



JOHN A. OLSZEWSKI, JR.  
County Executive

D'ANDREA L WALKER, *Acting Director*  
Department of Public Works and Transportation

April 1, 2022

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2021 ANNUAL REPORT CONSENT DECREE CIVIL NO: AMD 05-2028  
(Reference DOJ Case No. 90-5-1-1-4402/2)

Enclosed please find our submittal of the referenced 2021 Annual Report. This is to advise that we have submitted this report by the due date as required by Chapter VI, REPORTING REQUIREMENTS, Section 20. A. of the Consent Decree.

You can download an electronic copy of the enclosed report and the map attachments from the County FTP site. Please let us know if you need us to resend the login credentials. The link to the FTP site is: [https://fileshare.baltimorecountymd.gov/EFTClient/Account/Login.htm#/.](https://fileshare.baltimorecountymd.gov/EFTClient/Account/Login.htm#/)

Please advise me of any questions you may have regarding this report.

Sincerely,

A handwritten signature in blue ink, reading "Lisa K. Eicholtz".

Lisa K. Eicholtz, PE  
Bureau Chief, Engineering & Construction

LKE:trr  
Enclosure: Annual Report





# **Annual Report**

**January 1, 2021  
Through  
December 31, 2021**

Pursuant to Paragraph 20, of the Consent Decree between Baltimore County and the United States Environmental Protection Agency, Department of Justice and the Maryland Department of the Environment

## Table of Contents

i. Sanitary Sewer Overflow (SSO) structure elimination progress .....	3
ii. Rainfall and Flow Monitoring Plan Compliance .....	5
iii. Evaluation of Rainfall and Flow Monitoring Data .....	6
iv. Fats, Oils and Grease (FOG) Program Updates .....	6
v. Illegal stormwater discharges.....	7
vi. Pumping station status.....	7
vii. Collection System Model Implementation Status .....	10
viii. Supplemental Collection System Inspection Progress .....	11
ix. Sewer Cleaning Progress .....	11
x. Collection System Inventory Progress .....	11
xi. Emergency Response Plan.....	11
xii. Building Backup Report .....	11
xiii. Annual Update of SSO Characterization Report .....	12
Attachment A – Non-Pump Station Overflow Structure .....	14
Attachment B – Flow Monitor Summary.....	16
Attachment C – List of Illegal Stormwater Discharges.....	19
Attachment D – List of Deficiencies found during the Inspection of Pumping Stations .....	21
Attachment E – Building Backups.....	26
Map Attachments.....	FTP Download





Pursuant to Paragraph 20 of the Consent Decree entered between Baltimore County and the United States Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE), this document constitutes the required Annual Report for the period **January 1, 2021 through December 31, 2021.**

The annual report is a periodic review of Baltimore County activities related to the accomplishment of the Consent Decree general and specific requirements. The report is required to address:

- i. Sanitary Sewer Overflow (SSO) structure elimination progress
- ii. Rainfall and Flow Monitoring Plan compliance
- iii. Evaluation of rainfall and flow monitoring data
- iv. Fats, Oils and Grease (FOG) Program updates
- v. Illegal storm water discharges
- vi. Pump station status
- vii. Collection system model implementation status
- viii. Supplemental collection system inspection progress
- ix. Sewer cleaning progress
- x. Collection system inventory progress
- xi. Emergency Response Plan
- xii. Building Backup Report
- xiii. Annual update to the SSO characterization report

**i. Sanitary Sewer Overflow (SSO) structure elimination progress**

- (a) Summarize progress in implementing approved schedules for the elimination of Non-Pump Station SSO structures

The listing of relief points is shown in Attachment A. Below is the status of the SSO elimination projects:

- 38 original SSOs (per CD Appendix A-2)
- 9 SSOs identified after CD effective date
- 3 SSOs reclassified as pump station SSOs
- 34 SSOs eliminated
- 10 SSOs scheduled for elimination

No SSO structures were eliminated during the reporting period.

