# City of Baltimore Sanitary Sewer Overflow Consent Decree 

Civil Action No. JFM-02-1524

Calendar Quarterly Report No. 39<br>For Calendar Quarter ending June 30, 2012

Submitted:
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Submitted To:
United States Environmental Protection Agency
United States Department of Justice
Maryland Department of the Environment

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## A. INTRODUCTION

This Calendar Quarterly Report is submitted pursuant to the requirements of a Consent Decree entered on September 30, 2002 in the United States District Court for the District of Maryland as part of the response to Civil Action No. JFM-02-1524. This Calendar Quarterly Report is intended to provide an update on the progress of remedial measures required by the Consent Decree and the status of various programs to be implemented.

The requirements for the Calendar Quarterly Report are specified in Paragraph 18 of the Consent Decree, which reads as follows:
"Beginning with the first full calendar quarter after the Date of Entry of the Consent Decree, Baltimore shall submit to EPA and MDE within thirty (30) days after the end of each calendar quarter until termination of this Consent Decree a Calendar Quarterly Progress Report ("Calendar Quarterly Report") covering the subject of this Consent Decree. This Calendar Quarterly Report shall contain the following:
i. Progress reports on the implementation of the requirements of Section VII (Remedial Measures) as described in Paragraphs 8 through 15;
ii. A description of any problems anticipated with respect to meeting the requirements of Section VII (Remedial Measures) of this Consent Decree; and
iii. A description of all environmentally beneficial projects and SEP implementation activity in accordance with Paragraphs 29-33 of the Consent Decree; and
iv. Any such additional matters as Baltimore believes should be brought to the attention of EPA and MDE."

It was noted that Paragraph 18 contained a typographical error. The Remedial Measures described in Paragraphs 8 through 15 comprise Section VI of the Consent Decree, and not Section VII. Accordingly, this Calendar Quarterly Report refers to Paragraphs 8 through 17 of the Consent Decree as Section VI.

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## B. PROGRESS OF IMPLEMENTATION OF SECTION VI REQUI REMENTS

For reference purposes, this Section B is organized so that the item numbers correspond directly to Paragraphs and subparagraphs in the Consent Decree.

## Paragraph 8: Elimination of Sanitary Sewer Overflow and Combined Sewer Overflow Discharges

A. General Requirements: During the calendar quarter ending June 30, 2012, the City of Baltimore was in general compliance with the Clean Water Act and Title 9, Subtitle 3 of the Environment Article, Annotated Code of Maryland. Episodes of non-compliance include un-permitted sanitary sewer overflows (SSOs), as reported during the quarter in accordance with Paragraph 17 of the Consent Decree and as summarized in Appendix 5 herein.
B. Construction Projects: Appendix 1 to this Calendar Quarterly Report provides a status update for each of the construction projects listed in Appendix D of the Consent Decree.

## 1. Practical Completion

As design and construction progress, concerns and issues have arisen that may impact the schedule for some of the Paragraph 8 projects, are as follows:

Project No. 8: Stony Run Interceptor and Pumping Station: Due to significant public opposition to the proposed pumping station site in Wyman Park, additional pumping station locations were investigated. A new location at the Department of Public Works Solid Waste Site, near the intersection of Sisson Street and $29^{\text {th }}$ Street had been selected and approved by MDE and EPA. To expedite the project, this project was split into 3 phases:

- SC 819 (Phase 1) is an upper portion of Stony Run interceptor and consists of rehabilitation, and partial replacement of pipelines and manholes located north of Wyndhurst Avenue. Practical completion of this project was complete as of October 14, 2006.
- SC 838 (Phase 2) is the middle portion of Stony Run interceptor and consists of rehabilitation and partial replacement of pipelines located between Cold Spring Lane and Wyndhurst Avenue. Practical completion of this project was complete as of March 21, 2007.
- SC 839 and SC 847 (Phase 3) consist of 20 mgd pumping station, force main and gravity sewer. Due to delay in siting the pump station, the City has requested and MDE has approved a 6-month extension for the project advertisement and completion dates. Both SC 839 and SC 847 were advertised on June 16, 2006. For Contract SC 839, the city received only one bid $65 \%$ above the engineers estimate. The city rejected this bid and had determined that the compressed construction schedule of one year is the primary reason for the unusually high bid amount and lack of competitive bidding. The

City re-advertised Contract SC 839 on October 27, 2006 and, anticipated that based on bids received in December, contract negotiations will begin. The City sent a letter on October 13, 2006 requesting an additional extension of fourteen (14) months to account for the additional time required for construction due to the increased scope of work. For SC 847 the city had awarded this contract to a successful bidder and the current duration was one year, however the full functionality and operation of the pumping station will depend on the progress of SC 839. Therefore, the City has requested to move the practical completion date for SC 839 and SC 847 from December 31, 2007 to February 28, 2009. A response from MDE was received on February 26, 2007, granting the requested extension. The Practical Completion deadline for both of these projects is now February 28, 2009. The extension letter request for the extension of SC 847 to May 31, 2009 was granted by EPA on June 22, 2009 and MDE on April 15, 2010. Practical Completion was achieved on May 29, 2009, for lower portion of project SC 839RR Stony Run Interceptor. Conditional acceptance for SC 839RR was achieved on July 21, 2011.

## 2. SSO Structure Elimination

SSO No. 132 is located at the intersection of Springdale Avenue and Hilton Street. It was proposed to monitor this SSO structure for a twelve-month period ending September 18, 2004. During the calendar quarter ending September 30, 2005, activity was observed at this SSO structure on March 23, and March 28, 2005.

The City of Baltimore eliminated SSO No. 33 \& No. 34 on December 10, 2008 and December 23, respectively. The City of Baltimore eliminated SSO No. 136 on January 21, 2009.

SSO No. 132 is located at intersection of Hilton Street \& Springdale Ave
SSO No. 134 is located near the intersection of Liberty Heights and Elamont Road. SSO No. 135 is located one block away from SSO No. 134, at the intersection of Liberty Heights and Dennlyn Road.
SSO No. 137 is located near the intersection of Shannon Drive and Brehms Lane. SSO No. 138 is located at the intersection of Cold Spring Lane \& Ayrdale Ave. SSO No. 139 is located at the intersection of W Garrison Ave and Queensberry Ave.

The City has engaged the services of an engineering firm to investigate and evaluate the collection system adjacent to SSO Nos. 132, 134 and 135. The design to eliminate these SSOs is complete and the contract was advertised on February 10, 2012.

The City will continue to monitor and evaluate activity at these SSO structures and will continue to keep EPA and MDE advised of progress in future Calendar Quarterly Reports.

Other than the concerns and issues noted here, all Paragraph 8 projects are complete. The milestone dates specified in Appendix D of the Consent Decree have all been met.
C. Separate Sanitary Sewer Characterization Report: This requirement has been completed.
D. Elimination of Combined Sewer Overflows:

Walbrook: This project has been completed.
Forest Park: During the calendar quarter ending June 30, 2006, combined sewer overflow (CSO) No. 13P was eliminated and the City reported that the Combined Sewer System has been separated and all CSO structures have been eliminated in the Forest Park neighborhood.
On October 11, 2006, the City sent a letter to MDE/EPA that included a report dated March 2006 entitled "Confirmatory Testing for Final Separation of Combined Sewer System in Forest Park Area". The letter also documented the elimination dates for the CSO structures associated with this area, including 10P, 11P, 13P, 18P, 19P, 21P, and 31P. Lastly, the City requested that post-construction monitoring be waived for these CSO structures since the eliminations were performed.
MDE responded to this letter on December 11, 2006, and approved the waiving of post monitoring for the CSO structures, with the exception of 13P. For this structure 13P, MDE noted that a site inspection was performed by MDE on October 19, 2006 that revealed the discharge of raw sewage. Therefore, MDE disapproved the waiving of the post-monitoring requirements at this location. On January 16, 2007, the City submitted a letter of response that included additional sampling results indicating that the high bacterial levels are due to stagnant pooling water at the outfall in lieu of a sewage discharge. It is therefore believed by the City that post-monitoring can be waived at overflow structure 13P. EPA requested that the City provide additional clarification regarding CSO 13P. Sampling was carried out on February 8, 2012 and a report and laboratory results were sent to EPA on March 21, 2012.
E. Flow and Rainfall Monitoring for Paragraph 8 Construction Projects:

As of June 30, 2012, 3 flow meters are installed as indicated in Table 8-1 specifically for Paragraph 8 Projects.

Table 8-1: Flow Monitor Installations for Paragraph 8 Projects

| Consent <br> Decree <br> Project <br> ID No. | ADS <br> Project <br> ID No. | Project | No. of Meters |  |  |  |  |  |  |  |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | April | May | J une |  |  |  |  |  |  |
| 7 | 4 | Lower J ones Falls Interceptor | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |  |  |  |  |  |
| 8 | 5 | Stony Run Interceptor \& P.S. | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |  |  |  |  |  |
| 10 | 7 | Greenmount Interceptor | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |  |  |  |  |  |
|  |  |  |  |  |  |  | Total | $\mathbf{3}$ | $\mathbf{3}$ | $\mathbf{3}$ |

A summary of rainfall and flow monitoring data collected during March, April \& May 2012, prepared by ADS Environmental Services is submitted on a compact disk in the inside of the back cover of this Calendar Quarterly Report. The ADS report includes:

- Meter location maps
- Meter site reports
- Rain gauge location maps
- Tabular flow monitoring data
- Tabular rain gauge data
- Depth and velocity scattergraph plots
- Flow and rainfall data in Excel format

All flow meters are ADS Model 4000 flow monitors. Each meter was calibrated by manually measuring depth and velocity to confirm that the flow meters are functioning properly. Multiple measurements were obtained for each flow meter. These measurements are shown on the depth-velocity scattergraphs provided for the flow monitoring sites.

## F. Progress Reports:

Progress of work under Paragraph 8 is as reported herein.

## Paragraph 9: Collection System Evaluation and Sewershed Plans

A. The milestone dates for completion of the Sewershed Study and Plan for each of the City's eight sewersheds, as established by Paragraph 9.B of the Consent Decree, recognize that evaluation work will not begin in earnest until several years after the Date of Entry.

Sewershed Study and Plan: The City submitted Jones Falls, the first of the sewershed plans to MDE/EPA and DOJ on December 26, 2008 with an approach plan for prioritizing the capital improvements recommended by the Jones Falls team and the other sewersheds. MDE/EPA submitted comments on the Jones Falls Report in a letter dated June 4, 2009. The City responded within 30 days. The Herring Run sewershed plan was submitted to MDE/EPA and DOJ on June 26, 2009. The Low Level sewershed plan was submitted to MDE/EPA and DOJ on December 22, 2009. The High Level sewershed plan was submitted to MDE/EPA and DOJ on December 21, 2009. The Patapsco, Dundalk, Outfall and Gwynns Falls sewershed plan were submitted to MDE, EPA and DOJ on June 15, 2010, June 18, 2010, June 25, 2010 and June 28, 2010, respectively. All eight (8) Sewershed Plans/Reports were submitted by the milestone dates established in the Consent Decree.

In the Planning phase the Sewershed teams have completed quality control and the quantities below are provided as final inspection quantities.

- A total of 33,227 manholes were inspected during Paragraph 9 sewershed studies
- A total of $5,994,171$ linear feet of sewers were CCTV inspected during Paragraph 9 sewershed studies (~94\%) .

Any remaining assets will be inspected during Paragraph 9 rehabilitation projects.
B. The Sewershed Study and Plan Elements: The Plan Elements in the Consent Decree are to be followed for each sewershed.
C. Collection System Inspections: Please refer to Section A above for a summary of final inspection quantities.

