

CITY OF BALTIMORE

CATHERINE E. PUGH, Mayor



DEPARTMENT OF PUBLIC WORKS

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January 27, 2017

VIA OVERNIGHT MAIL

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Reference DOJ Case No. 90-5-1-1-4402/1

Reference DOJ Case No. 90-5-1-1-4402/1

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**RE: United States, et al. v. Mayor and City Council of Baltimore
Civil Action No. JFM-02-1524
Calendar Quarterly Report No. 57
For Calendar Quarter Ending December 31, 2016**

Ladies and Gentlemen:

In the above referenced Consent Decree, the City of Baltimore agreed to submit a Calendar Quarterly Progress Report covering activities required by the Consent Decree. Included herewith is Calendar Quarterly Report No. 57, for the Calendar Quarter ending December 31, 2016.

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January 27, 2017
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We trust that you will agree that the City of Baltimore is in compliance with this requirement of the Consent Decree. Please notify us if you have any questions related to this item.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. A. Price Jr.", written in a cursive style.

James A. Price Jr.
Acting Bureau Head

Enclosures

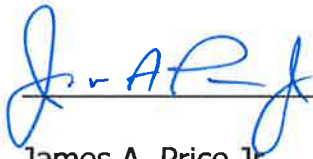
KV/ajd

cc: Rudolph Chow, P.E.
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Ms. Dawn Lettman
Thomas Lingan, Esquire
David Jarrell, P.E.
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File

Statement of Certification

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

A handwritten signature in blue ink, appearing to read "J. A. Price Jr.", is written over a horizontal line.

James A. Price Jr.
Acting Bureau Head

City of Baltimore Sanitary Sewer Overflow Consent Decree

Civil Action No. JFM-02-1524

Calendar Quarterly Report No. 57
For Calendar Quarter ending December 31, 2016

*Submitted:
January 31, 2017*

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

*Prepared By:
City of Baltimore
Department of Public Works,
Bureau of Water and Wastewater*



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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.

B. PROGRESS OF IMPLEMENTATION OF SECTION VI REQUIREMENTS

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 December 31, 2016, 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 29th 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 is working on addressing these SSOs. 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, bids were opened on April 4, 2012, contract was awarded on September 26, 2012, and Notice to Proceed was issued on February 4, 2013. Due to construction and bypass activity at SSO #132 (site P8_10_132S), SSO #134 (site HL32) and SSO #135 (site P8_10_135S) these meters were removed on 2/20/14, 8/17/13 and 6/13/14 and, respectively. These meters were re-installed on 9/11/14 after construction activities were concluded. **SSO #132 and #134 were eliminated and permanently sealed on June 27, 2016.**

SSO 150 located at the intersection of N Calvert St & Chancery Rd

SSO 151 located in the proximity of 4210 Curtis Ave



SSO 152 located at the intersection of N Charles St & W Lanvale St
SSO 153 located at the intersection of Fernhill Ave & Hillsdale Rd
SSO 154 located at N. Charles Street & W. Lafayette Avenue

Flow meters have been installed and will monitor these locations for 6 months. The collected data in conjunction with the hydraulic model will determine if they can be sealed.

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 September 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 December 31, 2016, 1 flow meter is installed as indicated in Table 8-1 specifically for Paragraph 8 Projects.



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

Consent Decree Project ID No.	ADS Project ID No.	Project	No. of Meters		
			October	November	December
7	4	Lower Jones Falls Interceptor	0	0	0
8	5	Stony Run Interceptor & P.S.	1	1	1
10	7	Greenmount Interceptor	0	0	0
Total			1	1	1

A summary of rainfall and flow monitoring data collected during September, October and November 2016 (the data reported lags by one month due to the 30-day lag time in delivery of the prior month's data), prepared by RJN/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 December 31, 2016, the flow monitoring continues at 9 meter locations throughout the City, including the long term monitoring program.

E. Long-Term Capacity/Peak Flow Management: During the calendar quarter ending December 31, 2016, 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.

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, 2012, 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 to 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. 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 8th, 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. By letter dated September 10, 2012, the U.S. Department of Justice provided a proposal to modify the CD, extending the compliance deadline and addressing other issues.

On October 19, 2012, the EPA sent a letter to the City that included comments on the Integrated Planning Framework (IPF) presentation conducted by the City on September 24, 2012. On December 7, 2012, the City sent a letter to the Regulators regarding among other things the Sewershed Report Revisions and Integrated Planning. The City submitted the Sewershed Study and Plan Amendment in December 28, 2012.

The City met with EPA and MDE on January 31, 2013, to further discuss the revised Sewershed Report Revisions and Integrated Planning. Based upon this meeting, the City prepared a document called Phase 1 Adaptive Management Technical Memorandum (TM) that was submitted to EPA and MDE on February 28, 2013, detailing proposed projects, costs, estimated benefits and time frames for the first phase of the adaptive management approach.

The City received comments from EPA regarding the Technical Memorandum (TM) on March 12, 2013. The City responded to the comments in a letter dated April 11, 2013.

On November 1, 2013, the City received a response from the Regulators to the June 28, 2013, City letter regarding the time line for completion of Phase 2 Consent Decree work. The Regulators recognized the ongoing efforts by the City and indicated that they have no objection to the implementation of a refined version of the IPF and a two-phased adaptive management approach to complete the structural and hydraulic rehab under the Consent Decree. The Regulators also pointed out that a court approval of an amended Consent order is required if any deadlines are to be modified. **The City responded to the November 1, 2013 correspondence in a letter dated December 16, 2013 and met with EPA, DOJ and MDE on March 27, 2014 to provide a progress update on the Consent Decree. The City followed up with a letter dated May 12, 2014, to the Regulators highlighting the two phased adaptive management approach and re-iterating the City's willingness and commitment to move forward with the Consent Decree modification. On May 12, 2014 the City provided a response based on questions raised by EPA and MDE during the progress meeting on March 27, 2014. An additional follow-up conversation between EPA and the City on June 4, 2014 resulted in the Phase 1 Adaptive Management Contract Summary which was submitted to EPA on June 27, 2014.**

The City of Baltimore received a letter dated June 11, 2015, from the Department of Justice including proposed modifications to the City of Baltimore Consent Decree. Negotiations between the City and the Regulators on the modifications resulted in the United States Department of Justice lodging proposed modifications on June 1, 2016. The proposed modification establishes additional control measures, and provides more transparency to the public, as well as new interim milestones for completion of phase 1 and 2 projects, and a 2 year monitoring period before a final closure report is submitted by June 2033. The proposed modification will be open for public comment and requires court approval since it changes the terms and schedule of the original consent decree. The public will have a 60-day period to provide comments on the consent decree modification. All comments will be considered before the modification can be finalized by the court. **The comment period is over and negotiations are proceeding on CD modifications.**

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 CIPP 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 December 31, 2016, 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 8, 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.