**Elimination of Non-Pump Station SSO Structures 22, 23A, 23B, 24**

The original Consent Decree deadline for SSO elimination was March 22, 2017; however, on February 14, 2017, the County submitted a time of performance extension request due to completing a required Phase II archaeological investigation for the Maryland Historical Trust and resulting delay in obtaining permit approval from the U.S. Army Corps of Engineers (ACOE). The requested SSO elimination date was undefined since the determination from the archaeological investigation may have required realignment and re-design of the new relief sewer. Subsequently, the County obtained ACOE's permit and, to expedite project completion, the County separated the project into two (2) construction contracts.



On September 3, 2019, the County issued the notice to proceed for the Phase I construction project (18180 SX0). The project achieved functional use on January 26, 2021. The Phase II construction project requires right-of-way acquisition and environmental permits. After the right-of-way easements have been acquired, the environmental permits obtained and the Phase II construction project notice to proceed has been issued, the County will submit a second time of performance extension with a definitive date to eliminate the SSO structures.

#### Elimination of Non-Pump Station SSO Structures 41 and 129

The original Consent Decree deadline for SSO elimination was March 20, 2018; however on October 4, 2017 the County submitted a time of performance extension request due to private property easement acquisition. As stated in the time extension request, the requested SSO elimination date was undefined since the time to negotiate and acquire the easements was unknown. Subsequently, the right-of-entry agreements were finalized and the County completed design work. On October 3, 2019 the County awarded the construction project. On January 4, 2022 the County submitted a second time of performance extension to eliminate the overflow structures by December 4, 2023.

Post hoc: On January 4, 2022, the County submitted a third time of performance extension due to unanticipated site conditions. The requested SSO elimination date was August 3, 2023.

#### Elimination of Non-Pump Station SSO Structures 113, 116, 117 and 118

The County continues to meet and coordinate with Baltimore City to complete the needed hydraulic improvements to the downstream collection system, which is maintained by the City.

A summary of all County and EPA/MDE communication in during the reporting period related to SSO structures is shown below:

Date of Correspondence	From	To	Control ID	SSO ID	SSO Name	Subject
1/19/2021	County	EPA/MDE	343	22, 23A, 23B, 24	Alter Road, Southern Cross Drive, Southern Cross, Patterson Avenue	Request to waive stipulated penalties for 12/24/2020 discharges
4/12/2021	County	EPA/MDE	350	22, 23A, 23B, 24, 129	Alter Road, Southern Cross Drive, Southern Cross, Patterson Avenue, Queen Anne Drive	Request to waive stipulated penalties for 3/24/2021 discharges
6/23/2021	County	EPA/MDE	359	41, 129	Aiken Avenue, Queen Anne Drive	Request to waive stipulated penalties for 6/11/2021 discharges
9/21/2021	County	EPA/MDE	380	118, 129	Overbrook Road, Queen Anne Drive	Request to waive stipulated penalties for 9/1/2021 discharges
9/23/2021	County	EPA/MDE	381	41, 129	Aiken Avenue, Queen Anne Drive	Correction of record for time of performance extension request
11/12/2021	County	EPA/MDE	387	All		Response to 2018 SSO penalty invoice
11/29/2021	County	EPA/MDE	388	22, 23A, 24A, 24 and 118	Alter Road, Southern Cross Drive, Southern Cross, Patterson Avenue, Overbrook Road	Request to waive stipulated penalties for 10/29/2021 discharges

A summary of the County's SSO elimination and/or flow monitoring activities that were performed during the reporting period is provided in Attachment A.

- (b) Summarize post-monitoring data after the elimination of a Non-Pump Station SSO structure





Flow monitoring activities will continue in accordance with Paragraph 7.C.v of the Consent Decree. Once sufficient flow monitoring data has been collected, the County will complete the hydraulic evaluation in accordance with Paragraph 7.C.v of the Consent Decree.

- (c) Progress in implementing plans developed in response to certain discharges from Pump Station SSO structure(s)

New Stemmers Run Pump Station Action Plan

On November 30, 2020, a 2.1 million-gallon SSO discharge occurred at the New Stemmers Run Pump Station. A post-SSO field investigation determines that a contractor who was working for the County did not re-install an upstream manhole cover and, during a rain event that occurred later in the day, rising stream water flowed into the open manhole and overwhelmed the pump station. Since the SSO was caused by contractor negligence, no action plan is required.