In accordance with Paragraph 8 and 9 of the Consent Decree, many collection system components have been replaced, rehabilitated, and slip-lined. The City submitted to the EPA/MDE, under Paragraph 9 D (vii), a request for wavier of the Paragraph 9.D inspection requirements for these system components. In a letter dated September 04, 2007, MDE approved the request to waive inspection of selected portions of the collection system.
D. Infiltration and Inflow ("I/I") Evaluation: Flow monitoring began on May 09, 2006. As of J une 30, 2012, the flow monitoring continues at 9 meter locations throughout the City, including a long term monitoring program.
E. Long-Term Capacity/ Peak Flow Management: During the calendar quarter ending June 30, 2012, there was no capacity/flow management analysis activity related to the Sewershed Studies and Plans.
F. Sewershed Study and Plan(s) Approval and Implementation:

## Sewershed Study and Plan(s):

All eight (8) Sewershed Plans/Reports have been submitted by the milestone dates established in the Consent Decree.

## Approval

The plans have been submitted. The City provided a technical workshop on February 26, 2009, addressed comments sent on June 4, 2009 for Jones Falls and met with MDE and EPA on May 3, 2010 to provide further justification on the use of the 2-year 24 hr design storm. In addition to other items such as an affordability analysis, MDE and EPA also requested that the City consider levels of improvement that would minimize SSOs in sensitive areas. Based on EPA's definition of "sensitive areas" received on June 28, 2010, the City evaluated an approach that includes the sewershed studies recommended improvements and accounts for higher levels of controls for minimizing SSOs in identified sensitive areas. The City received a letter from United States Environmental Protection Agency (EPA) dated February 10, 2011, stating that it has reviewed the Final Sewershed Plans for Jones Falls, Herring Run, and High Level. Based on its review has concluded that after the City implements the proposed improvements (2-year 24-hour design storm) a significant number of overflows will remain during greater storm events, including 5 -year and 10 -year 24 -hour storm events. Therefore, EPA cannot approve these sewershed plans as submitted because the recommended improvements fall short from the goal of the CD in ensuring that Baltimore's sewage collection system does not cause or contribute to SSOs.

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EPA's response provides minimal direction on how the City should proceed with revising the plans. Therefore the City met with EPA and MDE on June 02, 2011, to better understand their expectations. During this meeting, the City presented a revised approach utilizing 64 years of historic rainfall data for determining the appropriate level of protection to be utilized as the basis of design for system improvements to reduce the number of SSOs. Based upon this meeting, EPA and MDE requested further clarification of the proposed methodology. The City submitted a white paper outlining the Continuous Simulation Methodology on June 30, 2011.
On July 8, 2011, representatives from EPA, MDE and the City participated in a conference call and the City answered EPA and MDE's questions regarding the white paper and the continuous simulation methodology. The City sent a follow-up letter to EPA and MDE on July 22, 2011 which further addressed EPA and MDE's questions. On August 29, 2011, EPA submitted additional comments and questions to the City and MDE. EPA and the City participated in a second conference call on August 31, 2011 during which the City responded to EPA's questions.

In a letter dated November 22, 2011, EPA requested that the City, simultaneously submit a proposed plan of improvements based on the continuous simulation approach in addition to a revised implementation plan based on a 10-year, 24 hour design storm by the end of 2011. The City submitted the requested information to EPA and MDE on December 30, 2011. The City received comments from EPA on the continuous simulation report on March 6, 2012 and responded in a letter dated March 22, 2012. EPA, MDE and the City met on March 8, 2012 to discuss on-going consent decree activities, the appropriate level of protection and modification to the compliance schedule. The EPA, MDE, and the City all agreed that starting with a baseline 5 year level of protection (LOP) to be augmented with greater protection in some areas is the right approach. It was that a series of technical workshops would be coordinated to develop the criteria to be used in selecting the appropriate LOP. The first of these technical workshops was held on March 26, 2012, with representatives of the City, EPA Region 3 and MDE with other technical workshops to follow. During the workshop, EPA and MDE had some questions on the hybrid approach. The City provided the necessary clarification in a letter dated April 13, 2012.

On May $10^{\text {th }}, \mathbf{2 0 1 2}$, via e-mail, the City received preliminary guidance from EPA Region 3 on behalf of both EPA and MDE on the proposed continuous simulation methodology to address SSOs as follows:
"1. Baltimore will submit a continuous simulation study and plan for each sewershed in its collection system to EPA and MDE by December 2012. Baltimore shall evaluate and propose hydraulic and capacity related improvements necessary to achieve a 5-year and 10-year SSO Level of Protection (LOP).
2. The decision on how to comply with the CD will remain with Baltimore. Based on modeling provided do date, the Agencies will not accept anything less than a 5-year LOP. However, where the calibrated modeling shows that there are remaining overflows, Baltimore will prioritize these overflows based on volume and develop a plan that will achieve a LOP necessary to meet CD requirements. This plan may include up to a 15-year LOP in some areas.

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These areas prioritized by volume will be addressed prior to the post construction monitoring phase."

EPA and MDE have indicated that they would be meeting in the near future to discuss the details associated with any proposed modifications to the consent decree and that a letter would be forthcoming once those details have been agreed to. The City submitted a letter dated, June $8^{\text {th }}, 2012$, to EPA and MDE acknowledging receipt of their e-mail on May 10. Further, the City requested a meeting to discuss the schedule, clarification regarding EPA's intentions, and regular coordination moving forward. To date the City still awaits a response from EPA and MDE.

## Implementation

The sewershed studies and the system-wide hydraulic model clearly demonstrate how the sewage flows generated in the County will impact the recommended improvements within the City. Unfortunately, the timing of the City's and County's Consent Decrees limits the ability to best represent the planned improvements in the County. More importantly, County flows could be significant and could render a number of the recommended hydraulic improvements ineffective in eliminating SSOs. Conversely, we understand that the County is planning to reduce wet-weather flows which could result in over-sized hydraulic improvement projects and excessive costs for our downstream facilities. Since an estimate of the reduction in wet-weather flows from the County is not available at this time, the City cannot model this benefit. Therefore, we believe that implementing hydraulic improvements in the sewersheds that are impacted by County flows would be premature, may not result in the most fiscally responsible approach for the City, and may not achieve the Consent Decree goal of eliminating SSO's.

The Final Sewershed Plans as submitted outlined how the City plans to implement all of the identified structural repairs and hydraulic improvement rehabilitation projects by January 1, 2016. However, the City believes this project scheduling ignores the inherent problem of lack of reliable Baltimore County hydraulic flow data crucial to five (5) of the City's sewersheds. The remaining three (3) sewersheds have no or minimal impacts from County flow. In addition to flow impacts from the County, the February 10, 2011, letter does not provide clear guidance for the City to evaluate all projects previously identified in the final sewershed plans. However, the City recognizes its responsibility to comply with the Clean Water Act and the Consent Decree, thus, the City is in good faith proceeding with some O\&M related projects. These projects include designing other structural defect and hydraulic projects that will improve management of the collection system such as, cleaning and CI PP lining, point repairs, manhole rehabilitation, etc.

The City plans on advancing executable projects that are not impacted by the design storm selection while the City and MDE/ EPA determine how best to address the misaligned Baltimore County Consent Decree data and the appropriate level of protection selection approach for Baltimore City. The City will monitor the collection system and calibrate the model, perform additional hydraulic simulations and assess the impact of County flows on the City's collection system, and
determine the effectiveness of the selected construction projects and the effectiveness of projects implemented by the County. Doing so will allow the City to design and implement hydraulic improvements that more precisely comply with the intent of the Consent Decree, which is the elimination of SSOs. Appendix 2 of this Calendar Quarterly Report provides a status update for each of the construction projects being carried out under Paragraph 9 of the Consent Decree. The City will continue to coordinate with MDE and EPA to address the aforementioned issues and will revise the sewershed planning recommendations accordingly.
G. Progress Reports: Progress of work under Paragraph 9 is as reported herein.

## Paragraph 10: Illegal Sewer Connections

A. Illegal Private Connections: During the calendar quarter ending June 30, 2012, Baltimore further addressed the list of suspected illegal connections to the collection system known to the City. The City had previously initiated enforcement actions for 14 suspected illegal connections by notifying the respective property owners of the suspected illegal connections and actions to be taken, as required by Paragraph 10.A of the Consent Decree. In accordance with the City's enforcement plan, staff of Housing and Community Development (HCD) inspected these 14 properties and determined that two were not illegal connections, ten required dye/smoke testing for confirmation, and two required further evaluation. The City performed dye testing and determined that only 5 are illegal connections. Furthermore, the City has identified and confirmed 33 additional properties within the Western Run Sewershed with potential illegal storm water connections to the sanitary system.

The City has further researched the 38 illegal connections documented in the past Quarterly Reports and has determined that the results of the testing performed to date cannot differentiate between an illegal connection or a privately-owned portion of a customer service connection lateral. Dye testing performed did prove that sources of inflow are connected to the sewer; however, it was not determined whether the connections were via direct connections to the sewer pipe or via the privately owned portion of the lateral. As such, the City should not have positively identified these as illegal connections and requests approval to remove the 38 connections from the list in Appendix 3 until further investigation can be performed. In February 2010, the City completed its illegal connections investigations in the Jones Falls Sewershed, including the 38 potential connections in the Western Run Area previously provided in Appendix 3, plus an additional 25 as identified in the Jones Falls Collection System Sewershed Study and Plan, utilizing dye-testing, smoke testing along with CCTV inspections. Based upon these investigations out of the 63 previously suspected illegal connections, only two illegal connections were confirmed. These locations are, 6309 Greenspring Ave and 4424 Marble Hall Rd.

6309 Greenspring Ave: A letter was sent to the property owner on August 08, 2011 and a follow up letter was sent on January 5, 2012. The second letter was returned unclaimed. Dye testing confirmed the location is abated.

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4424 Marble Hall Road: On August 11, 2008 while performing dye testing as part of their field investigations, the Herring Run Sewershed team identified an illegal sewer connection at 4424 Marble Hall Road. Once an illegal connection is identified, the approved Illegal Connection Enforcement and Implementation Plan will be adhered to. This illegal connection has been found to be located on private property. The City has contacted its Housing Department (HCD) to send the owner a notice to eliminate this illegal connection. Additional dye-testing was carried out in March 2011 to satisfy HCD requirements and a letter was sent to HCD on May 25, 2011, for further action. A Violation Notice was issued in July 2011. A meeting was held on July 28, 2011, with Marble Hall Apartment management to discuss the progress of eliminating the illegal connection. Per the management of the apartment complex, the connection was re-routed in August 2011. Follow up testing was carried out in September which indicated that the fix did not prevent storm water from getting into the sanitary sewers. The City attempted to coordinate with the property owner to fix the problem permanently but the property owner is not responsive. DPW is coordinating with HCD to continue enforcement.

The City plans to perform supplemental investigation as part of the Paragraph 9 Sewershed Studies. Under these studies, each of these connections and any additional connections will be investigated and a distinction will be made between the two types of connections as noted herein.
B. Updated List of Illegal Connections: Appendix 3 contains the updated list of known illegal connections.
C. Illegal Connection Enforcement and Implementation Plan: This requirement has been completed as reported in Quarterly Report No. 7.
D. In a letter dated May 05, 2003, MDE stated that they had reviewed the draft plan for implementation and enforcement with regard to illegal connections and found it to be acceptable. As requested by MDE, the City is considering the merits of adding a provision to the Plan that would enable the City Department of Public Works to actually do disconnections themselves and bill people for the materials and labor as a last resort if they have a situation where flows may cause a SSO and there is no cooperation from the property owner. To date, the need for this has not occurred. EPA in its letter dated J anuary 12, 2005 has approved the Illegal Sewer Connection Detection and Enforcement Plan.
E. Progress of work under Paragraph 10 is as reported herein.
F. Privately-Owned Portion of a Customer Service Connection Lateral: During the calendar quarter ending June 30, 2012, no privately-owned portion of a customer service connection was identified as a source of I/I that causes or contributes to an overflow from the collection system. During this same quarter, no owners of such laterals were notified of the need to repair, rehabilitate, replace or terminate their laterals, and no enforcement actions in regard to such laterals were pending.