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. This location has been referred to the Code Enforcement Legal Section of HCD (ID 28567). The violation has been corrected. A City representative visited the site and conducted visual inspection and dye test on March 11, 2013, to confirm. This location is closed.

5207 Roland Avenue: CCTV inspection and dye testing revealed the existence of a direct connection from the downspout to an unmapped sanitary manhole. A letter was sent to the owner on January 3, 2017.

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 5, 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 January 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 December 31, 2016, 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.

Paragraph 11: Pumping Station Inspection, Rehabilitation, and Repair

- 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 December 31, 2016, 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 December 31, 2016, 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 December 31, 2016, 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 December 31, 2016, 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 December 31, 2016, 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 December 31, 2016.

Table 11-1: Pumping Station Inspection and Repair Program

Pumping Station	Date of Inspection Completion	Date of Repair Completion	Repairs or Improvements	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 Innowyze.
- 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 completed implementation of the Model for each sewershed on or before submission of the respective Sewershed Study and Plan required under Paragraph 9, and certified 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 December 31, 2016, 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 January 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. The sixth annual progress report was submitted on October 25, 2012. The seventh annual progress report was submitted on October 30, 2013. The eighth annual progress report was submitted on October 30, 2014. **The tenth annual progress report was submitted on October 20, 2016.**

Paragraph 14: Information Management System Program

- A.** During the calendar quarter ending December 31, 2016, 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 December 31, 2016. 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 Inspection 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 December 31, 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. The 2012 annual updates to the ERP were submitted to the Regulators on December 21, 2012. The 2013 annual updates to the ERP were submitted to the Regulators on December 21, 2013. The 2014 annual updates to the ERP were submitted to the Regulators on December 18, 2014. **The 2016 annual updates to the ERP were submitted to the Regulators on December 19, 2016.**
- 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 December 31, 2016, 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 December 31, 2016 is provided in Appendix 5.
- B.** During the calendar quarter ending December 31, 2016, 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 December 31, 2016, 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 ANTICIPATED 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 December 31, 2016, 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 December 31, 2016, SC 845R - BAF and tertiary PS bids were rejected and the project was re-advertised in December 2011 and bids were received on February 15, 2012. Notice to Proceed (NTP) for construction was issued on

August 1, 2012 and the estimated construction completion date is February 2015. SC 852R - 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 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 December 31, 2016, this contract was advertised on April 30, 2010, and bids were due on December 31, 2010. The construction NTP was issued on February 22, 2011. **The warranty period for this project is over.**

Contract for the Improvements to the Headworks and Wet Weather Flow Equalization at Back River WWTP Project SC 918H was re-advertised, interviews occurred on March 15th and selection of CMaR team occurred on May 4, 2016. NTP was issued on July 21, 2016. SC 918H is in the preconstruction phase. Project SC 918S - Site work and relocation of the County Force main was bid on February 5, 2016 and NTP was issued on July 22, 2016. SC 918S is under construction.

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

As of the calendar quarter ending December 31, 2016 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
CONSTRUCTION PROJECTS**



PROJ. ID NO.	PROJECT	DESCRIPTION AND REMARKS	DATE CONSTRUCTION CONTRACT ADVERTISED	DATE OF PRACTICAL COMPLETION	DATE SSO STRUCTURES ELIMINATED	SSO/CSO STRUCTURES ELIMINATED	STATUS
UPPER JONES FALLS SEWERSHED							
1	Western Run Interceptor (JPI Branch) Sanitary Contract Nos. 700 & 799	1. Install approximately 580 linear feet of 30-inch parallel relief sewer from JPI0148 to JPI110 (along JPI004-JPI04) (SC7260). 2. Install approximately 9,400 linear feet of 21- to 24-inch parallel relief sewer from JPI20 to JPI65 (SC7789). 3. Rehabilitate approximately 3,300 linear feet of existing 18-inch sewer from JPI07 to JPI20 (SC7789)	June 30, 2002	June 30, 2004	June 30, 2005	Eliminates SSO nos. 21, 22, 23, 24 and 28	Complete
2	Upper Jones Falls Interceptor (North & South of Papp Cole Plant) Sanitary Contract Nos. 772 & 824	1. Rehabilitation of approximately 1,500 linear feet of existing 45- to 48-inch sewer located between JPI01 (M. Washington Flume) and JPI10, and approximately 5,570 linear feet of 48- to 60-inch sewer located between JPI42 and the JPI70. Replacement of approximately 1,000 linear feet of 48" sewer between JPI10 and JPI16, and approximately 1,550 linear feet of 80" sewer between JPI70 and the Jones Falls Pumping Station (SC 772). 2. Replacement of approximately 7,000 linear feet of 48-inch sewer between JPI18 and JPI42 (SC 824). 3. Manhole and stream bank restoration.	June 30, 2004	December 27, 2000	12/30/2008 **	Eliminates SSO Nos. 33 and 34	SC 772- Practical Completion was achieved on June 30, 2008. 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 on 8/1/07. 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 & SC906	1. Replacement of approximately 1800 linear feet of force main/pressure sewer in Broadway from Oliver to East Chase Street connecting to High Level sewer (SC 779). 2. Improvements to gate valves, blow-off valves and air release valves for existing force main/pressure sewer (SC 906)	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 main/pressure sewer to handle increased flow from rehabilitated/upgraded Jones Falls Pumping Station as well as additional flow from possible future pumping stations in Stony Run and along the JCA branch	June 30, 2005	12/29/2007**	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 extension to December 2007. MDE response letter approving additional extension received September 20, 2007. Letter to MDE and EPA on 12/17/07 requesting additional 90 day extension for practical completion. Practical completion occurred 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 6, 2007. Beneficial Occupancy achieved 11/15/07.
6	Elimination of Collection System Sewers in Upper Jones Falls Sanitary Contract No. 876	Assess hydraulics and design improvements to areas adjacent to overflows	Edging on-call contract	June 30, 2003	June 30, 2004	Eliminates SSO Nos. 20, 31, 32 and 30	Complete

Note: Shaded date cells indicate completion.