Old Stemmer Run Pump Station Action Plan

On November 30, 2020, a 1.6 million-gallon SSO discharged occurred at the Old Stemmers Run Pump Station. A post-SSO field investigation determined that a contractor who was working for the County did not re-install an upstream manhole cover and, during a rain event that occurred later in the day, rising stream water flowed into the open manhole and overwhelmed the pump station. Since the SSO was caused by contractor negligence, no action plan is required.

Orems Road Pump Station Action Plan

On November 30, 2020, a 636,000-gallon SSO discharge occurred at the Orems Road Pump Station. A post-SSO investigation found a partially open manhole that may have resulted in the SSO discharge. The action plan was to install a temporary flow monitor upstream of the Orems Pump Station and review the recorded data to confirm that stream water inflow from an open manhole has been eliminated. The action plan has been implemented and the County is recording and reviewing the flow monitor data.

**ii. Rainfall and Flow Monitoring Plan Compliance**

- (a) Summarize results of annual evaluation of numbers and placement of rain gauges and flow monitors

In accordance with Paragraph 9.B.i, the County continued to collect rainfall data as necessary to allow the characterization of flow from sewershed service areas, the characterization of known SSOs, the development or improvement of hydraulic models for the sewersheds, and evaluate the effectiveness of measures implemented to reduce I/I and to increase system capacity.

- (b) Report any changes to the locations of gauges or flow monitors

A summary of the flow monitoring locations as of December 31, 2021 is provided in Attachment B. Maps of flow monitoring and rain gauge locations are provided in Map Attachments 1 and 2.

- (c) Report on any deviations from the approved plan

None.



### **iii. Evaluation of Rainfall and Flow Monitoring Data**

- (a) Inflow/infiltration (I/I) evaluation progress (due 60 days prior to date of SRRR plan submittal)

This task is complete.

- (b) Long-term capacity/peak flow management evaluation (due 60 days prior to date of SRRR plan submittal)

This task is complete.

### **iv. Fats, Oils and Grease (FOG) Program Updates**

- (a) Provide the results of the annual evaluation of the effectiveness of the modified FOG control program

In accordance with Paragraph 11.1 of the Consent Decree, the County continues to use the food service facility (FSF) inspection results and the performance indicators to evaluate the effectiveness of the modified FOG Program. The results of the modified FOG control program effectiveness are summarized in Paragraph (c) below. The County continues to use the FSF inspection results to identify and prioritize future inspection locations and frequency.

- (b) Provide an updated database and map of grease generating facilities

A map and database of grease generating facilities with grease related sewer overflows are provided in Map Attachment 3.

- (c) Evaluate the effectiveness of the modified FOG program

The evaluation of the modified FOG program attempted to determine a trend in the annual number of reportable FOG-related SSO discharges. Below are the analysis results:

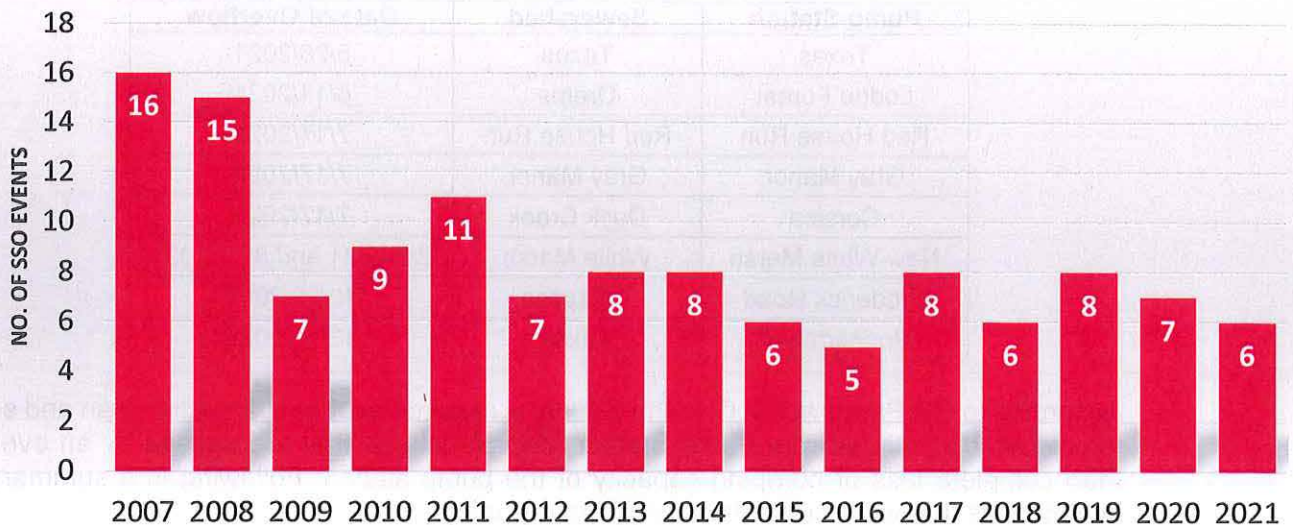




## Grease-Related SSOs by Year

Includes all grease-related SSOs  $\geq$  50 gallons due to grease, grease and rags or grease and roots.

Excludes private SSOs and basement backups.



The graph indicates a 63-percent decrease in the number of reportable FOG-related SSOs between 2007 and 2021. Since 2010, when the County implemented the modified FOG program, the number of reportable FOG-related SSOs has remained relatively stable; however, the County believes that there is an insignificant number of FOG-related SSOs to establish a trend.

### v. Illegal stormwater discharges

During the reporting period, the County identified 8 potential illegal stormwater connections pending confirmation. There are also 6 potential illegal stormwater connections from previous reporting periods. A summary of the actions taken in response to each instance is provided in Appendix C.

### vi. Pumping station status

#### (a) Report on the required annual evaluation of the backup power program

Baltimore County completed the evaluation of the effectiveness of its existing Pump Station backup power program, including the use of portable generators as backup power for multiple stations, in preventing SSOs relating to power outages.

During the reporting period, the fleet of six (6) portable generators that supplement on-site backup power at the County's stations was adequate to meet the emergency power needs. The percent of Pump Stations which are now equipped with on-site backup emergency power is ninety five percent (95%).



- (b) Report on the development and implementation of any plans related to overflows due to power outages at pumping stations

The following pump stations discharged to their overflow structures:

Pump Station	Sewershed	Date of Overflow
Texas	Texas	5/26/2021
Lodge Forest	Orems	6/14/2021
Red House Run	Red House Run	7/17/2021
Gray Manor	Gray Manor	7/17/2021
Corsica	Duck Creek	7/17/2021
New White Marsh	White Marsh	8/7/2021 and 8/11/2021
Frederick Road	Patapsco	10/29/2021
Springdale A	Texas	12/13/0021

According to CD Paragraph 7.C.vi, the County is required to submit an action plan and schedule for certain discharges from Pump Station SSO Structures that are caused by an event other than complete loss of pumping capacity of the pump station. Following is a summary of the action plans that were submitted during the reporting period.

#### Texas Pump Station Action Plan

On August 19, 2021, the County submitted a revised Action Plan.

On May 26, 2021, pump shutdown at the Texas Pump Station resulted in an SSO discharge of 213,000 gallons. A post-SSO analysis indicated intermittent power disruption of the primary pump station electrical feed, which caused the four variable frequency drives (VFDs) to fault and shut down the pumps thereby resulting in the SSO discharge. The VFDs are set to automatically reset if they fault; however, due to a VFD's high consequence of failure, some VFD faults, such as those experienced on May 26, 2021, must be manually reset so that County crews can visually inspect the equipment before restarting the drives. It is suspected that the power disruption was of such short duration that the station's automatic transfer switch did not activate the secondary power feed. The County completed post-SSO equipment testing but could not replicate this type of power disruption to confirm the root cause of the VFD faults and the station has not experienced previous power disruptions that did not activate the secondary power feed. Since the separate and redundant power supply is the County- and MDE-approved backup power for this pump station and the County could not confirm the root cause of the power disruption, a plan to prevent further SSOs at the Texas Pump Station due to power outages is not needed.

#### Lodge Forest Pump Station Action Plan

On August 13, 2021, the County submitted a revised Action Plan.