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A. Pumping Station Rehabilitation and Repair: As reported in Quarterly report No. 8, all pumping station rehabilitation projects are complete.
B. Pumping Station Inspection Procedures: During the calendar quarter ending June 30, 2012, Baltimore inspected each of the eight pumping stations at least twice daily in accordance with Paragraph 11.B. All inspections were conducted in accordance with the inspection checklist attached as Appendix F to the Consent Decree, and completed inspection checklists are being maintained. All deficiencies noted during inspections were corrected within eight hours, or a work order was issued for correction. A listing of these work orders is attached as Appendix 4 to this Calendar Quarterly Report.

As reported in Quarterly Report No. 8, the project to upgrade the SCADA system for remote monitoring of pumping stations is completed. As such, the City of Baltimore recognizes that once daily pumping station inspections will satisfy the requirements of the Consent Decree in accordance with Paragraph 11.B.i.
C. Pumping Station Remote Monitoring: As of June 30, 2012, Baltimore continuously monitored pumping station data in accordance with Paragraph 11.C. of the Consent Decree. Alarm data was electronically archived.
D. Pumping Station Equipment Inventory: As of June 30, 2012, all pumps, motors, bar screens, sensors and other critical components of Baltimore's pumping stations had been assigned unique equipment identification numbers. These numbers are recorded in the maintenance information management system ("MIMS") operated by Baltimore's Wastewater Facilities Division.
E. Pumping Station Preventative Maintenance: The MIMS system operated by Baltimore's Wastewater Facilities Division automatically generates work orders for preventive maintenance at Baltimore's eight pumping stations, including standard operating procedures and parts lists. During the calendar quarter ending June 30, 2012, the MIMS system was used to initiate and track scheduled preventive maintenance activities at the pumping stations.

During the calendar quarter ending December 31, 2002, a procedure for determining the cause of equipment and/or system failures was submitted as required by Paragraph 11.E.ii of the Consent Decree.
F. Pumping Station Operation and Maintenance Manuals: As of June 30, 2012, operations and maintenance ("O\&M") manuals for each of Baltimore's eight pumping stations were up to date, reflecting current station configuration, equipment, and characteristics. Operating parameter value ranges for each pumping station are available in the standard operating procedures ("SOPs") for that pumping station, which are posted at the pumping station and considered part of the O\&M manual. Pump run times are kept in the log books at each pumping station.
G. Progress Reports: Table 11-1 Summarizes the status of Baltimore's pumping station inspection and repair program during the calendar quarter ending June 30, 2012.

Table 11-1: Pumping Station I nspection and Repair Program

| Pumping Station | Date of Inspection Completion | Date of Repair Completion | Repairs or I mprovements | No. of Overflows |
| :---: | :---: | :---: | :---: | :---: |
| Eastern Avenue | All Pumping Stations inspected twice per day throughout reporting period | See Appendix 4 | See Appendix 4 | None |
| Brooklyn |  |  |  | None |
| Dundalk |  |  |  | None |
| Jones Falls |  |  |  | None |
| Locust Point |  |  |  | None |
| Quad Avenue |  |  |  | None |
| McComas |  |  |  | None |
| Westport |  |  |  | None |

Progress toward installation of the new SCADA system for remote monitoring of pumping stations is reported in item 11.C above

## Paragraph 12: Collection and Transmission System Model

A. The hydraulic modeling task for each sewershed will be performed utilizing the previously-selected hydraulic modeling software package: InfoWorks, marketed by Wallingford Software.
B. Model Elements: The InfoWorks hydraulic modeling package is fully compliant with the requirements listed in Paragraph 12.B.i of the Consent Decree.
C. Model Project Approach Report: This draft Report was submitted by the February 27, 2003 milestone date ( 150 days from the Date of Entry of the Consent Decree).
D. EPA in its letter dated January 12, 2005 has approved the Model Project Approach Report. Baltimore has initiated implementation of the Model Project Approach Report. The first phase of model implementation, involving the migration of the four models developed as part of previous sewershed studies into an InfoWorks environment, is underway.
E. Model Certification: Baltimore will complete implementation of the Model for each sewershed on or before submission of the respective Sewershed Study and Plan required under Paragraph 9, and will certify the model for each sewershed at that time.

## F. Progress Report: The City continued development and enhancement of the model during this Quarterly period.

## Paragraph 13: Collection System Operation and Maintenance

A. During the calendar quarter ending June 30, 2012, Baltimore continued to review current practices and procedures for collection system operation and maintenance, and to identify any changes that are needed for full compliance with the requirements of Paragraph 13.A. of the Consent Decree.
B. The draft Operations and Maintenance Program Report required under Paragraph 13.B. of the Consent Decree was submitted in accordance with the milestone date of January 28, 2003 (120 days from the Date of Entry of the Consent Decree). MDE has indicated approval of this draft Report; EPA has also approved this report in its letter dated J anuary 12, 2005.
C. The City of Baltimore has implemented root and grease control programs after approval of chemical products that will be used as part of the cleaning for root and grease problem areas. Those pipes that are found to have root and grease problems are being treated under these programs and recorded/tracked in the GIS system.
D. Progress Reports: The implementation period of the Operations and Maintenance Plan was completed in July 2006. The City submitted the Year 1 Annual Report on October 30, 2007, which covered the time period from July 2006 to July 2007. This report includes all elements as specified in this section of the Consent Decree. The Year 2 Annual Report was submitted on October 30, 2008 and it covers the time period from July 2008 to June 2009. The Year 3 Annual Report was submitted to EPA/MDE and DOJ on October 27, 2009. The City of Baltimore submitted the fourth annual progress report, on October 28, 2010. The fifth annual progress report was submitted to EPA/MDE on October 21, 2011.

## Paragraph 14: Information Management System Program

A. During the calendar quarter ending June 30, 2012, Baltimore continued to develop an information management system that will facilitate engineering analysis, evaluation, operation and maintenance of the collection system.
B. Geographic Information System: On September 24, 2004, Baltimore demonstrated to EPA and MDE that the GIS is fully functioning and capable of displaying the information described in Paragraph 14.B.i through iv.
C. 500 Scale Maps: This requirement has been completed as reported in Quarterly Report No. 7.
D. Global Positioning System: Water and Wastewater Maintenance crews are equipped with eight global positioning system ("GPS") units for use in collection system maintenance. A standard operating procedure (SOP) has been developed for the use of these units in locating collection system components. Maintenance crews have received appropriate training to use the GPS units.
E. Inventory of Collection System Components: On September 24, 2004, Baltimore demonstrated to EPA and MDE that the GIS is fully functioning and capable of displaying the information described in Paragraph 14.E for each component.
F. Update Inventory of Collection System Components: Within ninety (90) days of completion of inspection or rehabilitation of a collection system component as required under Paragraph 9, Baltimore will update the collection system inventory.
G. Progress Reports: Development of the Baltimore collection system inventory database continued throughout the calendar quarter ending June 30, 2012. Most of the information currently in the database has been taken from record documents (for example, "as-built" drawings). This information will be verified and supplemented with field inspection data/ information, and all required database fields are being populated, as part of the Sewershed Studies required under Paragraph 9 of the Consent Decree. Progress toward implementation of the GIS is reported in Item 14.B. above.

## Paragraph 15: Valve I nspection and Repair Program

A. All requirements of Paragraph 15 have been completed as summarized in Quarterly Report No. 7.
B. Progress Reports: All requirements of Paragraph 15 have been completed as noted in Appendix H of Consent Decree.

## Paragraph 16: Emergency Response Plan - Un-permitted Discharges

A. Emergency Response Plan (ERP): Baltimore has developed and implemented an Emergency Response Plan for protection of public health and the environment in the event of an un-permitted discharge from the wastewater collection system.
B. This requirement has been completed as reported in Quarterly Report No. 7.
C. The EPA and MDE reviewed the draft Emergency Response Plan, and review comments were forwarded to Baltimore in a letter from EPA Region 3 received by Baltimore on July 23, 2002. The City of Baltimore revised the draft Emergency Response Plan accordingly by responding to the review comments within the 30-day requirement established by Paragraph 16.C. of the Consent Decree. MDE and EPA granted approval of the Plan in separate letters received by Baltimore on May 5, 2003, and May 14, 2003, respectively. As of the June 13, 2003 milestone date for implementation of the Plan ( 30 days from final approval), 70 copies of the Plan had been produced and distributed to appropriate staff.
D. Yearly Review and Update: During the Calendar Quarter ending September 30, 2007, the City submitted the Yearly Update for 2007. The 2008 update was submitted on December 26, 2008. The City of Baltimore submitted updates to the ERP for 2009 on

December 28, 2009. The 2010 annual updates to the ERP were submitted to the Regulators on December 28, 2010. The 2011 annual updates to the ERP were submitted to the Regulators on December 23, 2011
E. No portion of the Emergency Response Plan is in dispute at this time, and Baltimore has implemented the Plan in its entirety.

## Paragraph 17: Reporting of Discharge Events and Recordkeeping

A. During the calendar quarter ending June 30,2012 , Baltimore has complied with the reporting requirements for overflows from the wastewater collection system as established by Paragraph 17 of the Consent Decree, by NPDES Permit Numbers 21555 and 21601, by State Discharge Permit Numbers 89-DP-0581 and 93-DP-0580A, and by State and Federal regulations. Oral notifications of overflows were made to MDE within 24 hours that Baltimore first became aware of them, and written reports were forwarded within 5 days. A summary of reported overflows for the calendar quarter ending June 30, 2012 is provided in Appendix 5.
B. During the calendar quarter ending June 30, 2012, Baltimore maintained a monitoring, sampling, analysis and reporting program to monitor water quality in Baltimore surface water. This program is administered by the Water Quality Management Section of the Environmental Services Division in accordance with the requirements of the NPDES referenced in item 17.A. above. Monitoring results are published annually in Baltimore's Water Quality Report.
C. Records of all sanitary sewer overflows from Baltimore's collection system during the calendar quarter ending June 30, 2012, are being maintained in accordance with the requirements of Paragraph 17.C.
D. Copies of all written reports prepared pursuant to Paragraph 17 will be maintained for a minimum of 5 years, as required by Paragraph 17.D.

## C. DESCRIPTION OF ANTI CI PATED PROBLEMS WITH SECTION VI REQUIREMENTS

Issues and concerns related to Paragraph 8 construction projects are reported above in the Paragraph 8 section of this Calendar Quarterly Report. As of June 30, 2012, there were no other anticipated problems with Section VI requirements to report.

## D. DESCRIPTION OF SEP ACTIVITIES

The study and 30\% design for the Patapsco Wastewater Treatment Plant Enhanced Nutrient Removal (ENR) project was completed and submitted to Maryland Department
of the Environment (MDE) and US EPA Region III (EPA) in September 2004. The MDE letter approving the 30\% design for the Patapsco Wastewater Treatment Plant was on December 01, 2004. The EPA letter approving the $30 \%$ design was on received May 24, 2005.

The consultant agreement for the design of the Patapsco Wastewater Treatment Plant ENR project was approved by the City's Board of Estimates on December 21, 2005. As of the calendar quarter ending June 30, 2012, SC 845 - BAF and tertiary PS bids were rejected and the project was re-advertised in December 2011 and bids were received on February 15, 2012. The contract has been awarded to the lowest bidder. SC 852 - Denitrification filters project was advertised on March 27, 2009 and the bids were rejected. This project was re-advertised on October 13, 2009 and the successful bidder was awarded the Notice to Proceed (NTP) on December 29, 2009. This project is currently in the construction phase.

In addition, the City has selected the consultant for engineering services for SC 855 ENR Modifications to the Existing Facilities at the Patapsco Wastewater Treatment Plant. As of the calendar quarter ending June 30, 2012, this contract was advertised on April 30, 2010, and bids were due on June 30, 2010. The construction notice-to-proceed (NTP) was issued on February 22, 2011. This project is currently in the construction phase.