PROJ. ID NO.	PROJECT	DESCRIPTION AND REMARKS	DATE CONSTRUCTION CONTRACT ADVERTISED	DATE OF PRACTICAL COMPLETION	DATE SSO STRUCTURES ELIMINATED	SSO/CSO 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 7,000 linear feet of 18- to 24-inch parallel relief sewer from JGD90 (near Jones Pumping Station) to JGD91 (at the connection of the JGE branch) (SC218) 2. Relocate and install 500 linear feet of 24-inch sewer along Union Avenue from 12- to 50-inch (SC773) 3. Inverted siphon rehabilitation in Falls Road (mainline JGD90) (SC773) 4. Stream bank restoration along Union Avenue near Meadow Mills at Woodberry	July 31, 2003	June 30, 2008	2/28/10***	Eliminates SSO No. 87	Post Construction Monitoring Phase. Monitoring period is extended at one site.
8	Slony Run Interceptor and Pumping Station (SC 839) Sanitary Contract Nos. 819, 839, 839 & 847	1. Construct a 20 mgd capacity pumping station near Department of Public Works Solid Waste Site near the intersection of 26th Street and Slony Street. Force main from new pumping station to JFFPS pressure sewer (length depends on location of pumping station) 2. Relocate and install 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, 2006 (On-call contract) (SC-839 & 847)	5/31/2009***	2/28/10***	Contributes to elimination of SSO No. 72; Eliminates SSO No. 78	Practical completion was achieved on May 29, 2009 for the lower portion of the Slony Run Interceptor (SC - 839). Non-CD portion of the project is nearly complete. Flow monitor installed at new Slony Run Pump Station on August 28, 2009. The City submitted an extension request to EPA and MDE for SSO 67 and 72 dated February 16, 2010 requesting an extension to the deadline for practical completion. The City submitted another extension after cleared practical completion on June 26, 2010 to allow for adequate time for the City to complete the hydraulic restriction project at the BR-WWTP, which the City believes is a major contributor to not being able to eliminate these SSOs.
9	Maryland Avenue Interceptor (JGB Branch) Sanitary Contract No. 799	1. Replace (update) approximately 4,400 linear feet of existing 12- to 24-inch sewer with new 21- to 36-inch sewer along branch interceptor, excluding proposed 801 N. Howard project area 2. Improvements to siphon/SSO No. 125 under I-83 (JGB19-JGB16) 3. Sewer replacement may require crossing the CLR.	December 30, 2003	July 14, 2006 *	June 30, 2008	Eliminates SSO Nos. 66 & 125	Complete
10	Greenmount Avenue Interceptor (JCA Branch)* Sanitary Contract No. 820, 833	1. Install approximately 7,505 linear feet of 36 to 42-inch parallel relief sewer from Bonaparte Avenue to the intersection of Greenmount Avenue and the existing sewer 2. Line approximately 6,000 linear feet of 16- to 36-inch existing sewer.	December 30, 2005	1/27/07 **	2/28/10***	Contributes to elimination of SSO No. 72	Construction Phase. SC 833-Extension letter was sent on 1/27/07 for a 30 day extension through March 2007. The City received a letter from MDE and a subsequent extension for 30 days, through June 27, 2008 was submitted. Awaiting response from MDE/EPA. Practical completion achieved on May 27, 2008. Monitoring period began July 26, 2008. In a letter dated 11/08/2011, EPA approved the minor schedule modification.
11	Elimination of Siphon Blowoff (Siphon No. 6 - south of North Avenue Bridge, west of RR tracks) Sanitary Contract No. 830	1. Clearing 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
HERRING RUN SEWERSHED							
12	Moore Run Interceptor - Middle Section Storm Water Contract Nos. 774B and 7751	Construction of approximately 400 linear feet of 18-inch, approximately 600 linear feet of 21-inch, approximately 1,400 linear feet of 24-inch, approximately 1,000 linear feet of 27-inch, and approximately 100 linear feet of 36-inch sewer to replace existing interceptor	June 30, 2003	July 14, and Sept. 2, 2005***	June 30, 2008	Contributes to elimination of SSO Nos. 118 and 119	Complete
13	Moore Run Interceptor - Lower Section Sanitary Contract No. 801 and 843	Construction of approximately 6,000 linear feet of 42-inch, approximately 2,700 linear feet of 36-inch siphon, and approximately 3,700 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	Moore Run Interceptor - Upper Section Sanitary Contract No. 817	Construction of approximately 1,700 linear feet of 18-inch and approximately 2,200 linear feet of 21-inch sewer to replace the existing interceptor	June 30, 2004	June 30, 2005	June 30, 2008	Contributes to elimination of SSO Nos. 118 and 119	Complete
15	Elimination of Collection System Overflows in Herring Run Sewerated	Assess hydraulics and design improvements to areas adjacent to overflows	Existing on-call contract	June 30, 2003	June 30, 2004	Eliminates SSO Nos. 88 and 106	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. Clearing and inspection of siphons with repairs as necessary. 2. Elimination of blow-offs.	On-call contract	June 30, 2004	June 30, 2005	Eliminates SSO No. 92	Complete

APPENDIX 4
STATUS OF PARAGRAPHS 1E CONSTRUCTION PROJECTS
As of December 31, 2016

PROJ. ID NO.	PROJECT	DESCRIPTION AND REMARKS	DATE CONSTRUCTION CONTRACT ADVERTISED	DATE OF PRACTICAL COMPLETION	DATE SSO STRUCTURES ELIMINATED	SSO/CSO STRUCTURES ELIMINATED	STATUS
GWYNNS FALLS SEWERSHED							
17	Powder Mill System Improvements including GFG branch in Gwynns Falls Sewershed 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, 2008	June 30, 2007	Eliminates SSO Nos. 28P, 29P and 33P	Complete
18	Dead Run System Improvements DRA Branch Sanitary Contract No. 766, 825	Clean, inspect and rehabilitate approximately 20,000 linear feet of 12- to 24-inch conveyance piping (COE) and approximately 11,000 linear feet of 8- to 15-inch collection piping (SC708)	June 30, 2003	June 30, 2006	June 30, 2007	Eliminates SSO Nos. 16P and 17P	Complete
19	Meadow 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 Chase Street, Siphon No. 12 - Chase Street, west of Franklinborn 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	Wallbrook Sanitary Contract No. 780	Implementation of Long Term Control Plan and combined sewer separation design in Wallbrook 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, 2008	Eliminates CSO No. 19P and SSO Nos. 10P, 12P, 11P, 20P, 27P and 31P. SSO Nos. 10P, 16P, 16P & 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, 2008	June 30, 2007	Eliminates SSO Nos. 55, 56, 57, 60, 63, 103, 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. 70 and 81	Complete*
LOW LEVEL SEWERSHED							
20	Elimination of Siphon Blowoff (Siphon No. 8 - near of 800 Ureia 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. 30P	Complete