On June 14, 2021, pump shutdown at the Lodge Forest Pump Station resulted in an SSO discharge of 83,000 gallons. When they arrived at the station, the County staff manually reset the master control center emergency generator breaker and returned the station to normal operation. A post-SSO analysis indicated that a possible power surge of the electrical feed disrupted power to the station. The station's emergency generator automatically started; however, it is suspected that the power surge tripped the generator breaker in the master control center, which prevented power to the pumps and resulted in the SSO discharge. Since the emergency generator supply is the County- and MDE-approved backup power for this pump station, a plan to prevent further SSOs at the Lodge Forest Pump Station due to power outages is not needed.





#### Red House Run Pump Station Action Plan

On July 17, 2021, a storm event caused power loss to the primary and secondary electrical feeds of the Red House Run Pump Station, thereby resulting in a 900,000 gallon discharge. Since the power loss to the primary and secondary pump station electrical feeds was caused by a storm event that is beyond the control of the County, a plan to prevent further SSOs at the Red House Run Pump Station due to power outages is not needed.

#### Gray Manor Pump Station Action Plan

On July 17, 2021, a storm event caused power loss to the primary and secondary electrical feeds of the Gray Manor Pump Station, thereby resulting in a 724,000 gallon discharge. Since the power loss to the primary and secondary pump station electrical feeds was caused by a storm event that is beyond the control of the County, a plan to prevent further SSOs at the Gray Manor Pump Station due to power outages is not needed.

#### Corsica Pump Station Action Plan

On July 17, 2021, a storm event caused power loss to the primary electrical feed of the Corsica Pump Station, which resulted in a 60,000 gallon discharge. The MDE- and County-approved backup electrical source for the station is a portable generator. When alerted of the power loss, a pump station crew was mobilized to the station with a portable generator; however, the power was restored and the station was operating normally by the time the crew arrived at the station. The action plan to prevent further SSOs at the Corsica Pump Station due to power outages is to install an on-site generator. Design work for the generator was included in the County's Corsica Pump Station rehabilitation construction project (County Contract 21162 SXO), which is in construction with a Notice to proceed date of January 27, 2022. The portable generator will remain the secondary power source until the permanent on-site generator is installed and the rehabilitation project is certified as complete.

#### New White Marsh Pump Station Action Plan

On August 7 and 11, 2021, power losses to the primary electrical feed of the New White Marsh Pump Station resulted in 772,000 and 901,000 gallon discharges, respectively. The MDE- and County-approved backup electrical source for the station is a secondary electrical feed; however, the station equipment did not automatically transfer to the secondary feed. A post-SSO investigation of the station's electrical system found that all of the station primary electrical breakers opened, which prevented the automatic transfer switch to transfer electrical power from the secondary feed. The County tested the breakers and programmable logic controllers (PLCs); however, all equipment was properly operating. As a precaution, County staff remained at the pump station during business hours to monitor station operation throughout the day. To simulate the power loss event, the County requested the Baltimore Gas & Electric company to stop the primary electrical service to the station. During the simulation, County crews identified a possible issue with the PLCs and further investigation and visual confirmation of equipment failure identified faulty PLCs; therefore, the action plan is to:

1. Replace the PLCs, which was completed on September 3, 2021
2. Have County staff remain at the pump station for 1 week after the PLC replacement is completed to confirm that the station is operating as normal

#### Frederick Road Pump Station Action Plan

On October 29, 2021, power loss to the primary electrical feed of the Frederick Road Pump Station resulted in a 43,000 gallon discharge. The MDE- and County-approved backup electrical source for the station is an on-site generator; however, the generator did not start when the





primary electrical feed lost power. The power to the primary feed was restored within 16 minutes and the pump station resumed operation. A post-SSO investigation indicated an issue with the generator's start up system; however, after the primary electrical feed power was restored, the County successfully test started the generator and completed a second successful test start the next day. Similar start up issues have not previously occurred at the pump station including during the weekly pump station preventive maintenance inspections. As a precaution, County staff replaced the generator start up battery; however, the successful post-SSO generator test starts indicate that there was no issue with the battery. Since the power loss to the primary pump station electrical feed was caused by a storm that is beyond the control of the County and the County could not replicate the generator start up issue and has not previously experienced similar issues at the pump station, a plan to prevent further SSOs at the Frederick Road Pump Station due to power outages is not needed.

