (green Infrastructure)	$ 2,428,114.52
Jubilee Homes of Syracuse (GIF)	$ 200,000.00
Dunbar Association, Inc. (GIF)	$ 99,840.00
Syracuse Model Neighborhood (GIF)	$ 250,000.00
People's AME Zion Church (GIF)	$ 61,300.00
People's Community Dev. Corp (GIF)	$ 80,825.00
Salina Shoe Salon (GIF)	$ 48,000.00
People's AME Zion Church (GIF)	$ 5,000.00
Matawon Development Group (GIF)	$ 24,214.00
Tucker Missionary Baptist Church (GIF)	$ 146,700.00
Swallows (GIF)	$ 111,900.00
Viraj NY (GIF)	$ 125,200.00
Viraj Salina (GIF)	$ 320,100.00
Believers Chapel (GIF)	$ 167,800.00
Southside Comm. Coalition (GIF)	$ 59,800.00

CONTRACTORS FOR
CONSTRUCTION PROJECTS
CSO's (cont)

SEWER SEPARATION - CSO 022/045		
Joy Process Mechanical (Plumbing)	$	853,536.68
Joseph J. Lane Construction	$	4,757,886.66
SEWER SEPARATION - CSO 024		
C.O. Falter Construction Corp.	$	698,863.74
SEWER SEPARATION - CSO 053/054		
C.O. Falter Construction Corp.	$	2,000,817.40
SEWER SEPARATION - CSO 038, 040, 046A&B		
C.O. Falter Construction Corp.	$	3,524,487.29
SEWER SEPARATION - CSO 047 & 048		
C.O. Falter Construction Corp.	$	1,654,022.34
SEWER SEPARATION - CSO 050		
Joseph J. Lane Construction	$	4,360,527.06
SEWER SEPARATION - CSO 051		
Joseph J. Lane Construction	$	5,029,323.00
SEWER SEPARATION - OTHER		
Other - tree, fence	$	144,701.90
Pastime Athletic Club (GIF)	$	92,700.00
SIPHON REHABILITATION		
Insituform Metropolitan	$	1,021,822.99
C.O. Falter Construction Corp. (General)	$	877,095.43
Scriba Electric (Electrical)	$	26,470.20
Maxim Construction (General)	$	2,311,125.85

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WEP ACRONYMS

ACJ	Amended Consent Judgment
AMP	Ambient Monitoring Program
AMSA	Association of Metropolitan Sewerage Agencies
ARRA	American Recovery and Reinvestment Act
ASLF	Atlantic States Legal Foundation
AWQS	Ambient Water Quality Standards
BAF	Biological Aerated Filter (Biostyr)
BMP	Best Management Practices
BOD	Biological Oxygen Demand
BPJ	Best Professional Judgment
Brew	WEP's Standard Abbreviation for the Brewerton Wastewater Treatment Plant
Bville	WEP's Standard Abbreviation for the Baldwinsville Wastewater Treatment Plant
CAA	Clean Air Act
CALM	Consolidated Assessment and Listing Methodology
CAMP	Community Air Monitoring Plan
CIP	Capital Improvement Plan
CMOM	Capacity, Management, Operation, and Maintenance
CSLAP	Citizens Statewide Lake Assessment Program
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EBM	Ecosystem-Based Management
ECL	Environmental Conservation Law
ECM	Energy Conservation Measures
EECBG	Energy Efficiency and Conservation Block Grant
ELAP	Environmental Laboratory Approval Program
EMS	Environmental Management System
ERM	Environmental Resource Mapper
FCF	Floatable Control Facility
FOG	Fats, Oil, and Grease
GIF	Green Improvement Fund

HRFS	High Rate Flocculation Settling
I & I	Inflow & Infiltration
IW	Industrial Wastewater
km	Kilometers
km^2	Square Kilometers
LA	Load Allocations
LF	Linear Feet
m	Meters
MCP	Municipal Compliance Plan
MDV	Multiple Discharge Variance
Metro	WEP's Standard Abbreviation for the Metropolitan Syracuse Wastewater Treatment Plant
MGD	Million Gallons Per Day
mg/L	Milligrams Per Liter
MIS	Main Interceptor Sewer
ML	WEP's Standard Abbreviation for the Meadowbrook/Limestone WWTP
MS4s	Municipal Separate Storm Sewer Systems
mt	Metric Tons
NACWA	National Association of Clean Water Agencies
NBP	National Biosolids Partnership
NELAC	National Environmental Laboratory Accreditation Conference
NPDES	National Pollutant Discharge Elimination System
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSEFC	New York State Environmental Facilities Corp.
NYWEA	New York Water Environmental Association
OAK	WEP's Standard Abbreviation for the Oak Orchard WWTP
OLP	Onondaga Lake Partnership
OLWQM	Onondaga Lake Water Quality Model
OU	Odor Unit
P2	Prevention Program
P2CO	Prevention Program County Operations
PdM	Predictive Maintenance

PIDs	Photo-ionization Detectors
PFRP	Process to Further Reduce Pathogens
PLA	Project Labor Agreement
POTW	Publicly Owned Treatment Works
PWL	Priority Waterbodies List
RTF	Regional Treatment Facility
SCA	Sediment Consolidation Area
SCADA	Supervisory Control and Data Acquisition
SEPS	Secondary Effluent Pump Station
SEQR	State Environmental Quality Review
SGIP	Suburban Green Infrastructure Program
SHB	Solids Handling Building
SMPs	Storm Water Management Practices
SOP	Standard Operating Procedure
SORP	Sewer Overflow Response Plan
SPCC	Spill Prevention, Control, and Countermeasures
SPDES	State Pollutant Discharge Elimination System
SRP	Soluble Reactive Phosphorus
SSES	Sanitary Sewer Evaluation Study
SSI	Sewage Sludge Incinerator
SSV	Site-Specific Variance
SUNY-ESF	State University of New York College of Science and Forestry
SWMM	Storm Water Management Modeling
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TBEL	Stechnology-Based Effluent Limits
TDP	Total Dissolved Phosphorus
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSI	Trophic State Index
UAA	Use Attainability Analysis
UFI	Upstate Freshwater Institute
ug/l	Micrograms per Liter
USEPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
USGBC	United States Green Building Council
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WAN	Wide Area Network
WLA	Waste Load Allocations
WEF	Water Environment Federation
WEP	Water Environment Protection
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBEL	Water Quality-Based Effluent Limits
WR	WEP's Standard Abbreviation for the Wetzel Road Wastewater Treatment Plant
WSE	Waste Stream Environmental