* Approved by MDE/LEPA. ** Approved by MDE. *** Approved by EPA

APPENDIX 2

**STATUS OF
PARAGRAPH 9
CONSTRUCTION PROJECTS**



STATUS OF PARAGRAPH 9 CONSTRUCTION PROJECTS
As of December 31, 2016

PROJECT	DESCRIPTION AND REMARKS	DATE CONSTRUCTION CONTRACT ADVISED	DATE OF CONSTRUCTION COMPLETION	DATE OF EVALUATION COMPLETION	STATUS
JONES FALLS SEWERSHED					
JF-1	Lower Jones Falls Sewer Cleaning	6/20/2009 (A)	1/1/2012 (A)	1/1/2013 (A)	This contract was awarded to Video Pipe Services (VPS) on October 21, 2006. The Cleaning of the Lower Jones Falls and Maryland Ave. Siphon Cleaning were combined into one Project (SC 876).
JF-2	Maryland Avenue Sewer Siphon Cleaning	6/20/2009 (A)	1/1/2012 (A)	1/1/2014 (A)	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-3	Upper Jones Falls Interceptor Reactivation	07/16/2009 (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 the 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-4	SC 895 - MD Ave Sewer Rehab	11/04/11 (A)	05/20/15 (A)	5/8/14 (A)	Bids were opened on 12/14/11 and AM Linc was the lowest bidder. Contract was awarded to AM Linc on 01/12/12. Pre-construction meeting was held on May 17, 2012. Construction began June 2012. Fourth construction progress meeting was held on March 20, 2013. Last construction progress meeting was held on May 08, 2013. Construction completed.
JF-5	SC 898 - Stony Run Area	7/27/2012 (A)	8/1/16 (A)	8/30/2017	The project was advertised on 7/27/12. The lowest bidder is Insulform Technologies. Award date is 12/19/12 and NTP issued on 2/8/13. Project is substantially completed by 8/1/2016.
JF-6	SC 899 - Western Run Area	7/27/2012 (A)	8/1/16 (A)	8/30/2017	The project was advertised on 7/27/2012. The lowest bidder is Insulform Technologies. Award date is 12/19/12 and NTP issued on 2/8/13. Project is substantially completed by 8/1/2016.
JF-7	SC 900 - Upper Jones Falls and Maryland Avenue	7/27/2012 (A)	8/1/2016 (A)	9/30/2017	The project was advertised on 7/27/2012. The lowest bidder is Insulform Technologies. Award date is 12/19/12 and NTP issued on 2/8/13. Project in liquidated damages.
JF-8	SC 897R - Greenmount, Hampden and Bolton Hill	3/22/2013 (A)	8/1/2016 (A)	9/30/2017	The contract was advertised on 3/22/13. The lowest bidder is Insulform Technologies. Award date is 6/27/13. Project in liquidated damages.
OUTFALL SEWERSHED					
OF-1	Sediment Cleaning Trunk Sewers in City of Baltimore.	08/05/11 (A)	04/12/2014 (A)	4/12/2015 (A)	This contract was awarded to Metra Industries, who was the lowest bidder, on 9/8/11. NTP was issued on 9/8/11. Cleaning of the outfall stopped as of 6/25/12. Project re-started on 4/29/13 and was completed on 4/27/14.
OF-2	SC934 - CLEANING OF THE OUTFALL INTERCEPTOR AND RELIEF SEWERS - PHASE II	12/13/2013 (A)	1/31/2017	1/31/2018	The contract was advertised on 12/13/13. The lowest bidder is Metra Industries. Award date is 3/12/14 and NTP issued on 4/24/14. Project in liquidated damages.
OF-3	SC919 - Sewer Rehab in the Outfall Sewershed	7/17/2015 (A)	8/28/2018	8/29/2019	The contract was advertised on 7/17/2015. Bid opening is 8/26/2015 and NTP issued on 2/26/2016.

Note: Shaded date cells indicate completion.