#### Springdale A Pump Station

On December 13, 2021 power loss of the motor control center at the Springdale A Pump Station resulted in a 13,110-gallon discharge. The MDE- and County-approved backup electrical source for the station is an on-site generator. A post-SSO investigation of the station determined that the electrical terminal for Pump Motor 2 overheated and caused a small localized fire, which damaged other wiring and tripped the station's motor control center primary and secondary electrical feeds. Once they arrived on site, the pump station crew connected a mobile generator to restore power and stop the overflow. The most recent preventive maintenance inspection, which was completed on November 3, 2021 did not identify any issue with Pump Starter 2, the associated electrical wiring or terminal or Motor 2 and there has been no similar electrical issue at the station. The action plan is to remove the destroyed terminal, replace all damaged control wiring and install new wiring from Pump Starter 2 to Motor 2. The new wiring was installed and all critical wiring repairs were completed on December 14, 2021. The station is now operating as normal.

Due to the power outages experienced at multiple pump stations during the reporting period, the County is coordinating with Baltimore Gas & Electric Company to develop a post-SSO investigation process. The purpose of the investigation process is to better understand and improve the resiliency and sustainability of the pump station electrical power feeds.

(c) Pump station inspection deficiencies list

A report on the deficiencies discovered during the inspections of the County's pumping stations is provided in Attachment D.

(d) Pump station deficiencies discovered during Engineering Evaluation/Condition Assessments

This task is complete.

(e) Summarize the progress in implementing a pump station information management system

This task is complete.

**vii. Collection System Model Implementation Status**

This task is complete.



**viii. Supplemental Collection System Inspection Progress**

This task is complete.

**ix. Sewer Cleaning Progress**

This task is complete.

**x. Collection System Inventory Progress**

This task is complete.

**xi. Emergency Response Plan**

On April 28, 2021 the County submitted to EPA/MDE the 2021 Emergency Response Plan.

Post hoc: In response to EPA's review comments that were received on February 2, 2022, the County will submit to EPA/MDE the updated 2022 Emergency Response Plan, when finalized.

**xii. Building Backup Report**

Maps of Building Backups since the last submission are provided in Map Attachment 4.

There were 63 reported building backups (including occurrences with zero gallon volumes) during the reporting period, as summarized in Map Attachment E. A summary of reported building backup history is provided below:

Year	Total Number of Reported Backups (ea.)	Percent Increase/Decrease from Previous Year (%)
2006	113	---
2007	48	-57.5
2008	77	60.4
2009	44	-42.9
2010	90	104.5
2011	241	167.8
2012	139	-42.3
2013	217	56.1
2014	346	59.5
2015	143	-58.6
2016	136	-4.9
2017	71	-47.8
2018	345	386
2019	80	-76.8
2020	119	48.75
2021	63	-47.1