## E. ADDITIONAL MATTERS FOR THE ATTENTION OF THE EPA AND MDE

As of the calendar quarter ending June 30, 2012 the City of Baltimore has updated the Sanitary Discharges of Unknown Origin (SDUO) tracking sheet to the Quarterly Report per the requirements of the policy letter by EPA and MDE dated March 31, 2009. The details of these sites are located in the SDUO tracking sheets in Appendix 5.

The City provided a response to MDE/EPA and requested additional time to research and develop possible methods of quantifying SDUOs in a letter dated April 30, 2009. The City submitted the SDUO Quantification Protocol to MDE and EPA for review, comments and approval on August 06, 2009. EPA/MDE issued a SDUO Quantification Protocol comment letter on December 21, 2009. The City of Baltimore issued a response letter to EPA/MDE on February 16, 2010. EPA/MDE approved the quantification protocol on October 12, 2010, and requested that the City apply the protocol to all resolved and outstanding SDUO sites since October 30, 2008, and to all future SDUOs. The City submitted a final approved copy of the SDUO Quantification Protocol to MDE/EPA on November 18, 2010 and sent in the application of the SDUO Protocol on December 28, 2010.

## APPENDIX 1

## STATUS OF PARAGRAPH 8 CONSTRUCTI ON PROJ ECTS

| PROJ. ID No. | PROJECT | DESCRIPTION AND REMARKS | DATE CONSTRUCTION CONTRACT ADVERTISED | DATE OF PRACTICAL COMPLETION | DATE SSO STRUCTURES ELIMINATED | SSOICSO STRUCTURES ELIMINATED | STATUS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| UPPER JONES FALLS SEWERSHED |  |  |  |  |  |  |  |
| 1 | Western Run Interceptor (JPI Branch) Sanitary Contract Nos. 760 \& 789 | 1. Install approximately 880 linear feet of 30 -inch parallel relief sewer from JPIB49 to JPI10 (along JP190AJP194) (SC760) <br> 2. Install approximately 9,400 linear feet of 21 - to 24 -inch parallel relief sewer from JPI20 to JPI65 (SC789) <br> 3. Rehabilitate approximately 3,300 linear feet of existing 18 -inch sewer from JP107 to JPI20 (SC789) | June 30, 2002 | June 30, 2004 | June 30, 2005 | Eliminates SSO nos. 21, 22, 23, 24 and 29 | Complete |
| 2 | Upper Jones Falls Interceptor (North \& South of Pepsi Cola Plant) Sanitary Contract Nos. 772 \& 824 | 1. Rehabilitation of approximately 1,800 linear feet of existing 42 - to 48 -inch sewer located between JP01 (Mt. Washington Flume) and JP10, and approximately 6,570 linear feet of 48 - to 60 -inch sewer located between JP42 and the JP70. Replacement of approximately 1,900 linear feet of 48" sewer between JP10 and JP18, and approximately 1,550 linear feet of 60 " sewer between JP70 and the Jones Falls Pumping Station (SC 772). 2. Replacement of approximately 7,080 linear feet of 48 -inch sewer between JP18 and JP42 (SC 824). 3. Manhole and stream bank restoration. | June 30, 2004 | December 27, 2006 | 12/30/2008 ** | Eliminates SSO Nos. 33 and 34 | SC 772-Practical Completion was achieve on June 30, 2006. <br> SC 824 - Construction Phase** Letter sent to MDE and EPA on 6-25-07 requesting an extension of the SSO elimination date to December 2008. MDE response letter approving extension was received on September 5, 2007. Eliminated SSO Nos 33 and 34 on $12 / 10$ and $12 / 23 / 08$, respectively. |
| 3 | New Jones Falls Force Main/Pressure Sewer - Lower Section and Valves improvements of existing force/pressure sewer Sanitary Contract Nos. SC779 \& SC805 | 1. Replacement of approximately 1600 linear feet of force main/pressure sewer in Broadway from Oliver to East Chase Street connecting to High Level sewer (SC 779) <br> 2. Improvements to gate valves, blow-off valves and air release valves for existing force main/pressure sewer (SC 805) | December 30, 2002 | June 30, 2004 | 6/30/2005 - SEE STATUS | Contributes to elimination of SSO No. 5 | SSO No. 5 cannot be eliminated until projects 4 and 5 are completed. |
| 4 | Jones Falls Pumping Station Force Main/Pressure Sewer Sanitary Contract No. 800 | Upgrade existing force mains/pressure sewer to handle increased flows from rehabilitated/upgraded Jones Falls Pumping Station as well as additional flows from possible future pumping stations in Stony Run and along the JGA branch | June 30, 2005 | 12/2912007** | May 2,2008 | Contributes to elimination of SSO No. 5 | Construction Phase** Letter sent to MDE and EPA on 6 11-07 requesting additional 90 day practical completion approving additional extension received September 5, 2007. Letter sent to MDE and EPA on 12/17/07 requesting additional 60 day extension for pratical completion. Practical completion occured on 1/23/08. Extension request approval granted by MDE in a letter dated April 15, 2010. Awaiting response from EPA. |
| 5 | Jones Falls Pumping Station Sanitary Contract No. 822 | Upgrade existing pumping station to handle at least 50 mgd | December 30, 2005 | 12/29/2007** | June 30, 2008 | Eliminates SSO No. 5 | Construction Phase** Letter sent to MDE and EPA on 6 11-07 requesting additional 90 day practical completion extension to December 2007. MDE response letter approving additional extension received September 5 , 2007. Benificial Occupancy achieved 11/16/07. |
| 6 | Elimination of Collection System Overflows in Upper Jones Falls Sewershed <br> Sanitary Contract No. 876 | Assess hydraulics and design improvements to areas adjacent to overfiows | Existing on-call contract | June 30, 2003 | June 30, 2004 | Eliminates SSO Nos. 20, 31, 32 and 36 | Complete |


| PROJ. ID No. | PROJECT | DESCRIPTION AND REMARKS |  | DATE OF PRACTICAL COMPLETION | DATE SSO STRUCTURES ELIMINATED | SSOICSO STRUCTURES ELIMINATED | Status |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LOWER JONES FALLS SEWERSHED |  |  |  |  |  |  |  |
| 7 | Lower Jones Falls Interceptor (Upper Portion of Gravity Mainline) Sanitary Contract Nos. 773 \& 818 | 1. Install approximately 7,900 linear feet of 18 - to 24 -inch parallel relief sewer from JG030 (near Jones Falls Pumping Station) to JG061 (at the connection of the JGE branch) (SC818) <br> 2. Rehabilitation of approximately 16,500 linear feet of existing sewer ranging from 12 - to 50 -inch (SC773) <br> 3. Inverted siphon rehabilitation in Falls Road (manhole JG062) (SC773) <br> 4. Stream bank restoration along Union Avenue near Meadow Mills at Woodberry | July 31, 2003 | June 30, 2006 | 2/28110*******) | Eliminates SSO No. 67 | Post Construction Monitoring Phase. Monitoring period is extended at one site. |
| 8 | Stony Run Interceptor and Pumping Station (JGF Branch)** <br> Sanitary Contract No. 819, 838, 839 \& 847 | 1. Construct a 20 mgd capacity pumping station near Department of Public Works Solid Waste Site near the intersection of 29th Street and Sisson Street. <br> 2. Install approximately 1,200 linear feet of 24 -inch force main from new pumping station to JFPS pressure sewer [length depends on location of pumping station] <br> 3. Parallel approximately 10,800 linear feet of existing sewer from south of Coldspring Lane (JGF48) to the new pumping station with 18 to 36 -inch sewer | December 30, 2005 (SC-819 \& 838) (SC-839 \& 847) | 5/31/2009*** | 2/28/10*** | Contributes to elimination of SSO No. 72; eliminates SSO No. 129 |  |
| 9 | Maryland Avenue Interceptor (JGB <br> Branch) <br> Sanitary Contract No. 799 | 1. Replace (upsize) approximately 4,400 linear feet of existing 12 - to 24 -inch sewer with new 21 - to 36 -inch sewer along branch interceptor, excluding proposed 901 N . Howard project area 2. Improvements to siphon/SSO No. 125 under I-83 (JGB18-JGB19) <br> 3. Sewer replacement may require crossing the CLRL | December 30, 2003 | July 14, 2005 * | June 30, 2006 | Eliminates SSO Nos. 69 \& 125 | Complete |
| 10 | Greenmount Avenue Interceptor (JGA Branch)* <br> Sanitary Contract No. 820, 833 | 1. Install approximately 7,325 linear feet of 36 to 42 -inch parallel relief sewer from Bonaparte Avenue to the High level Interceptor on Eager Street. <br> 2. Line approximately 6,000 linear feet of 15 - to 33 -inch existing sewer. | December 30, 2005 | 12/27/107** | 2/28/10*******) | Contributes to elimination of SSO No. 72 | Construction Phase. SC 833-Extension letter was sent on 12-7-07 for a 90 day extension through March 29, 2008. This extension was approved and a subsequent extension for 90 days, through June 27, 2008 was submitted. Awaiting response from MDEIEPA. Practical completion acheived on May 27, 2008. Monitoring period began July 25, 2008. |
| 11 | Elimination of Siphon Blowoff (Siphon No. 6 - south of North Avenue Bridge, west of RR tracks) Sanitary Contract No. 830 | 1. Cleaning and inspection of siphon with repairs as necessary. 2. Elimination of blow-off | On-call contract | June 30, 2004 | June 30, 2005 | Eliminates SSO No. 68 | Complete |
| * Approved by MDEIEPA. ** Approved by MDE, ***Approved by EPA |  |  |  |  |  |  |  |
| HERRING RUN SEWERSHED |  |  |  |  |  |  |  |
| 12 | Moores Run Interceptor - Middle Section <br> Storm Water Contract Nos. 7746 and 7751 | Construction of approximately 400 linear feet of 18 -inch, approximately 600 linear feet of 21 -inch, approximately 4900 linear feet 24 -inch, approximately 1000 linear feet of 27 -inch, and approximately 100 linear feet of 30 -inch sewer to replace existing interceptor | June 30, 2003 | July 14, and Sept 2, 2005** | June 30, 2006 | Contributes to elimination of SSO Nos. 118 and 119 | Complete |
| 13 | Moores Run Interceptor - Lower Section <br> Sanitary Contract No. 801 and 843 | Construction of approximately 6900 linear feet of 42 -inch, approximately 2700 linear feet of 36 -inch siphon, and approximately 3700 linear feet of 54 -inch sewer to replace the existing interceptor | June 30, 2005 | June 30, 2007 | June 30, 2008 | Eliminates SSO No. 93 and 94 | Construction Phase - Complete |
| 14 | Moores Run Interceptor - Upper Section <br> Sanitary Contract No. 817 | Construction of approximately 1700 linear feet of 18 -inch and approximately 2200 linear feet of 21 -inch sewer to replace the existing interceptor | June 30, 2004 | June 30, 2005 | June 30, 2006 | Contributes to elimination of SSO Nos. 118 and 119 | Complete |
| 15 | Elimination of Collection System Overflows in Herring Run Sewershed | Assess hydraulics and design improvements to areas adjacent to overilows | Existing on-call contract | June 30, 2003 | June 30, 2004 | Eliminates SSO Nos. 88 and 109 | Complete |
| 16 | Elimination of Siphon Blowoffs (Siphon No. 2 - Bay View Yard south of RR tracks; Siphon No. 4 - Bowleys Lane/Moravia Road) Sanitary Contract No. 830 | 1. Cleaning and inspection of siphons with repairs as necessary. 2. Elimination of blow-offs. | On-call contract | June 30, 2004 | June 30, 2005 | Eliminates SSO Nos. 92 | Complete* |