STATUS OF PARAGRAPH 9 CONSTRUCTION PROJECTS
As of December 31, 2016

HIGH LEVEL SEWERSHED						
HL-1	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. (S09JU_007MH to S13JU_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	2/10/2012 (A)	4/11/2014 (A)	4/11/2015 (A)	The contract was advertised on 2/10/12. Bids were due by 3/2/12, but date was extended to 4/4/12. The contract was awarded on 9/28/12 to Monumental Paving and Excavating Inc. Project was finally accepted on January 2016.
HL-2	SC907 - East Baltimore Region	SC 907 - Repair and rehabilitation of sanitary sewer and manholes in the East region of the High Level Sewershed.	3/22/2013 (A)	1/13/2016 (A)	1/12/2017	The contract was advertised on 3/22/13. The lowest bidder is Inland Waters. The project was awarded on 8/14/13 and NTP was issued on 11/17/13. Project is conditionally accepted on 1/13/2016.
HL-3	SC906 - West Baltimore Region	SC 906 - Repair and rehabilitation of sanitary sewer and manholes in the West region of the High Level Sewershed.	5/10/2013 (A)	7/11/2016 (A)	6/30/2017	The contract was advertised on 5/10/13. Lowest Bidder is SAK Construction. The contract was awarded on 11/13/13 and NTP issued on 2/5/14. Project in conditionally accepted on 7/1/2016.
HL-4	SC932 - Improvements to Lower Gwynne Run Interceptor - Phase II From Franklin Street to Baltimore Street	SC 932 - Improvements to Lower Gwynne Run Interceptor - Phase II From Franklin Street to Baltimore Street - microunmaning project	7/26/2013 (A)	11/25/15 (A)	11/15/16 (P)	The contract was advertised on 7/26/13. Lowest Bidder is Breckshaw Construction. Contract was awarded on 3/12/14 and NTP issued on 5/29/14. Project was finally accepted on 11/26/2016
HL-5	SC933 - High Level Interceptor Cleaning	SC 933 - cleaning of the High Level Interceptor	7/26/2013 (A)	12/12/2016 (A)	12/11/2017	The contract was advertised on 7/26/13. Lowest Bidder is Video Pipe Services Construction. Due to an unbalanced bid, the contract will be awarded to the second lowest bidder Proven Management. Award date is 4/23/14 and NTP issue date is 7/30/14. Project was conditionally accepted on 12/12/2016.
HL-6	SC905 - North Region of High Level Sewershed	SC 905 - Repair and rehabilitation of sanitary sewer and manholes in the North region of the High Level Sewershed.	10/11/2013 (A)	6/4/2016 (A)	6/3/2016	The contract was advertised on 10/11/13. Lowest Bidder is Spindello. Contract was awarded on 3/19/14 and NTP issued on 6/2/14. Project completed.
Herring Run Sewershed						
HR-1	SC911 - Herring Run Sewer Improvement	SC 911 - Repair and rehabilitation of sanitary sewer and manholes in the Herring Run Sewershed.	9/16/2013 (A)	1/20/2016 (A)	1/16/2017	The contract was advertised on 9/16/13. Lowest Bidder is AM Linc East. Contract was awarded on 2/5/14 and NTP issued on 5/14/14. Project is conditionally accepted on 1/20/2016.
HR-2	SC908 - Herring Run Sewer Improvement	SC 908 - Repair and rehabilitation of sanitary sewer and manholes in the Herring Run Sewershed.	9/6/2013 (A)	3/11/2017	3/1/2018	The contract was advertised on 9/6/13. Lowest Bidder is Anchor Construction. Due to issues with MBE/WBE the contract was awarded to the second lowest bidder AM Linc East. Contract was awarded on 2/5/14 and NTP issued on 5/1/14. Project in liquidated damages.
HR-3	SC909 - Herring Run Sewer Improvement	SC 909 - Repair and rehabilitation of sanitary sewer and manholes in the Herring Run Sewershed.	10/11/2013 (A)	7/6/2016 (A)	7/6/2017	The contract was advertised on 10/11/13. Lowest Bidder is Inland Construction. Contract was awarded on 1/29/14 and NTP issued on 4/2/14. Project is conditionally accepted on 7/6/2016
HR-4	SC937 - Improvements to Sanitary Sewers in HR07A and along Chesterfield Avenue in Herring Run Sewershed	Improvements to Sanitary Sewers in HR07A and along Chesterfield Avenue in Herring Run Sewershed	7/17/2015 (A)	12/14/2017	12/14/2016	The contract was advertised on 7/17/2015. Bid opening is 8/19/2015 and awarded to SAK.
Low Level Sewershed						
LL-1	SC922R - Low Level Interceptor Cleaning	SC 922R - cleaning of the Low Level Interceptor	1/31/2014 (P)	11/24/2015	12/31/2016	The contract was advertised on August 16, 2013. Lowest Bidder is Video Pipe Services Construction. Due to unbalanced bid, this contract was awarded on 2/7/14. Lowest Bidder is Video Pipe Services Construction. Award date is 7/23/14. NTP issued on 10/1/2014. Project was finally accepted on 11/30/16
LL-2	SC913 - Western Region of Low Level	SC 913 - Repair and rehabilitation of sanitary sewer and manholes in the Western Region of the Low Level Sewershed.	9/20/2013 (A)	9/6/2015	9/7/2016	The contract was advertised on 9/20/13. The lowest bidder is Veira. Contract was awarded on 2/12/14 and NTP issued on 4/7/14. Project was finally accepted on 10/8/16.
LL-3	SC912 - Eastern Region High Level	SC 912 - Repair and rehabilitation of sanitary sewer and manholes in the Eastern Region of the Low Level Sewershed.	9/20/2013 (A)	8/1/2016(A)	9/30/2017	The contract was advertised on 9/20/13. The lowest bidder is Inshufurm. Contract awarded on 1/15/14 and NTP issued on 3/7/14. Project in liquidated damages.

Note: Shaded date cells indicate completion.

**STATUS OF PARAGRAPH 9 CONSTRUCTION PROJECTS
As of December 31, 2016**

LL-4	SC914 - Improvements to Sanitary Sewers in Low Level Sewershed	Improvements to Sanitary Sewers in Low Level Sewershed	6/26/2015 (A)	5/25/2016	5/25/2016	The contract was advertised on 6/26/2015. Bid opening is 7/29/2015
Gwynns Falls Sewershed						
GF-1	SC920 - South Area Gwynns Falls	Improvements to the Gwynns Falls Sewershed Collection System - Area A	6/6/2014 (A)	6/22/2017	6/22/2018	The contract was advertised on 6/6/14. The lowest bidder is SAK Construction. NTP was issued on 1/12/2015.
GF-2	SC938R - Maidens Choice Pressure Sewer Inspection and Uplands Sewer Rehab	Maidens Choice Pressure Sewer Inspection and Uplands Sewer Rehab	6/26/2015 (A)	TBD (P)	TBD (P)	The contract was advertised on 6/26/2015. Bid opening is 7/29/2015. Bid is rejected, completion date TBD.
Dundalk Sewershed						
DD-1	SC 902 - Sewer Rehab in the Dundalk	Sewer Rehab in the Dundalk Sewershed	3/6/2015 (A)	8/11/2017	8/11/2018	The contract was advertised on 3/6/15. Bid opening is 4/9/2015. The lowest bidder is Spinello. NTP will be issued on 10/14/2015
Patapsco Sewershed						
PA-1	SC 903 - Sewer Rehab in the Patapsco Sewershed	Sewer Rehab in the Patapsco Sewershed	7/24/2015 (A)	3/28/2018	3/28/2018	The contract was advertised on 7/24/2015. Bid opening is 8/26/2015
Key: 'SS - XX' = Sewershed Name - CD Project No.						

Note: Shaded date cells indicate completion.

APPENDIX 3

LIST OF ILLEGAL CONNECTIONS



City of Baltimore Sanitary Sewer Overflow Consent Decree
 Case Action No. JPM-02-1574
 List of Illegal Connections

