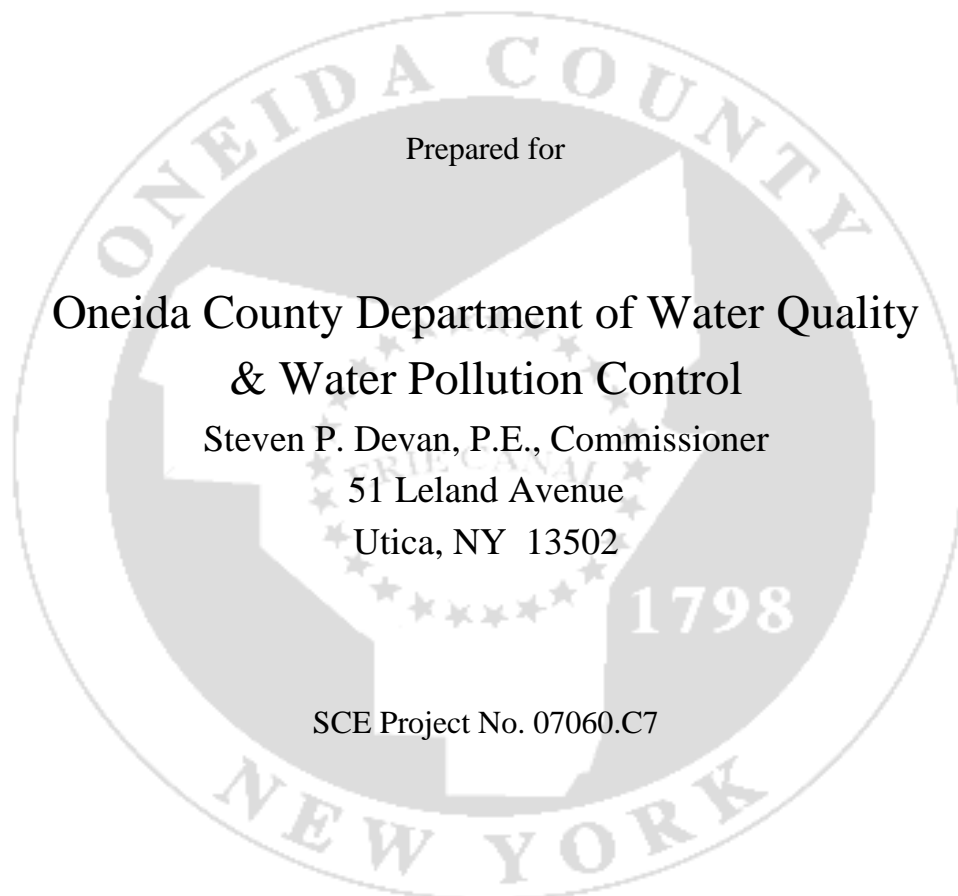


**QUARTERLY PROGRESS REPORT  
1<sup>ST</sup> QUARTER-2012**

**ONEIDA COUNTY SEWER DISTRICT**

**NYSDEC CONSENT ORDER R620060823-67**



Prepared for

Oneida County Department of Water Quality  
& Water Pollution Control

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SCE Project No. 07060.C7

April 20, 2012



Utica, NY



Cazenovia, NY

BROWN AND  
CALDWELL

Liverpool, NY

QUARTERLY PROGRESS REPORT  
1<sup>ST</sup> QUARTER-2012

SANITARY SEWER COLLECTION SYSTEM

ONEIDA COUNTY SEWER DISTRICT

NYSDEC CONSENT ORDER R620060823-67

Prepared for

Oneida County Department of Water Quality  
& Water Pollution Control

SCE Project No. 07060.C7

April 20, 2012

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## **1.0 INTRODUCTION**

### **1.1 HISTORICAL BACKGROUND**

The Oneida County Sewer District (District) was formed in 1965 through an act by the former Oneida County Board of Supervisors. It is administered by Oneida County through the Oneida County Department of Water Quality and Water Pollution Control (WQ&WPC) which is responsible for the operation of the District's facilities and personnel. District facilities include 45 miles of interceptor sewers, the Sauquoit Creek and the Barnes Avenue Pumping Station, and the Water Pollution Control Plant. The District services 15 municipalities, nine of which are within the Sauquoit Creek Pumping Station (SCPS) Basin. These municipalities own and operate their own collection systems.