| PROJ. ID No. | PROJECT | DESCRIPTION AND REMARKS | $\qquad$ | DATE OF PRACTICAL COMPLETION | DATE SSO STRUCTURES ELIMINATED | SSOICSO STRUCTURES ELIMINATED | STATUS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GWYNNS FALLS SEWERSHED |  |  |  |  |  |  |  |
| 17 | Powder Mill System Improvements including GFG branch in Gwynns Falls Sewershed <br> Sanitary Contract Nos. 777 \& 804 | Rehabilitation of approximately 12,000 linear feet of 12 - to 24 -inch conveyance piping (SC777) and approximately 33,000 linear feet of 8 - to 10 -inch collection piping (SC804) | June 30, 2003 | June 30, 2006 | June 30, 2007 | Eliminates SSO Nos. 28P, 29P and 33P | Complete |
| 18 | Dead Run System Improvements DRA Branch <br> Sanitary Contract No. 788, 825 | Clean, inspect and rehabilitate of approximately 20,000 linear feet of 12 - to 24 -inch conveyance piping (COE) and approximately 11,000 linear feet of 8 - to 12 -inch collection piping (SC788). | June 30, 2003 | June 30, 2006 | June 30, 2007 | Eliminates SSO Nos. 16P and 17P | Complete |
| 19 | Maidens Choice Interceptor Sanitary Contract No. 826 | Clean, inspect, and rehabilitate 12,400 linear feet of 12 - to 24-inch conveyance piping. | On-call contract | June 30, 2007 | June 30, 2008 | Eliminates SSO Nos. 23P and 24P | Construction Phase - Complete |
| 20 | Elimination of Siphon Blowoffs (Siphon No. 11 - Annapolis Road and Clare Street; Siphon No. 12 - Chesholm Rd. west of Franklintown Rd.) SC No. 827 | 1. Cleaning and inspection of siphons with repairs as necessary. 2. Elimination of blow-offs. | On-call contract | June 30, 2004 | June 30, 2005 | Eliminates SSO Nos. 84 and 22P | Complete* |
| COMBINED SEWER AREAS |  |  |  |  |  |  |  |
| 21 | Walbrook <br> Sanitary Contract No. 780 | Implementation of Long Term Control Plan and combined sewer separation design in Walbrook area |  | June 30, 2002 | June 30, 2003 | Eliminates CSO No. 21P | Complete |
| 22 | Forest Park Sanitary Contract Nos. 780 and 813 | Implementation of Long Term Control Plan and combined sewer separation design in Forest Park area | December 30, 2003 | June 30, 2005 | June 30, 2006 | Eliminates CSO No. 13P and SSO Nos. 10P, 11P, 12P, 18P, 19P, 25P, 26P, 27P and 31P SSO Nos. 10P, 18P, 19P \& 31P are eliminated. | Complete |
|  | HIGH LEVEL SEWERSHED |  |  |  |  |  |  |
| 23 | Gwynns Run Interceptor Sanitary Contract No. 812 | Improvements to the Gwynns Run Interceptor | December 30, 2004 | February 25, 2007 | 12/27/2007** | Eliminates SSO Nos. 106,107 and 130 | Complete |
| 24 | Gwynns Run System Improvements Sanitary Contract No. 807 | Assess hydraulics and design improvements to areas adjacent to overflows | June 30, 2003 | June 30, 2006 | June 30, 2007 | Eliminates SSO Nos. 55, 56, 57, 60, 63, 103, <br> 126, 127, 128 and 131 | Complete |
| 25 | Elimination of Siphon Blowoffs (Siphon Nos. 9 and 10 - east of Dukeland Street, south of Wilkens Avenue) SC No. 827 | 1. Cleaning and inspection of siphons with repairs as necessary. 2. Elimination of blow-offs. | On-call contract | June 30, 2004 | June 30, 2005 | Eliminates SSO Nos. 79 and 81 | Complete* |
| LOW LEVEL SEWERSHED |  |  |  |  |  |  |  |
| 26 | Elimination of Siphon Blowoff (Siphon No. 8 - rear of 800 Unetta Avenue) Sanitary Contract No. 827 | 1. Cleaning and inspection of siphon with repairs as necessary. 2. Elimination of blow-off. | On-call contract | June 30, 2004 | June 30, 2005 | Eliminates SSO No. 32P | Complete |
| * Approved by MDEIEPA. ** Approved by MDE, ***Approved by EPA |  |  |  |  |  |  |  |

## APPENDIX 2

## STATUS OF PARAGRAPH 9 CONSTRUCTI ON PROJ ECTS

STATUS OF PARAGRAPH 9 construction PROJECTS
As of June 30,2012

| Proj. No. | PROJECT | DESCRIPTION AND REMARKS | DATE CONSTRUCTION CONTRACT ADVERTISED | DATE OF CONSTRUCTION COMPLETION | DATE OF EVALUATION COMPLETION | STATUS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JONES FALLS SEWERSHED |  |  |  |  |  |  |
| JF-3 | Lower Jones Falls Sewer Cleaning | SC 876 - The work includes the Lower Jones Falls Interceptor, located in the gravity sewage collection system. Typical work includes initial SONAR assessment of the sanitary sewers to quantify sediment and debris levels, cleaning 8,400 feet of $10^{\prime \prime}$ to 75 " sanitary sewers between Falls Rd Siphon to the High Level Interceptor, with proper disposal of removed material, and post cleaning CCTV/SONAR/Laser assessment to document the internal condition of the pipes. | 5/20/2009 (A) | 1/1/2012 (P) | 1/1/2013 (P) | This contract was awarded to Video Pipe Services (VPS) on October 21, 2009. The Cleaning of the Lower Jones Falls and Maryland Ave. Siphon Cleaning were combined into one Project (SC 876). |
| JF-5 | Maryland Avenue Sewer Siphon Cleaning | SC 876 - The work includes Maryland Avenue Siphon, and sewers upstream of the Maryland Avenue Siphon (18 and 24-inch sewer siphon). Typical work includes initial SONAR assessment of the sanitary sewers to quantify sediment and debris levels, cleaning of Maryland Avenue Siphon, and various sewers upstream of the Maryland Avenue Siphon, with proper disposal of removed material, and post cleaning CCTV/SONAR/Laser assessment to document the internal condition of the pipes. | 5/20/2009 (A) | 1/1/2013 (P) | 1/1/2014 (P) | This contract was awarded to Video Pipe Services (VPS) on October 21, 2009. The Cleaning of the Lower Jones Falls and Maryland Ave. Siphon Cleaning were combined into one Project (SC 876). |
| JF-7 | Upper Jones Falls Interceptor Reactivation | Reactivation of an inactive 42-inch diameter interceptor sewer along Jones Falls from Northern Parkway (MH S19CC_2045MH) to Cold Spring Lane (MH S19OO_1042MH). Prior to reactivation of the 42-inch sewer, an internal inspection of the sewer was necessary to find the actual condition of the line. The City utilized its technical support consultant ( KCI ) to carry out the inspection process. The field work was started in September 2009 and their findings were completed and a final report was delivered on June 30, 2010. | 07/15/2009 (A) | 08/08/2010 (A) | N/A | Per Consultant's (KCI) evaluation of the inspection and cleaning work, the line is in fairly good condition and can be re-activated without any major repair/rehabilitation work. This project is complete and the City will utilize this line in the future as deemed necessary a Construction project will not be pursued. All Future work for this pipe will be tracked independently by the City. Conditional Acceptance was on 11/17/10, and Final Acceptance was on 09/22/11. |
| JF-8 | SC 895 - MD Ave Sewer Rehab | Repair and rehabilitation of sanitary sewer and manholes in the Maryland Ave sub-sewershed of the Jones Falls Sewershed. | 11/04/11 (A) | 04/30/13 (P) | 10/30/14 (P) | Bids were opened on 12/14/11 and AM Liner was the lowest bidder. Contract was awarded to AM Liner on 03/21/2012. Preconstrcution meeting was held on May 17, 2012. |
| OUTFALL SEWERSHED |  |  |  |  |  |  |
| OF-6 | Sediment Cleaning Trunk Sewers in City of Baltimore. | SC 894 - Cleaning of Outfall Sewershed 99-Inch and Outfall Interceptor (From N. Bond Street to 6300 Block of E . Lombard Street) | 08/05/11 (A) | 08/10/2012 (P) | 02/10/2014 (P) | This contract was awarded to Metra Industries, who was the lowest bidder, on June 08, 2011. Notice-to-Proceed was issued on August 08, 2011. Cleaning of the outfall stopped as of June 25, 2012. |
| HIGH LEVEL SEWERSHED |  |  |  |  |  |  |
| HL-8 | Liberty Heights Relief Sewer | SC 879 - Design and construction 18" Relief Sewer from intersection of Springdale Rd and N Hilton St to intersection of Wabash Ave and Liberty Heights Ave. (S09UU_007MH to S13UU_008MH). Work includes excavation and removal of existing 12 inch sewer line, installation of 2400 LF of new 18 -inch sewer line and relocation of 720 LF of 20 -inch water line. Evaluation phase will include continual monitoring of existing engineered SSOs 132, 134 and 135 to ensure no overflows during a two year event. | 2/10/2012 (A) | 12/15/2013 (P) | 6/15/2015 (P) | The contract was advertised on February 10, 2012. Bids were due by March 21, 2012, but date was extended to April 4, 2012. |

Key: "SS - XX" = Sewershed Name - CD Project No.

## APPENDIX 3

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## APPENDIX 4

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## APPENDIX 5

## SUMMARY OF REPORTED OVERFLOWS

City of Baltimore
Activity at Sanitary Sewer Overflow Structures For Calendar Quarter Ending June 30, 2012

| $\underline{\text { Date }}$ | SSO No. 67 |  |
| :---: | :---: | :---: |
| $\underline{\text { Darcharge Depth (in)** }}$ | $\underline{\text { Rainfall (in) }}$ |  |
|  | Sone Reported this Quarter |  |
| $\underline{\text { Surcharge Depth (in)** }}$ | $\underline{\text { Rainfall (in) }}$ |  |
| $02 / 29 / 2012$ | Flow Meter in Place | 1.41 |
| $03 / 01 / 2012$ | Flow Meter in Place | 0.02 |
| $04 / 22 / 2012$ | Flow Meter in Place | 1.36 |

SSO No. 132

| Date | Surcharge Depth (in)** | Rainfall (in) |
| :--- | :--- | :--- |
|  | None Reported this Quarter |  |
|  |  |  |

SSO No. 135

| $\underline{\text { Date }}$ | $\underline{\text { Surcharge Depth }(\mathrm{in})^{* *}} \quad \underline{\text { Rainfall (in) }}$ |  |
| :---: | :---: | :---: |
|  |  |  |
|  | None Reported this Quarter |  |

None Reported this Quarter

City of Baltimore
Activity at Sanitary Sewer Overflow Structures
For Calendar Quarter Ending June 30, 2012

SSO No. 137

| Date | Surcharge Depth (in)** | Rainfall (in) |
| :---: | :---: | :---: |
|  | None Reported this Quarter |  |
|  | SSO No. 138 |  |
| Date | Surcharge Depth (in)** | Rainfall (in) |
|  | None Reported this Quarter |  |
|  | SSO No. 139 |  |
| Date | Surcharge Depth (in)** | Rainfall (in) |
|  | None Reported this Quarter |  |

City of Baltimore
Activity at Sanitary Sewer Overflow Structures For Calendar Quarter Ending June 30, 2012

Pumping Station Overflows
$\underline{\text { Pumping Station }}$ Date $\quad \underline{\text { Volume Loss (gal) }} \quad \underline{\text { Rainfall (in) }}$
None Reported this Quarter
$\qquad$

Waste Water Treatment Plant Overflows

WWTP Date Volume Loss (gal) Rainfall (in)