File #	Parcel ID	Person/Facility Responsible	Source Type	Date Identified	Dye Result	Current Status	Comments
1	171B12	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
2	171B13	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
3	3310	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
4	3317	Property Owner	Downspout	6/20/2005	Positive	Newly Identified	Confirmed Not Illegal
5	3601	Property Owner	Area Drain	3/7/2005		Newly Identified	Confirmed Not Illegal
6	2338	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
7	2307	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
8	131A15	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
9	131A16	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
10	131A17	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
11	154B11	Property Owner	Downspout Connection	6/20/2005		Newly Identified	Confirmed Not Illegal
12	6908	Property Owner	Downspout Connection	6/20/2005		Newly Identified	Confirmed Not Illegal
13	3800	Property Owner	Downspout Connection	6/20/2005		Newly Identified	Confirmed Not Illegal
14	6309	Property Owner	Downspout	4/3/2011		Illegal	It was confirmed an illegal connection in January 2011 after carrying out more dye-testing. A letter was sent to the property owner on August 08, 2011. A follow up letter dated 01/05/2012 was sent to the property owner requesting that the drain be disconnected. Corrective action has been taken. This location was tested and confirmed that the problem has been solved.
15	153B14	Property Owner	Area Drain	3/28/2005	Positive	Newly Identified	Confirmed Not Illegal
16	2212	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
17	100A12	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
18	2416	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
19	5609	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
20	2504	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
21	5815	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
22	4424	Property Manager	Stormwater Drain	4/13/2011		Illegal	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 Hill Apartment management to discuss the progress of relocating 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 problem has not been resolved. A letter dated 11/28/11 was sent to the property owner requesting that the connection be disconnected. A City representative visited the site and conducted visual inspection and dye test on March 11, 2013 to confirm. This location is closed.
23	3	Property Owner/Trustee	Patio Drain	5/19/2011		Illegal	It was confirmed as an illegal connection in May 2011 after carrying out more dye-testing. A letter was sent to the property owner on August 08, 2011. A follow up letter dated 11/28/11 was sent to the property owner requesting that the temporary seal becomes permanent.
24	781B14	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
25	781B15	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
26	781B16	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
27	781B17	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
28	781B18	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
29	5902	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
30	5414	Property Owner	Area Drain	3/27/2005	Positive	Newly Identified	Confirmed Not Illegal
31	315A13	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
32	7126	Property Owner	Downspout Connection	6/20/2005		Newly Identified	Confirmed Not Illegal
33	6311	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
34	6105	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
35	6304	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
36	6305	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
37	5913	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
38	3005	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
39	1701	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
40	2117	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
41	2607	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
42	2615	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
43	2700	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
44	2608	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
45	2810	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
46	2810	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
47	3601	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
48	6708	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
49	4214	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
50	4414	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
51	2205	Property Owner	Downspout	6/20/2005		Newly Identified	Confirmed Not Illegal
52	5614	Property Owner	Swimming Pool	8/9/2011	Positive	Illegal	A letter dated 12/9/11 was sent to the property owner requesting that the drain be disconnected from the sanitary line. The illegal connection was removed by the owner.
53	5207	Property Owner	Downspout	12/27/2016	Positive	Illegal	A letter dated 1/3/17 was sent to the property owner requesting that the drain be disconnected from the sanitary line.

APPENDIX 4

PUMPING STATION WORK ORDERS



01/03/17 07:54

HEALTH CARE COSTS
11/1/2014
4428.000 52.500

591 85

Co Area
Mo Area

ID
STS PNC Code 3/70
Code 3/100

Item number
Description

Draft
Code

Max Sht
Total
CIS

FARM TRAIL
COUNT 2.5

*** END OF FILE ***

APPENDIX 5

SUMMARY OF REPORTED OVERFLOWS



SSO No. 67

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
9/1/2016	Flow Meter in Place	1.72
9/10/2016	Flow Meter in Place	0.80
9/29/2016	Flow Meter in Place	1.64

SSO No. 72

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
9/29/2016	Flow Meter in Place	1.64

SSO No. 135

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
None Reported this Quarter		

SSO No. 137

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
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Flow monitor removed on July 1, 2015 for construction



SSO No. 138

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
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None Reported this Quarter

SSO No. 139

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
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9/1/2016	Flow Meter in Place	1.36
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SSO No. 153

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
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9/1/2016	Flow Meter in Place	1.36
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SSO No. 154

<u>Date</u>	<u>Surcharge Depth (in)**</u>	<u>Rainfall (in)</u>
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None Reported this Quarter



Pumping Station Overflows

<u>Pumping Station</u>	<u>Date</u>	<u>Volume Loss (gal)</u>	<u>Rainfall (in)</u>
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None Reported this Quarter

Wastewater Treatment Plant Overflows

<u>WWTP</u>	<u>Date</u>	<u>Volume Loss (gal)</u>	<u>Rainfall (in)</u>
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Patapsco		None Reported this Quarter	
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Back River		None Reported this Quarter	
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City of Baltimore
Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending December 31, 2016

Date	Estimated Volume (Gal)	Cause	Rain (in)	Receiving Waters	Location	Zip
10/1/2016	1,280	Rags, Roots	0.35	Jones Falls	4507 Roland Ave	21210
10/2/2016	Evidence of Overflow	Rags	0	N/A	1107 Anglesea St	21224
10/2/2016	380	Other	0	Jones Falls	2708 Woodland Ave	21215
10/3/2016	3,490	Rags, Roots, Trash, Sand, Gravel, Rocks	0	N/A	901 Allendale St	21229
10/4/2016	Evidence of Overflow	Rags, Roots, Grease	0	Jones Falls	2905 Woodland Ave	21215
10/5/2016	948	Rags	0	Gwynns Falls	500 N Hilton St	21229
10/5/2016	ongoing	Infiltration/Inflow, Pipe Break	0	Jones Falls	2910 Woodland Ave	21215
10/6/2016	405	Roots	0	N/A	5616 Frankford Ave	21206
10/11/2016	602	Rags, Roots, Grease	0	N/A	219 S Collins Ave	21229
10/11/2016	54,677	Rags, Pipe Break	0	N/A	228 Mount Olivet Ln	21223
10/11/2016	624	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	2730 N Longwood St	21216
10/13/2016	151	Rags, Grease	0	Tiffany Run	4722 York Rd	21212
10/14/2016	7,778	Pipe Break	0	N/A	226 S Mount Olivet Ln	21223
10/14/2016	257	Rags, Roots	0	N/A	827 N Martin Luther King Jr. Blvd	21201
10/14/2016	Evidence of Overflow	Rags, Roots, Trash, Sand, Gravel, Rocks	0	N/A	4315 Lasalle Ave	21206
10/14/2016	65	Rags, Roots	0	N/A	4902 Pennington Ave	21226
10/15/2016	4,280	Grease, Trash, Sand, Gravel, Rocks	0	Herring Run	1160 Homestead St	21218
10/15/2016	Evidence of Overflow	Roots	0	Gwynns Falls	2518 Druid Park Dr	21215
10/16/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	3144 Elmora Ave	21213
10/16/2016	Evidence of Overflow	Rags, Roots	0	N/A	4117 Massachusetts Ave	21229
10/17/2016	Evidence of Overflow	Rags, Roots	0	N/A	3921 Boarman Ave	21215
10/17/2016	210	Rags, Grease, Trash, Sand, Gravel, Rocks	0	Inner Harbor	E Fairmount Ave and N Washington St	21231
10/18/2016	895	Pipe Break	0	N/A	2402 Talbot Rd	21216
10/19/2016	Evidence of Overflow	Rags, Roots	0	N/A	3300 Windsor Ave	21216
10/20/2016	Evidence of Overflow	Rags, Roots, Trash, Sand, Gravel, Rocks	0	N/A	3103 Ferndale Ave	21207
10/21/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0.21	N/A	1328 N Calhoun St	21217
10/21/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0.21	N/A	3404 Woodbine Ave	21207
10/22/2016	66	Rags, Trash, Sand, Gravel, Rocks	0	N/A	600 Wyndhurst Ave	21210
10/22/2016	Evidence of Overflow	Rags, Roots	0	N/A	710 N Fulton Ave	21217
10/24/2016	Evidence of Overflow	Roots	0	N/A	236 N Milton St	21224
10/24/2016	Evidence of Overflow	Rags, Roots	0	N/A	1902 W Fairmount Ave	21223
10/24/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	3826 West Bay Ave	21225
10/25/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0	N/A	325 Yale Ave	21229
10/25/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0	N/A	1410 Gusryan St	21224
10/25/2016	Evidence of Overflow	Roots	0	N/A	2723 W North Ave	21216
10/26/2016	60	Grease	0	N/A	5615 York Rd	21212
10/26/2016	90	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	5800 Northwood Dr	21239
10/28/2016	Evidence of Overflow	Rags, Roots	0	N/A	29 Blythewood Rd	21210
10/28/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	3729 Greenmount Ave	21218
10/30/2016	Evidence of Overflow	Rags, Roots	0.01	N/A	3128 Weaver Ave	21214
10/31/2016	Evidence of Overflow	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	307 S Smallwood St	21223
10/31/2016	Evidence of Overflow	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	2346 Fayette St	21224