### **1.2 CONSENT ORDER**

The New York State Department of Environmental Conservation (NYSDEC) and Oneida County (County) entered into a Consent Order No. R620060823-67) due to sanitary sewer overflows (SSO) at the Sauquoit Creek Pumping Station. In addition to the required mitigation of those SSOs, the Consent Order, with an effective date of December 12, 2011, requires the submission of Quarterly Progress Reports. The intent of this Quarterly Progress Report is to summarize the work that has been undertaken by the County between January 1, 2012 and March 31, 2012 (first quarter of 2012) in support of the Consent Order compliance requirements.

Additionally, the Consent Order requires the preparation of an Annual Work Plan (Work Plan). This document, titled "Annual Work Plan-2012" (dated March 16, 2012) was submitted to NYSDEC on March 16, 2012 and approved on April 10, 2012. The Work Plan summarized the County's progress towards mitigating the SCPS SSO through January 31, 2012. The following items summarize the major efforts initiated, continued, and/or completed during the first quarter of 2012.

## **2.0 ENGINEERING INVESTIGATIONS AND EVALUATIONS**

During the first quarter of 2012, the County completed the following tasks related to engineering investigations and evaluations.

### **2.1 COLLECTION SYSTEM**

- 2.1.1** Manhole Inspections - There are approximately 5,600 manholes within the SCPS sewer basin. Through January 31, 2012, 4,600 manholes have been inspected. This represents 82 percent of the total number of manholes. The remaining manholes could not be inspected because they are either buried or otherwise inaccessible. The previously obtained inspection data was recorded electronically in the field using the nationally standardized Manhole Assessment and Certification Program (MACP) and incorporated into the County's data management software.
- 2.1.2** Sanitary Sewer Televising - There are approximately 216 miles of sanitary sewer within the SCPS basin (30 miles of District sewer plus 186 miles of municipal sewer). The County has contracted with a firm to perform closed circuit televising (CCTV) of these sanitary sewers. During the first quarter of 2012, approximately 32 miles of sewer have been televised. CCTV of the municipal sewers will continue through 2012. Approximately 131 miles of sewer have been televised to date. Televising data is being collected electronically in the field using the nationally standardized Pipe Assessment and Certification Program (PACP) and incorporated into the County's data management software.
- 2.1.3** Dye Testing - Prior smoke testing and other sewer investigations identified approximately 110 locations where dye testing was recommended as an additional tool to assess pipe condition. Approximately 99 locations were dye tested in 2011. During the first quarter of 2012, dye testing was performed at the last remaining 11 of these locations, and the source of inflow was definitively identified at 1 of those 11 locations. Overall, the source of inflow was definitively identified at 18 of the approximately 110 locations. Data was collected electronically in the field and incorporated into the County's data management software. The results from the dye testing will be presented in a subsequent report as required by the Consent Order.

## **2.2 WATER POLLUTION CONTROL PLANT**

In June 2011, a detailed engineering study of the existing Water Pollution Control Plant (WPCP) and the SCPS and forcemain commenced. The purpose of this study is to more accurately establish and define the process and hydraulic capacities of the various unit processes and conduits at the WPCP, to determine the future flows and loads to the WPCP, and to perform an alternatives evaluation to increase the wastewater treatment capacities at the WPCP to accommodate future flows and loads. To mitigate the SSOs at the SCPS, this evaluation also will identify and evaluate alternatives to increase pumping capacity of the SCPS and identify and evaluate alternatives to increase the capacity of the forcemain between the SCPS and its discharge to the WPCP. For each level of additional treatment capacity, preliminary sizing, layout, advantages, disadvantages, construction costs, and estimated operation and maintenance costs will be developed.