None Reported this Quarter

## City of Baltimore

Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending June 30, 2012

| Date | Estimated Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4/1/2012 | Evidence of Overflow | Rags \& Roots | 0.09 | None | 3747 Nortonia Rd | 21216 |
| 4/2/2012 | 2,150 | Rags, Roots, Debris | 0.07 | Gwynns Falls | Fredrick Ave \& Stonecroft Rd | 21229 |
| 4/3/2012 | Evidence of Overflow | Rags | 0.00 | None | 2808 Montebello Ter | 21214 |
| 4/3/2012 | Evidence of Overflow | Rags | 0.00 | None | 4002 Kathland Ave | 21207 |
| 4/3/2012 | Evidence of Overflow | Debris | 0.00 | Jones Falls | 1152 E. North Ave | 21218 |
| 4/4/2012 | Evidence of Overflow | Rags, Trash, Sand, Gravel, Rocks | 0.00 | Patapsco | 6513 Detroit Ave | 21222 |
| 4/5/2012 | Evidence of Overflow | Pipe Break | 0.00 | None | 1411 John St | 21217 |
| 4/6/2012 | Evidence of Overflow | Rags \& Debris | 0.00 | None | 2600 Wilkens Ave | 21223 |
| 4/7/2012 | 872 | Grease \& Debris | 0.00 | Gwynns Falls | 106 S. Calverton Rd | 21223 |
| 4/8/2012 | 405 | Rags, Grease, Debris | 0.00 | Herring Run | Ednor Rd \& Greystone Rd | 21218 |
| 4/8/2012 | Evidence of Overflow | Rags \& Roots | 0.00 | None | 410 E. 31st St | 21218 |
| 4/9/2012 | Evidence of Overflow | Roots | 0.00 | None | 4200 Falls Rd | 21211 |
| 4/9/2012 | 203 | Rags \& Pipe Break | 0.00 | Jones Falls | 2535 Brookfield Ave | 21217 |
| 4/9/2012 | Evidence of Overflow | Roots | 0.00 | None | 601 N. Carrollton Ave | 21217 |
| 4/9/2012 | 5,040 | Roots | 0.00 | Herring Run | 3509 E. North Ave | 21213 |
| 4/9/2012 | Evidence of Overflow | Rags | 0.00 | None | 427 S. Gilmor St | 21223 |
| 4/10/2012 | Evidence of Overflow | Rags \& Debris | 0.00 | Herring Run | 2016 E. 31st St | 21218 |
| 4/11/2012 | 78 | Rags \& Roots | 0.01 | None | 112 Scott St | 21201 |
| 4/11/2012 | Evidence of Overflow | N/A | 0.01 | Baltimore Harbor | 415 N. Glover St | 21224 |
| 4/11/2012 | 840 | Sand, Gravel, Roots | 0.01 | Gwynns Falls | 2760 Wilkens Ave | 21223 |
| 4/12/2012 | Evidence of Overflow | Rags \& Grease | 0.00 | Northwest Harbor | 201 N. Highland Ave | 21224 |
| 4/12/2012 | 320 | Grease \& Trash | 0.00 | Jones Falls | 428 E. Preston St | 21202 |
| 4/12/2012 | Evidence of Overflow | Rags, Roots \& Trash | 0.00 | None | 3018 Overland Ave | 21214 |
| 4/12/2012 | Evidence of Overflow | Rags \& Grease | 0.00 | None | 6701 Quad Ave | 21237 |
| 4/13/2012 | Evidence of Overflow | Rags \& Roots | 0.00 | None | 623 Lucia Ave | 21229 |
| 4/13/2012 | 2,780 | Rags, Roots \& Grease | 0.00 | Jones Falls | 2401 W. Belvedere Ave | 21215 |
| 4/13/2012 | Evidence of Overflow | Rags | 0.00 | None | 2702 Grindon Ave | 21214 |
| 4/13/2012 | 3,408 | Rags \& Grease | 0.00 | Low Level | 6501 E. Lombard St | 21224 |
| 4/14/2012 | Evidence of Overflow | Rags \& Grease | 0.00 | Herring Run | 2723 Overland Ave | 21214 |
| 4/14/2012 | 61 | Rags \& Roots | 0.00 | Gwynns Falls | 4200 Mondawmin Ave | 21216 |
| 4/16/2012 | Evidence of Overflow | Rags | 0.00 | None | 2905 Benson Ave | 21223 |
| 4/17/2012 | Evidence of Overflow | N/A | 0.00 | None | 133 S. Loudon Ave | 21229 |
| 4/17/2012 | Evidence of Overflow | Rags | 0.00 | Herring Run | 4101 The Alameda | 21218 |
| 4/17/2012 | Evidence of Overflow | Rocks \& Mud | 0.00 | None | Ednor Rd \& Greystone Rd | 21218 |
| 4/18/2012 | 800 | Roots \& Grease | 0.20 | Herring Run | 6465 Frankford Ave | 21206 |
| 4/18/2012 | 2,256 | Rags \& Grease | 0.20 | Herring Run | Ednor Rd \& Greystone Rd | 21218 |
| 4/20/2012 | Evidence of Overflow | Roots | 0.00 | Herring Run | 1517 Winford Rd | 21239 |
| 4/20/2012 | 955 | Rags \& Grease | 0.00 | Jones Falls | 1650 Union Ave | 21211 |
| 4/20/2012 | Evidence of Overflow | Rags, Grease, Debris | 0.00 | None | 3537 Old York Rd | 21218 |
| 4/22/2012 | 225 | Rags \& Grease | 1.39 | Patapsco | 1100 Slater Rd | 21225 |

## City of Baltimore

Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending June 30, 2012

| Date | Estimated Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4/23/2012 | Evidence of Overflow | Rags | 0.03 | None | 3220 Sun St | 21226 |
| 4/23/2012 | 190 | Rags \& Debris | 0.03 | Herring Run | 5082 Orville Ave | 21205 |
| 4/24/2012 | Evidence of Overflow | Rags | 0.00 | Gwynns Falls | 208 S Augusta Ave | 21229 |
| 4/24/2012 | Evidence of Overflow | Rags | 0.00 | None | 502 S Belnord Ave | 21224 |
| 4/24/2012 | 950 | Debris | 0.00 | Herring Run | 5600 Purlington Way | 21212 |
| 4/25/2012 | Evidence of Overflow | Rags \& Grease | 0.00 | Inner Harbor | 201 E Pratt St | 21230 |
| 4/26/2012 | Evidence of Overflow | Unknown | 0.25 | None | 3018 Overland Ave | 21214 |
| 4/27/2012 | Evidence of Overflow | Rags \& Grease | 0.00 | None | 725 Highwood Drive | 21212 |
| 4/27/2012 | Evidence of Overflow | Debris | 0.00 | None | 4705 Kernwood Ave | 21212 |
| 4/29/2012 | 425 | Rags \& Grease | 0.02 | None | 724 Wharton Ct | 21205 |
| 4/29/2012 | 2,600 | Rags, Roots \& Sand, Gravel, Rocks | 0.02 | Herring Run | Belair Rd \& Parkside Dr | 21206 |
| 4/30/2012 | Evidence of Overflow | Rags \& Debris | 0.00 | None | 1621 N Smallwood St | 21216 |
| 4/30/2012 | Evidence of Overflow | Rags | 0.00 | Herring Run | 1838 E 29th St | 21218 |
| 4/30/2012 | Evidence of Overflow | Rags | 0.00 | None | 2254 Linden Ave | 21217 |
| 4/30/2012 | 60 | Rags \& Debris | 0.00 | Jones Falls | 4002 Wabash Ave | 21215 |
| 4/30/2012 | Evidence of Overflow | N/A | 0.00 | None | 5082 Orville Ave | 21205 |
|  |  |  |  |  |  |  |


| Date | Estimated Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5/1/2012 | Evidence of Overflow | Rags | 0.01 | None | 621 S. Glover St. | 21224 |
| 5/1/2012 | 144 | Grease, Sand, Gravel, Rocks | 0.01 | Patapsco | 2310 Cedley St | 21230 |
| 5/1/2012 | Evidence of Overflow | Uknown | 0.01 | None | 3900 Groveland Ave | 21214 |
| 5/2/2012 | Evidence of Overflow | Rags, Trash \& Grease | 0.06 | None | 611 E. 34th St | 21218 |
| 5/3/2012 | Evidence of Overflow | Trash,Grease | 0.24 | None | 408 E. Oliver St. | 21202 |
| 5/3/2012 | 2,385 | Rags, Rocks | 0.24 | Jones Falls | 2200 Clyburn Ave | 21209 |
| 5/3/2012 | Evidence of Overflow | Rags | 0.24 | Jones Falls | 3908 Groveland Ave | 21215 |
| 5/3/2012 | Evidence of Overflow | Roots | 0.24 | None | 4213 Ridgewood Ave | 21215 |
| 5/3/2012 |  | Rags \& Debris | 0.24 | Herring Run | 5801 Arizona Ave | 21206 |
| 5/6/2012 | Evidence of Overflow | Uknown | 0.01 | None | 607 Turnbridge Rd | 21212 |
| 5/6/2012 | 955 | Sand, Gravel, Rocks | 0.01 | Jones Falls | 4906 Wimslow Rd | 21210 |
| 5/6/2012 | Evidence of Overflow | Rags | 0.01 | None | 5617 Plymouth Rd | 21214 |
| 5/7/2012 | Evidence of Overflow | Rocks | 0.00 | None | 502 Evesham Ave | 21212 |
| 5/7/2012 | Evidence of Overflow | Rags | 0.00 | None | 1313 North Ave | 21213 |
| 5/8/2012 | Evidence of Overflow | Rags | 0.13 | None | 824 N. Payston St | 21217 |
| 5/9/2012 | Evidence of Overflow | Rags \& Grease | 0.66 | None | 2202 E. Fairmount Ave | 21231 |
| 5/9/2012 | Evidence of Overflow | Rags | 0.66 | None | 3921 Maine Ave | 21207 |
| 5/11/2012 | Evidence of Overflow | Unknown | 0.01 | None | 4701 East Ln | 21210 |
| 5/11/2012 | 675 | Trash \& Roots | 0.01 | Herring Run | 4923 St. Georges Ave | 21212 |
| 5/13/2012 | 240 | Rags \& Grease | 0.00 | Inner Harbor | 1000 N. Gilmor St. | 21217 |
| 5/13/2012 | Evidence of Overflow | Unknown | 0.00 | None | 1043 W. Barre St | 21230 |
| 5/13/2012 | 1,100 | Rags, Grease \& Trash | 0.00 | Gwynns Falls | 2218 Hill House Rd | 21207 |
| 5/13/2012 | 450 | Rags, Grease \& Trash | 0.00 | Gwynns Falls | 5100 Wetheredsville Rd | 21207 |
| 5/14/2012 | Evidence of Overflow | Rags \&Roots | 0.28 | None | 1618 McCulloh St. | 21217 |
| 5/14/2012 | Evidence of Overflow | Mud | 0.28 | None | 1751 E Pratt St | 21231 |
| 5/16/2012 | Evidence of Overflow | Rags | 0.00 | None | 123 S. Curly St | 21224 |
| 5/16/2012 | Evidence of Overflow | Rags \& Roots | 0.00 | None | 1220 bayard St | 21230 |
| 5/16/2012 | 280 | Debris \& Grease | 0.00 | Herring Run | 2003 E. 32nd St | 21218 |
| 5/16/2012 | 242 | Rags, Roots \& Grease | 0.00 | Herring Run | 2100 Louise Ave | 21214 |
| 5/16/2012 | Evidence of Overflow | Rags \& Roots | 0.00 | None | 2509 Shelleydale Dr | 21209 |
| 5/16/2012 | Evidence of Overflow | Rags \& Roots | 0.00 | None | 2536 Washington Blvd | 21230 |
| 5/17/2012 | Evidence of Overflow | Rags | 0.00 | Jones Falls | 4701 East Ln | 21210 |
| 5/18/2012 | Evidence of Overflow | Rags | 0.00 | Patapsco | 2257 Sidney Ave | 21230 |
| 5/18/2012 | 5,550 | Rags \& Grease | 0.00 | Herring Run | 2765 Chesterfield Ave | 21213 |