City of Baltimore
Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending December 31, 2016

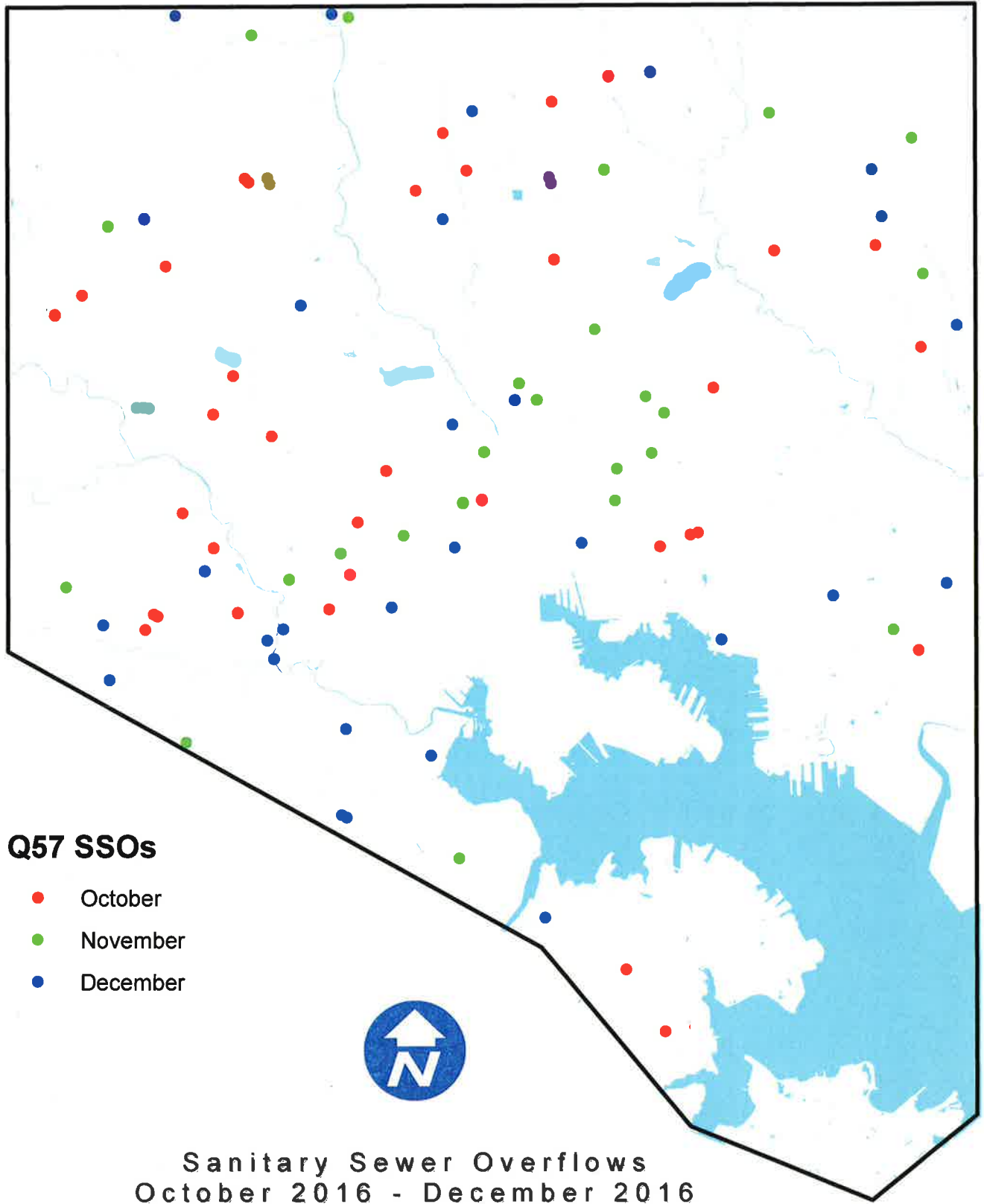
Date	Estimated Volume (Gal)	Cause	Rain (in)	Receiving Waters	Location	Zip
11/1/2016	595	Rags	0	N/A	516 W Preston St	21201
11/1/2016	25	Rags, Trash, Sand, Gravel, Rocks	0	N/A	809 N Caroline St	21205
11/1/2016	1,810	Rags, Roots, Trash, Sand, Gravel, Rocks	0	Jones Falls	1112 Bryn Mawr Rd	21210
11/1/2016	1,665	Pipe Break, Unknown	0	Moores Run	6231 Walther Ave	21206
11/4/2016	6,375	Trash, Sand, Gravel, Rocks, Pipe Break	0	N/A	1160 Homestead St	21218
11/4/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0	N/A	2611 W Fairmount Ave	21223
11/5/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0	N/A	5012 The Alameda	21239
11/6/2016	Evidence of Overflow	Trash, Sand, Gravel, Rocks	0	N/A	1107 Angelsea St	21224
11/6/2016	372	Rags, Roots	0	N/A	5420 Todd Ave	21206
11/7/2016	Evidence of Overflow	Rags	0	N/A	2543 Marbourne Ave	21230
11/9/2016	1,015	Rags, Roots	0.16	Jones Falls	2518 Druid Park Dr	21215
11/10/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	2410 Saint Paul St	21218
11/10/2016	Evidence of Overflow	Rags, Grease	0	N/A	2800 Rosalind Ave	21215
11/12/2016	47	Rags, Roots, Grease	0	N/A	319 E 22nd St	21218
11/13/2016	10	Rags	0	N/A	1520 E Biddle St	21213
11/13/2016	Evidence of Overflow	Rags	0	N/A	2313 Hamilton Ave	21214
11/14/2016	Evidence of Overflow	Rags, Roots	0	N/A	526 N Carrollton St	21223
11/16/2016	10,634	Pipe Break	0	Gwynns Falls	2402 Talbot Rd	21216
11/17/2016	Evidence of Overflow	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	Darley Ave and N Wolfe St	21213
11/19/2016	Evidence of Overflow	Rags, Roots	0.01	N/A	131 W Lanvale St	21217
11/20/2016	178	Rags, Trash, Sand, Gravel, Rocks	0.01	Gwynns Falls	2000 W Saratoga St	21223
11/21/2016	Evidence of Overflow	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	Western Run Dr and Bonnie View Dr	21209
11/22/2016	12	Trash, Sand, Gravel, Rocks, Pipe Break	0	Northwest Harbor	2109 E North Ave	21213
11/22/2016	11	Rags, Grease, Trash, Sand, Gravel, Rocks	0	Gwynns Falls	2403 Talbot Rd	21216
11/23/2016	Evidence of Overflow	Rags, Roots	0	N/A	2805 Bookert Dr	21225
11/24/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	1917 E Hoffman St	21213
11/28/2016	Evidence of Overflow	Rags, Roots	0	N/A	3723 Clarenell Rd	21229
11/29/2016	6,808	Pipe Break	0.57	Maidens Choice Creek	403 Old Orchard Rd	21229
11/29/2016	Evidence of Overflow	Rags, Roots	0.57	N/A	4306 Belvieu Ave	21215
11/30/2016	3,405	Rags, Trash, Sand, Gravel, Rocks, Pipe Break	0.93	Jones Falls	2518 Druid Park Drive	21215
12/1/2016	675	Rags, Trash, Sand, Gravel, Rocks, Pipe Break	0.04	Jones Falls	2518 Druid Park Dr	21215
12/2/2016	470	Rags, Roots	0	N/A	401 Overhill Rd	21210
12/2/2016	Evidence of Overflow	Rags	0	N/A	3700 Bayonne Ave	21206
12/3/2016	Evidence of Overflow	Rags, Grease	0	N/A	4704 Frederick Ave	21229
12/4/2016	Evidence of Overflow	Rags, Roots	0.03	N/A	2014 Breitwert Ave	21230
12/6/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0.8	N/A	312 N Martin Luther King Jr Blvd	21201
12/7/2016	Evidence of Overflow	Rags, Roots	0.01	N/A	619 Lucia Ave	21229
12/8/2016	294	Rags, Grease, Trash, Sand, Gravel, Rocks	0	Gwynns Falls	245 N Monastery Ave	21229
12/8/2016	87	Rags, Roots	0	N/A	1300 Ramblewood Rd	21239
12/8/2016	250	Rags, Grease	0	N/A	5024 Denview Way	21206
12/8/2016	1,368	Rags, Trash, Sand, Gravel, Rocks	0	Tiffany Run	York Rd and E Coldspring Ln	21212
12/9/2016	168	Rags, Roots	0	N/A	4100 Windsor Mill Rd	21216
12/9/2016	1,075	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	6541 Eastern Ave	21224
12/12/2016	Evidence of Overflow	Rags, Roots, Trash, Sand, Gravel, Rocks	0.2	N/A	620 S Newkirk Ave	21224
12/12/2016	2,110	Rags, Roots, Trash, Sand, Gravel, Rocks	0.2	N/A	1800 Park Ave	21217