During the first quarter of 2012, specific work completed at the WPCP included:

- Analysis of data collected during Fall 2011 stress testing of the final clarifiers
- Assessment of future flows and loads
- Assessment of treatment alternatives relative to increased treatment capacity
- Scheduling of progress meeting with NYSDEC (meeting held on 4/3/2012)

### **3.0 MANAGEMENT PROGRAMS**

#### **3.1 COMPUTERIZED MANAGEMENT AND MAINTENANCE SYSTEM (CMMS)**

The County purchased a CMMS software system (Lucity – formerly GBA Master Series) in 2009. This software is used to manage the sewer system data (mapping, inspections, etc.) obtained to date by the County. At the same time that the software was acquired, the County invested in computer hardware upgrades to support the CMMS system. The County's GIS Coordinator manages the system.

The CMMS is expandable to accommodate various modules that can be purchased based on the operational and management needs of the system. A Work Order module for the CMMS system was acquired in 2011, and work flow procedures using the Work Order module have been developed during the first quarter of 2012 in anticipation of the sewer system rehabilitation projects beginning during 2012 and the need to manage the construction work and associated project costs.

#### **3.2 FLOW MONITORING PROGRAM**

A proposed flow monitoring program was developed during the first quarter and submitted to NYSDEC in accordance with Schedule A – Section B.1 of the Consent Order with the intended goal of tracking the progress of inflow/infiltration reduction as a result of sewer rehabilitation projects within the SCPS basin. The Program included discussions of flow monitoring locations, available flow monitoring technologies, available flow monitoring and rain gauge equipment, and available flow monitoring equipment maintenance, data collection and analysis, and data reporting. Also included in the Program were recommendations regarding the County's preferred approach to flow monitoring, taking into consideration all elements discussed above. The Flow Monitoring Program was submitted to NYSDEC on March 27, 2012.

#### **3.3 PRIVATE PROPERTY I/I REDUCTION PROGRAM**

A proposed outline of a program to reduce private property I/I (PPII) sources from the sanitary sewer system in the SCPS basin will be prepared in accordance with Schedule A – Section B.2 of the Consent Order and submitted to NYSDEC by June 30, 2012. During the first quarter of 2012, the County's

Consultant Team researched various PPII programs for applicability to Oneida County. Issues related to funding and financing PPII improvements continue to be a significant obstacle to the development of a program.

### **3.4 CAPACITY, MANAGEMENT, OPERATIONS, AND MAINTENANCE (CMOM) PROGRAM**

A draft outline for a CMOM program that includes the Satellite Municipalities will be prepared in accordance with Schedule A – Section B.3 of the Consent Order. Submission of the outline to NYSDEC is required by June 30, 2012. During the first quarter of 2012, the County's Consultant Team has prepared a draft of a CMOM framework which will be reviewed with the Satellite Municipalities, in order to develop an implementation strategy and schedule. Input from the Satellite Municipalities is a critical element toward a successful program. The draft outline includes topics such as:

- Coordination of work among the Satellite Municipalities and County.
- Standard operating procedures related to work documentation, data management, safety, and interface between the communities and the County's sanitary sewer computerized management and maintenance system (CMMS) and GIS.
- Template/outline for annual CMOM work plans to be prepared by each system owner.
- Management reports for documenting prior year's work for regulatory reporting requirements.
- Preventive maintenance program for sewer lines and related structures for all system owners.
- Preventive Maintenance Program for municipal sewage pump stations.
- FOG (fats, oil, and grease) and root control programs.