| Date | Estimated Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5/19/2012 | Evidence of Overflow | Unknown | 0.00 | None | 324 S. Augusta Ave | 21229 |
| 5/20/2012 | 720 | Unknown | 0.02 | None | 325 E. Belvedere Ave | 21212 |
| 5/20/2012 | Evidence of Overflow | Rags | 0.02 | None | 2562 Marbourne Ave | 21230 |
| 5/21/2012 | Evidence of Overflow | Rags | 0.62 | None | 1653 Northwick Ct | 21218 |
| 5/22/2012 | Evidence of Overflow | Rags | 0.00 | None | 3024 Iona Terrace | 21214 |
| 5/22/2012 | Evidence of Overflow | Pipe Break | 0.00 | None | 4018 8th Street | 21225 |
| 5/23/2012 | Evidence of Overflow | Rags, Trash \& Grease | 0.00 | None | 425 N. Glover St. | 21224 |
| 5/23/2012 | 780 | Rags, Grease \& Debris | 0.00 | Jones Falls | 834 Chauncey Ave | 21217 |
| 5/23/2012 | Evidence of Overflow | N/A | 0.00 | None | 5510 Fernpark Ave | 21207 |
| 5/24/2012 | Evidence of Overflow | N/A | 0.00 | None | 5612 Park Heights Ave | 21215 |
| 5/25/2012 | Evidence of Overflow | Roots | 0.00 | Herring Run | 3327 Elmley Ave | 21213 |
| 5/26/2012 | Evidence of Overflow | Mud | 0.00 | None | 416 E. Oliver St | 21202 |
| 5/26/2012 | Evidence of Overflow | N/A | 0.00 | None | 2730 N. Longwood St | 21216 |
| 5/26/2012 | 204 | Rags, Roots \& Grease | 0.00 | Jones Falls | Club Rd \& Indian Ln | 21210 |
| 5/26/2012 | 186 | Rags, Pipe Break \& Roots | 0.00 | Gwynns Falls | 702 Bethnal Rd | 21229 |
| 5/26/2012 | 201 | Rags \& Grease | 0.00 | Patapsco | 730 E. Patapsco Ave | 21225 |
| 5/26/2012 | Evidence of Overflow | N/A | 0.00 | None | 1646 Lochwood Rd | 21218 |
| 5/26/2012 | Evidence of Overflow | Rags, Roots \& Grease | 0.00 | Gwynns Falls | 3518 Manchester Ave | 21215 |
| 5/27/2012 | Evidence of Overflow | N/A | 0.05 | Herring Run | 2705 Shirey Ave | 21214 |
| 5/28/2012 | 100 | Rags \& Grease | 0.00 | Herring Run | 2705 Shirey Ave | 21214 |
| 5/28/2012 | 1,600 | Rags \& Debris | 0.00 | Jones Falls | 2464 Lakeview Ave | 21217 |
| 5/28/2012 | Evidence of Overflow | N/A | 0.00 | Jones Falls | Guilford Ave \& E. 26th St | 21218 |
| 5/29/2012 | 80 | Rags \& Grease | 0.56 | Jones Falls | 2464 Lakeview Ave | 21217 |
| 5/29/2012 | Evidence of Overflow | Unknown | 0.56 | None | 1524 N. Mount St | 21217 |
| 5/29/2012 | 4,500 | Rags, Grease \& Trash | 0.56 | Jones Falls | 26th St \& Guilford Ave | 21218 |
| 5/30/2012 | Evidence of Overflow | Rags | 0.02 | None | 5501 Fernpark Ave | 21207 |
| 5/30/2012 | Evidence of Overflow | Rags | 0.02 | Herring Run | 5101 Harford Rd | 21214 |
| 5/31/2012 | Evidence of Overflow | Rags \& Grease | 0.02 | None | 3523 Oakmont Ave | 21215 |
| 5/31/2012 | Evidence of Overflow | Rags | 0.02 | None | 445 Kenneth Sq | 21212 |
|  |  |  |  |  |  |  |

## City of Baltimore

Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending June 30, 2012

| Date | Estimated Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6/1/2012 | Evidence of Overflow | Old Style Trap | N/A | None | 2557 McHenry St | 21223 |
| 6/2/2012 | 80 | Rags \& Trash | N/A | Gwynns Falls | 3315 Oakfield Ave | 21207 |
| 6/2/2012 | Evidence of Overflow | Rags, Roots \& Grease | N/A | None | 4002 Kathland Ave | 21216 |
| 6/4/2012 | Evidence of Overflow | Rags \& Grease | N/A | None | 5704 Adleigh Ave | 21206 |
| 6/6/2012 | Evidence of Overflow | Rags \& Grease | N/A | None | 2453 Barley St | 21218 |
| 6/6/2012 | Evidence of Overflow | Rags \& Roots | N/A | None | 1147 Monroe Cir | 21225 |
| 6/8/2012 | Evidence of Overflow | Rags \& Grease | N/A | None | 2801 St. Lo Dr. | 21213 |
| 6/8/2012 | Evidence of Overflow | Rags | N/A | None | 5263 Cordelia Ave | 21215 |
| 6/9/2012 | Evidence of Overflow | Rags | N/A | None | 5101 Harford Rd | 21214 |
| 6/10/2012 | 310 | Rags \& Roots | N/A | Jones Falls | 5900 Greenspring Ave | 21209 |
| 6/10/2012 | Evidence of Overflow | N/A | N/A | None | 517 N. Carrollton Ave | 21223 |
| 6/11/2012 | Evidence of Overflow | Debris | N/A | Gwynns Falls | 700 Milyer Ln | 21229 |
| 6/11/2012 | Evidence of Overflow | Rags \& Roots | N/A | None | 5612 Park Heights Ave | 21215 |
| 6/12/2012 | 2,550 | Rags \& Trash | N/A | Herring Run | 4811 Frankford Ave | 21206 |
| 6/13/2012 | Evidence of Overflow | Rags | N/A | None | 2807 Overland Ave | 21214 |
| 6/13/2012 | Evidence of Overflow | Mud | N/A | Gwynns Falls | 4713 Frederick Ave | 21229 |
| 6/14/2012 | 1,300 | Rags | N/A | Jones Falls | Falls Rd \& W. Northern Pkwy | 21210 |
| 6/15/2012 | Evidence of Overflow | Roots | N/A | None | 4707 Falls Rd | 21209 |
| 6/16/2012 | Evidence of Overflow | N/A | N/A | None | 402 Key Highway | 21230 |
| 6/16/2012 | 408 | Rags \& Roots | N/A | Gwynns Falls | 938 Wilmington Ave | 21223 |
| 6/17/2012 | 2,868 | Rags \& Roots | N/A | High Level | 1933 W. Fayette St | 21223 |
| 6/17/2012 | 528 | Grease \& Debris | N/A | Low Level | 28 N. Decker Ave | 21224 |
| 6/17/2012 | Evidence of Overflow | Grease | N/A | None | 708 Harvey St | 21230 |
| 6/19/2012 | 60 | Rags \& Grease | N/A | None | 6300 Boston St | 21224 |
| 6/19/2012 | Evidence of Overflow | Roots \& Debris | N/A | None | 2216 Deerfern Crescent | 21209 |
| 6/20/2012 | Evidence of Overflow | Grease | N/A | None | 2803 Elgin Ave | 21216 |
| 6/21/2012 | Evidence of Overflow | Rags | N/A | None | 2859 Woodbrook Ave | 21209 |
| 6/21/2012 | 840 | Rags, Roots \& Grease | N/A | Gwynns Falls | 4511 Wakefield Rd | 21216 |
| 6/22/2012 | Evidence of Overflow | N/A | N/A | None | 4507 Wakefield Rd | 21216 |
| 6/23/2012 | Evidence of Overflow | Grease | N/A | None | 906 Ashburton St | 21216 |
| 6/23/2012 | 240 | Grease \& Trash | N/A | Northwest Passage | 411 N. Bouldin St | 21224 |
| 6/23/2012 | Evidence of Overflow | Pipe Break | N/A | Herring Run | 2807 Overland Ave | 21214 |
| 6/24/2012 | Evidence of Overflow | Grease | N/A | None | 502 Albemarle St | 21202 |
| 6/24/2012 | Evidence of Overflow | Rags, Roots \& Trash | N/A | Herring Run | 1108 E. Coldspring Ln | 21239 |
| 6/25/2012 | Evidence of Overflow | Rags | N/A | None | 2536 McHenry St | 21223 |
| 6/25/2012 | Evidence of Overflow | Rags | N/A | None | 1424 W. Mount Royal Ave | 21217 |
| 6/26/2012 | Evidence of Overflow | N/A | N/A | None | 1150 N. Carrollton Ave | 21217 |
| 6/26/2012 | 240 | Rags | N/A | Jones Falls | 2231 Rogene Dr | 21209 |
| 6/27/2012 | Evidence of Overflow | Rags \& Grease | N/A | None | 29 N. Kresson St | 21224 |
| 6/27/2012 | Evidence of Overflow | Rags | N/A | None | 1234 S. Carey St | 21230 |
| 6/28/2012 | Evidence of Overflow | Rags \& Grease | N/A | None | 2803 Elgin Ave | 21216 |

Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending June 30, 2012

| Date | Estimated <br> Volume (Gal) | Cause | Rain | Receiving Waters | Location | Zip |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $6 / 28 / 2012$ | Evidence of <br> Overflow | N/A | N/A | None | 950 Bennett PI | 21223 |
| $6 / 29 / 2012$ | Evidence of <br> Overflow | N/A | N/A | None | 2803 Elgin Ave | 21216 |
|  |  |  |  |  |  |  |

Updated through June 30, 2012

| Serial No. | Date of Occurrence | Location | Zip Code | Stream Affected | Date of Resolution (See Note 6 Below) | Duration (Days) | Est. Quantity of Discharge (gallons) 6/30/2012 | Resolve <br> Measures Taken to Identify Source or Resolve | Future/Planned Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Priority \#1 | 1/3/2002 | Stony Run/University Parkway Hopkins House | 21218 | Jones Falls | Not Resolved | On-going | 29,104 (T) | Property Manager reported that work was completed on March 28, 2012. City cleaned remaining grease from line. | City will perform confirmatory testing. |
| 1 | 11/30/2007 | Mannasota \& Shannon | 21213 | Herring Run | Not Resolved | On-going | 5,500,713 (T) | City had on-call contractor cap the underdrain to resolve the SDUO, but the sewage was hydraulically forced into the storm drain pipe. Cap was removed. Investigation ongoing. Field work was perfromed to expose underdrain at two locations | Further investigation with dye testing and ammonia testing is required. Investigation scheduled for next quarter |
| 2 | 4/11/2007 | 6225 York Rd behind Walker Mews Apartment Building | 21212 | Herring Run | Not Resolved | On-gooing | 1,560718 (T) | Dye and ammonia testing and CCTV inspections performed prior to CIPP lining. CIPP lined sewer, but testing indicated no resolution. After further testing, additional CIPP Lining was recommended/installed. Manhole required to complete CIPP lining has been located in field. | CCTV of suspect line is scheduled. |
| 14 | 9/18/2007 | JHU Campus | 21218 | Jones Falls | Not Resolved | On-going | 1,960,902 (T) | City letter sent to JHU on $3 / 30 / 11$ requiring that repairs be made. JHU completed significant repair effort. Subsequent retesting by the City determined that the repairs to date have been unsuccessful. | City is closely tracking progress in resolving this issue. |
| 20 | 75/2006 | w. 24th \& Morton St. | 21218 | Jones Falls | Not Resolved | On-going | 1,928,160 (A) | It was confirmed that the private properties contributing to the problem were 2417 and 2433 Maryland. Ave 9/19/11, HCD reported that 2417 and 2433 Maryland Ave. have been corrected by a private plumber. Testing of 2433 confirmed that they had resolved their problem. | Perform additional confirmatory testing on 2417, 2431 and 2429. |
| 24 | 911/2004 | Collins Ave (end of the 500 block | 21229 | Gwynns Falls | Not Resolved | On-going | 964,080 (T) | Smoke testing was performed on 8/24/11. The on-call consultant is currenty coordinating with property owners to continue turther investigations. The property owner at 421 S . Augusta Ave. remain uncooperative and a violation notice was sent by HCDIHABC. One of the property owners re-routed the improperty connected house connection. Based on re-testing by sWMD at the manhole on Potter stt, the SDUO has still not been abated. Dye test of 4113 showed that it properly connected to the sever. HCD is processing a violation. | Continue to coordinate and track progress by HCD. |