City of Baltimore
Un-Permitted Sanitary Sewer Overflows
For Calendar Quarter Ending December 31, 2016

Date	Estimated Volume (Gal)	Cause	Rain (in)	Receiving Waters	Location	Zip
12/13/2016	Evidence of Overflow	Rags, Roots	0	N/A	2563 Marbourne Ave	21230
12/14/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	2781 Wilkens Ave	21223
12/14/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	2801 Frederick Ave	21223
12/14/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	5621 Belair Rd	21206
12/16/2016	264	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	W Patapsco Ave and Potee St	21225
12/18/2016	1,290	Rags, Grease, Trash, Sand, Gravel, Rocks	0.13	Inner Harbor	2700 Boston St	21224
12/19/2016	Evidence of Overflow	Pipe Break	0	N/A	10 E 22nd St	21218
12/19/2016	640	Rags, Roots	0	N/A	401 Overhill Rd	21210
12/19/2016	535	Roots	0	Jones Falls	5111 N Charles St	21210
12/20/2016	1,940	Grease, Trash, Sand, Gravel, Rocks	0	Inner Harbor	Colvin St and E Lexington St	21202
12/22/2016	1,005	Rags, Grease, Trash, Sand, Gravel, Rocks	0	N/A	334 S Calhoun St	21223
12/22/2016	793	Rags, Roots, Trash, Sand, Gravel, Rocks	0	N/A	4000 Groveland Ave	21215
12/22/2016	Evidence of Overflow	Rags, Roots	0	N/A	6303 Lincoln Ave	21209
12/26/2016	Evidence of Overflow	Rags, Trash, Sand, Gravel, Rocks	0	N/A	1308 Asbury Rd	21209
12/27/2016	Evidence of Overflow	Rags	0.01	N/A	4000 Groveland Ave	21215
12/28/2016	1,365	Rags, Roots, Trash, Sand, Gravel, Rocks	0	N/A	2700 Frederick Ave	21223
12/29/2016	284	Rags, Trash, Sand, Gravel, Rocks	0.23	N/A	2257 Cedley St	21230





Q57 SSOs

- October
- November
- December



**Sanitary Sewer Overflows
October 2016 - December 2016**



Updated: January 2017