## 4.0 SCHEDULE/MILESTONE DATES

### 4.1 APPROVED SCHEDULE

The following table represents the approved schedule as defined by the Consent Order:

<u>Description</u>	<u>Consent Order, Schedule 'A' Date</u>
<u>Engineering Investigations and Evaluations</u>	
Dye Testing and Storm Sewer Report	June 30, 2012
Manhole Evaluation Report-Phase II	June 30, 2012
Sewer CCTV Inspection Report-Phase II	April 30, 2012
SCPS Evaluation Report	August 31, 2012
WPCP Evaluation Report	August 31, 2012
Treatment System Supplement (Report)	60 days after approval of WPCP Evaluation Report
Sewer CCTV Inspection Report-Phase III	April 30, 2014
Collection System Supplement (Report)	May 31, 2014
<u>Management Programs</u>	
Flow Monitoring Program	March 31, 2012
Private Property I/I Reduction Program	June 30, 2012
CMOM Program	June 30, 2012
PPII Reduction Program Implementation	May 31, 2013
CMOM Implementation	May 31, 2013
Asset Management Plan	December 31, 2021
<u>Remedial Measures</u>	
Semi-Permanent Alternative-Construction	December 31, 2016
SSO Mitigation-Consent Order Compliance	December 31, 2021
<u>Reporting</u>	
Annual Work Plan	January 31, annually
Quarterly Progress Report	Quarterly

## **4.2 MILESTONES**

During the first quarter of 2012, the following milestone dates were met:

- 4.2.1** “Annual Work Plan-2012” was submitted to NYSDEC March 16, 2012. This document was due to NYSDEC “on the last day of the month that shall be the month that is 90 days after the effective date of this Order”, or March 31, 2012.
- 4.2.2** “Flow Monitoring Program Plan” was submitted to NYSDEC March 27, 2012. This document was due to NYSDEC on March 31, 2012.

## **5.0 SEWER REHABILITATION**

Design and construction for initial projects will be financed under CWSRF Project No. C6-6070-08-00. Projects will be tracked by contract number. The following is a status update of the current sewer rehabilitation contracts.

### **5.1 SEWER SYSTEM REHABILITATION DESIGN**

The following sewer rehabilitation design tasks were complete during the first quarter of 2012.

#### **5.1.1 Contract 2 – Sanitary Sewer Manhole Rehabilitation – Phase 2**

Project was submitted for NYSDEC approval in November 2010. This project was advertised for public bid on January 24, 2012, bids were opened February 23, 2012 and a contract was awarded to Green Mountain Pipeline Services on March 20, 2012. Work includes the rehabilitation of approximately 900 sanitary manholes.

#### **5.1.2 Contract 3 – Sanitary Sewer Mainline Rehabilitation – Phase 1**

Project was under final design during the first quarter of 2012. Work includes approximately 13 miles of sewer rehabilitation using cured in place pipe (CIPP) lining.

#### **5.1.3 Contract 4 – Sewer Separation – Clinton/Henderson Street, NY Mills**

Project was under final design during the first quarter of 2012. Work includes the separation of a short section of combined sewer, reconnection of sanitary laterals, and construction of a short section of storm sewer with an outfall to Sauquoit Creek through Pietryka Park.

#### **5.1.4 Contract 5-Sewer Spot Repairs-Phase 1**

Project is currently under design. Work includes storm sewer and sanitary sewer repairs for the purpose of removing inflow (both direct and indirect) sources from the sanitary sewer system as determined from

the results of dye testing (see Section 2.1.3). Repairs are planned for 15 separate locations throughout the SCPS tributary area. A construction schedule has not yet been formalized.

## **5.2 SEWER SYSTEM REHABILITATION CONSTRUCTION**

No construction projects were initiated, continued, or completed during the first quarter of 2012. See Section 5.1, above for the status of various planned construction projects.

## **6.0 ASSESSMENT OF REHABILITATION EFFECTIVENESS**

During the first quarter of 2012, there was no mechanism (flow monitoring) in place to measure the effectiveness of sewer rehabilitation. See Section 3.2, above for a discussion of the status of flow monitoring.

## **7.0 COMPLETED CAPITAL PROJECTS/FACILITY UPGRADES**

During the first quarter of 2012, there were no capital projects or facility upgrades completed.

## 8.0 I/I OFFSET PROJECTS/NEW FLOWS

During the first quarter of 2012, the following additions and subtractions to the I/I Offset Credit Bank were recorded by the County. All amounts are reported in gallons per day (gpd), after the application of the 5:1 offset ratio.