Updated through June 30, 2012

| Serial No. | Date of Occurrence | Location | Zip Code | Stream Affected | Date of Resolution (See Note 6 Below) | Duration (Days) | Est. Quantity of Discharge (gallons) 6/30/2012 | Measures Taken to Identify Source or Resolve | Future/Planned Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32 | 5/19/2009 | 4016-4018 Rogers Ave. - Rogers Post Apartments | 21207 | Gwynns Falls | Not Resolved | On-going | 571,001 (T) | Series of dye and ammonia testing performed and CCTV inspections. Problem identified to be a private property issue. Coordinated with Baltimore City Housing Department to address this issue. Owner hired a plumber to clean the lines. Confirmatory testing by the City in March indicates the issues has not been resolved | City to work with property owner to resolve. |
| 33 | 6/25/2009 | Cross Country Blvd \& Crest Rd. | 21209 | Jones Falls | Not Resolved | On-going | 4,393,358 (T) | Confirmatory testing has shown that this SDUO is not resolved. Final section of pipe repaired. | City will perform confirmatory testing. |
| 34 | 7117/2009 | Pall Mall Rd \& Oswego Ave | 21215 | Jones Falls | Not Resolved | On-going | 543,816 (T) | Property with illicit connection to storm drain has been identified. Notified HCD/HABC of a violation, and notice was issued 01/10/11. | Continue coordination with HCD continues , to check when this connection will be re-routed by the owner. Once complete, follow up testing will be carried out. |
| 37 | 11/6/2009 | Lakewood Ave \& Madison St Storm Drain) | 21205 | Inner Harbor | Not Resolved | On-going | 2,191,330 (T) | Each pipe was previously plugged and areas around plugs grouted in May 2011. Based on testing by SWMD, it appeared that the plugs and grouting worked initially and this location was determined to be resolved. SWMD retested on 7/26/2011 and found that grouting has not abated the problem and that sewage is now seeping into the drain through its bricklining. | City evaluating options. |
| 38 | 11/6/2009 | 3302 Esther Place (inside 54"storm drain) | 21212 | Inner Harbor | Not Resolved | On-going | 1,889,280 (T) | For north side, letter to be sent to HCD/HABC. HCD issues a violation notice on 01/10/11. For south side, pipe has been plugged. SWMD checked on the plug on 12/15/10, and it continues to hold. | Follow up with HCD to check when this connection will be re-routed by the owner. Once complete, follow up testing will be carried out. |
| 40 | 5/26/2010 | Cross Country \& Chillham Rd (300 ft northeast of intersection in am uncharted 15 Storm Drain) | 21209 | Western Run | Not Resolved | On-going | 31,218 (T) | Verified as SDUO site by ammonia field test and dye test completed on May 26, 2010 | UES is addressing this site as part of the overall Consent Decree CIP. |
| 41 | 5/26/2010 | 6214 Pimlico Rd (in Manhole) | 21209 | Western Run | Not Resolved | On-going | 242,280 OT) | HCD/HABC reports that remedial measures are completed by property owner. Request made to SWHD to retest. Retest results show that problem is Piping re-routed | This |
| 42 | 6/3/2010 | Cross Country \& Key Ave (Storm Drain MH with sewage in botom) | 21215 | Western run | Not Resolved | On-going | 109,152 (T) | Verified as SDUO site by ammonia field test and dye test completed on June 3, 2010. Dye testing and CCTV inspection revealed CIPP Lining is recommended. | UES is addressing this site as part of the overall Consent Decree CIP. This section of sewer will be CIPP lined as recommended in the Jones Falls Sewershed Plan |

Updated through June 30, 2012

| Serial No. | Date of Occurrence | Location | Zip Code | Stream Affected | Date of Resolution (See Note 6 Below) | Duration (Days) | Est. Quantity of Discharge (gallons) 6/30/2012 | Measures Taken to Identify Source or Resolve | Future/Planned Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 45 | 6/23/2010 | 5015 Greenleaf Rd. | 21210 | Stoney Run to Jones Falls | Not Resolved | On-going | 106,272 (T) | After investigation and construction of new manhole, UES recommends to CIPP line the sewer downstream of the newly constructed manhole. | Upon completion of lining, site will be retested to confirm success of the repair. |
| 46 | 6/3/2010 | Pulaski Hwy \& 62nd Street (Downstream Side of Culvert) | 21237 | Moores Run to Herring Run | Not Resolved | On-going | 588,974 (T) | Investigation ongoing. Dye tests have found two properties on Manor Place with illicit connections. As these properties are in County, GF has contacted County DPW staff. Dye testing confirms that 1231 is positive to drain. City contractor rerouted piping. | This site is abated. |
| 48 | 8/4/2010 | 3412-3418 Glenmore Ave | 21214 | Moores Run to Herring <br> Run | Not Resolved | On-going | 350,784 (T) | On 6/30/2011, the on-call contractor replaced two sanitary house connections on Gilmoure Avenue. On 9/20/2011, test results received from SWMD indicate that the Theodore Ave drain is a target. On-call contractor installed a new MH on the uncharted pipe entering the Theodore Ave. CCTV performed in April 2012. | Investigation ongoing. |
| 51 | 9/9/2010 | Barre St. near Sterrett | 21203 | Inner Harbor | Not Resolved | On-going | 17,073 (A) | Investigation ongoing. UES in the process of notifying HCD to process a Violation Notice. | Continue to coordinate and track progress by HCD. |
| 52 | 11/17/2010 | 39th \& University Pkwy | 21218 | Jones Falls | Not Resolved | On-going | 385,377 (T) | Investigation ongoing. Line CCTVed in Nov. 2011, but debris and roots block pipe. Coordinated with contractor to install new MH to facilitate further CCTV. Additional cleaning performed. | Continue investigation. |
| 53 | 5/12/2011 | Dale Rd. at Crest Rd. | 21209 | Jones Falls | Not Resolved | On-going | 59,760 (T) | Inlet was unearthed on 7/19/11 and unidentified pipe was discovered. Attempt on 11/17/11 to CCTV was unsuccessful. Identified house connection for dye testing. Dye testing confirmed house connection is connected to drain. | Property owner notified and waiting for response. |

Updated through June 30, 2012

| Serial No. | Date of Occurrence | Location | Zip Code | Stream Affected | Date of Resolution (See Note 6 Below) | Duration (Days) | Est. Quantity of Discharge (gallons) 6/30/2012 | Measures Taken to Identify Source or Resolve | Future/Planned Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 54 | 6/21/2011 | Cylburn Ave at N . Parkway | 21210 | Jones Falls | Not Resolved | On-going | 540,000 (T) | Sewage is infiltrating the storm entering storm drain at Cylburn Ave. On 7/26/2011, on-call consultant recommended the sewer line be CIPP lined. | On Call Contractor to perform CIPP lining. Retest upon completion of lining to confirm success. |
| 55 | 8/9/2011 | Mannasota Ave. at Parkside Drive | 21206 | Herring Run | Not Resolved | On-going | 12,046 (T) | Sewage seeping into storm drain through brick mortar. CCTV and dye testing performed. Results inconclusive to date. Requested CIPP lining 2/16/12. | Retest upon completion of lining to confirm success. |
| 56 | 8/23/2011 | Clifton Road between Fairfax and Westchester Roads | 21216 | Gwynns Falls | Not Resolved | On-going | 296,694 (T) | During field investigation of a 24 " drain, an unidentified pipe ( 18 " drain) was found to be carrying flow. A new manhole was constructed on 9/28/2011 to provide access to the 18 " drain. The on-call contractor attempted to clean and CCTV from the manhole to the 18 " drain but discovered that the pipe was full of debris, roots and broken. New MH installed. | CCTV investigation scheduled. |
| 57 | 8/31/2011 | Seabury \& Hillview | 21225 | Patapsco | Not Resolved | On-going | 156,933 (T) | CIPP Lining recommended and executed. | Review of post-lining CCTV to confirm and plan the next steps. |
| 58 | 11/17/2011 | Belmord, North of Ashland Ave. | 21205 | Inner Harbor | Not Resolved | On-going | 116,667 ( ${ }^{\text {( ) }}$ | Site has been visited multiple times. Consistently has no flow. | Site has been abated |
| 59 | 11/22/2011 | Fairmount and Bradford | 21224 | Inner Harbor | Not Resolved | On-going | 39,065 (A) | Performed dye test, excavated drain and performed CCTV. | New MH to be built to facillitate investigation. |
| 60 | 11/22/2011 | Milton \& Chase | 21213 | Inner Harbor | Not Resolved | On-going | 79,560 ( T $^{\text {( }}$ | Lining recommended 1/19/12. | Upon completion of lining, City will perform confirmatory testing. |
| 61 | 11/30/2011 | Hilton St. Near Piedmont | 21216 | Gwynns Falls | Not Resolved | On-going | 97,224 ( T ) | New MH installed and CCTVed the line. | UES to perform testing at the new manhole |
| 62 | 1/27/2012 | JHU - Remsen Hall | 21218 | Johns Falls | Not Resolved | On-going | 51,857 (A) | Met with representatives of Johns Hopkins University to discuss issue. | JHU is investigating and will proceed with repairs. |
| 63 | 12/2/2011 | Pinkney \& Winner | 21215 | Johns Falls | Not Resolved | On-going | 32,964 (T) | CIPP Lining recommended. | Continue investigation and develop recommendations. |
| 64 | 2/8/2012 | Kresson St | 21224 | Baltimore Harbor | Not Resolved | On-going | 10,296 ( ${ }^{\text {( })}$ | Under investigation | Continue investigation and develop recommendations. |
| 65 | 3/8/2012 | Bentalou \& Penrose | 21223 | Gwynns Falls | Not Resolved | On-going | 2,052 ( ${ }^{\text {( }}$ | Dye testing performed 6/28/2012 confirmed pivate connection. | A letter was sent to the propoerty owner requesting a corrective action taken. |

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Updated through June 30, 2012
SDUO Summary:

1. Total SDUO Sites Documented: $\mathbf{6 7}$
2. Total SDUO Sites Resolved: $\mathbf{3 8}(\mathbf{5 7 \%}$ Complete)
3. Total SDUO Sites on Private Property: $\mathbf{1 3}$
4. Total SDUO Sites Unresolved: 29 (43\% Open)
5. New SDUO Sites documented in the last Quarter: 0
6. Under the column entitled "Date of Resolution", if the note reads Not Resolved an end date of 06/30/2012 was
used to determine the quantity of discharge up to that point.
7. All of the Estimated Quantities of Discharge listed in the above table are based on a start date of October 30,
2008 in accordance with the letter issued by EPA dated November 12, 2010. The actual start date of the sewer
discharge based on testing is listed in the Date of Occurrence.
8. (T) - Flow calculated utilizing TKN concentration.
(A) - Flow Calculated utilizing Ammonia concentration.
For all active sites, the City ultimately, plans on calculating flows using TKN - per guidelines of the approved
protocol by EPA
9. For sites that have not yet been resolved, "Est. Quantity of Discharge (Gal)" is readjusted each quarter to
reflect the elapse of time and any recent field information (flow, NH3, TKN) that may have been collected for a
given site.


[^0]:    * *endofreport****