Community	Starting Balance	Credits Added		Credits Used		Ending Balance
Town of New Hartford	62,467		0	1 Cherrywood Circle 204 Valley View Rd Lot 64-2 Higby Hills	320 320 380	61,447
Town of Paris	2,077		0		0	2,077
Town of Whitestown	2,153		0		0	2,153
Village of Clayville	0		0		0	0
Village of New Hartford	17,582		0		0	17,582
Village of New York Mills	364		0		0	364
Village of Oriskany	1,243		0		0	1,243
Village of Whitesboro	16,345		0		0	16,345
Village of Yorkville	316		0		0	316
<b>Totals</b>	<b>102,547</b>		<b>0</b>		<b>1,020</b>	<b>101,527</b>

## **9.0 KEY PERSONNEL CHANGES**

Key personnel changes, as they relate to the SSO Mitigation/Consent Order compliance project, is interpreted to be those staff members, whose addition to or deletion from the project would be viewed by the County to either add resources, or be a detriment to progress. Project staff includes County, satellite community, and consultant team personnel. The following is a summary of changes.

### **9.1 COUNTY STAFF**

During the first quarter of 2012, there are no changes of key personnel to report.

### **9.2 SATELLITE COMMUNITY STAFF**

During the first quarter of 2012, there are no changes of key personnel to report.

### **9.3 CONSULTANT TEAM STAFF**

The consultant team lost a key member with the unexpected death of Robert Armstrong, PE on January 28, 2012. Mr. Armstrong was a Vice President with GHD Consulting Engineers and played a key role in the development of the County's 2010 SSO Mitigation Plan. Additionally, Mr. Armstrong was the Consultant Team's project manager for the Water Pollution Control Plant and Sauquoit Creek Pump Station Evaluations.

Mr. Armstrong's role as GHD's Principal in-charge has been filled by Howard LaFever, PE. John Story, PE had been assisting Mr. Armstrong in his project management activities and has led the engineering effort for the WPCP Evaluation. Mr. Story has assumed the role of project manager for this effort.



## **10.0 ADMINISTRATIVE ITEMS**

### **10.1 WORK AUTHORIZATIONS**

**10.1.1** Work Order 23 – Flow Monitoring Program – this Work Order was approved by Oneida County on March 14, 2012. The purpose of this Work Order is to provide engineering services relative to the development of a flow monitoring program for submission to NYSDEC for its review and comment as required by the Consent Order.

**10.1.2** Work Order C7 – Program Administration (FY-2012) – this Work Order was approved by Oneida County on March 14, 2012. The purpose of this Work Order is to provide program administrative support to the County through December 2012. Services generally include project management, consent order compliance reporting, funding agency coordination, Steering Committee facilitation, and general member community coordination, all in support of compliance with the consent order.

### **10.2 FUNDING APPLICATIONS**

**10.2.1** Phase 5a – Pump Station and Forcemain Upgrades – Design and Permitting (CWSRF No. C6-6070-08-02)

Oneida County, with assistance from its engineering consultants, prepared and submitted an application for CWSRF project financing to the New York State Environmental Facilities Corporation (NYSEFC). The application was submitted to NYSEFC on February 27, 2012. The amount of financing requested is \$3.0 million. The scope of the proposed work is limited to engineering and environmental services for the design and permitting of the proposed upgrades to the Sauquoit Creek Pumping Station and the addition of a second forcemain extending from the pump station to the WPCP. Specifically, the proposed work will include:

- Survey and mapping
- Wetland delineations and reports
- Environmental screenings

- Permitting/regulatory reviews
- Geotechnical services (soil borings and reports)
- Subsurface utility investigations
- Design – pump station modifications
- Design – new forcemain
- Design – interim modifications at the WPCP
- Preparation of a Basis of Design Report
- Preparation of Construction Documents (bid package(s))
- Local legal counsel services
- Bond counsel services
- Fiscal advisory services
- Issuance costs
- Contingencies