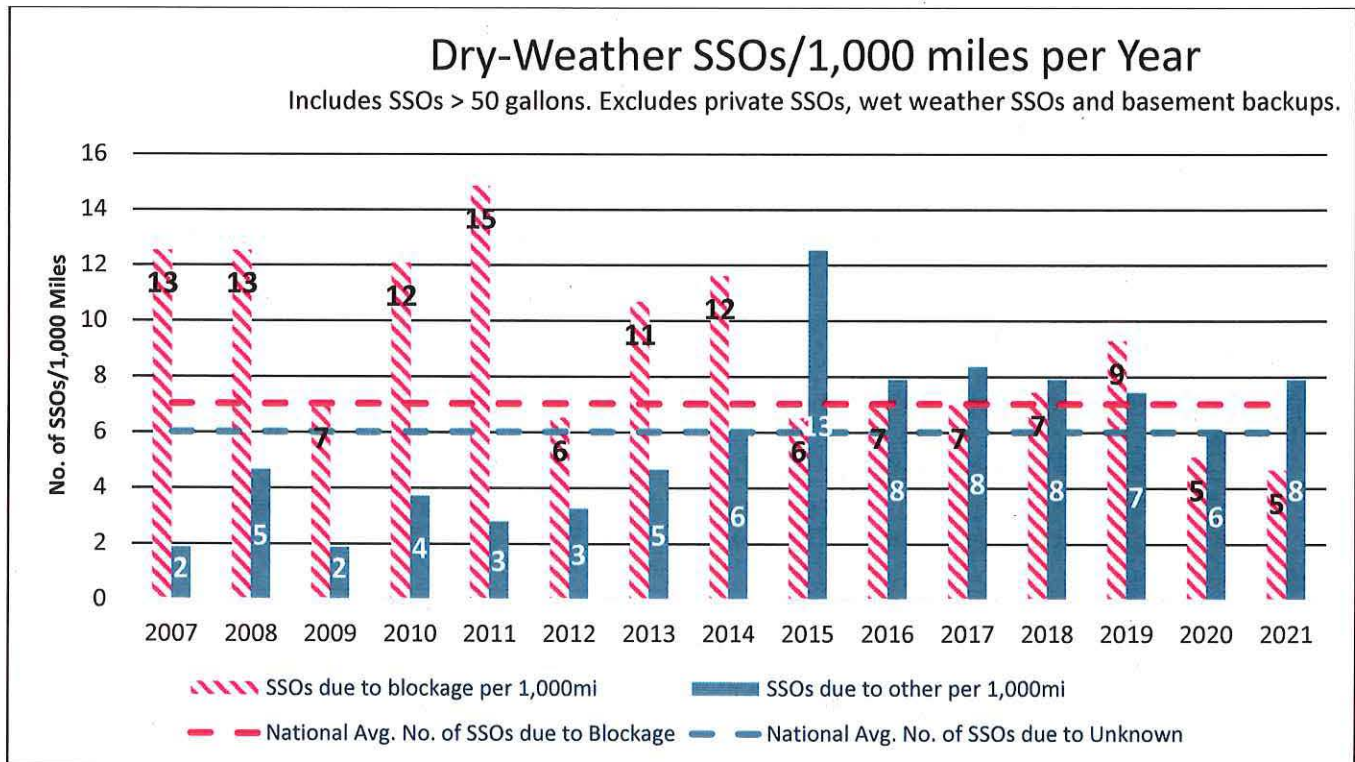




**xiii. Annual Update of SSO Characterization Report**

In accordance with Paragraph 7.B.ii of the Consent Decree, the updated SSO characterization maps are provided in Map Attachment 5.

Based on the data available in EPA's report to Congress titled "Impacts and Control on CSOs and SSOs", dated August 2004, there are, on average, approximately 7 dry-weather SSOs due to pipeline blockages per 1,000 miles per year and an additional 6 dry-weather SSOs with unknown causes per 1,000 miles per year. Below is a summary per year of Baltimore County's dry-weather SSOs due to a pipeline blockage.



As shown in the above graph, since 2015, the number of SSOs per year due to roots, grease and debris is approximately equal to the national average; however, in the same time period, the number of SSOs per year due to unknown/other causes, such as broken pipe, vandalism, etc. has increased compared to the prior year (2007-2014) time frame.





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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 is, to the best of my knowledge and belief, true, accurate, and complete.



Lisa K. Eicholtz, PE  
Bureau Chief, Engineering and Construction

Attachments available at FTP location:

1. Flow Meter Site Location Maps
2. Rain Gauge Site Location Maps
3. Maps and Database of Grease Generating Facilities
4. Basement Backup Characterization Maps
5. SSO Characterization Maps

Control Document No. 421



## **Attachment A – Non-Pump Station Overflow Structure**



### Non-Pump Station Overflow Structures

Name	Address	SSO ID	Grid	Key-sheet	Active	Assigned SSA	Date Removed	End of Post-Elimination Monitoring	Notes
Alter Road	Alter Road & Southern Cross	22	33G02	KNW	Yes	83-06-05-07			Original CD elimination deadline was 3/22/2017. Extension request, with undefined SSO elimination date submitted on 2/14/2017. Powder Mill Interceptor Relief Sewer Phase 1 construction project is complete. Second time extension request with definitive SSO elimination date will be submitted after right-of-way acquisition, environmental permits obtained and construction notice to proceed is issued for Phase 2.
Southern Cross Dr	Southern Cross Drive & Parsons Avenue	23A	33G01	KNW	Yes	83-06-05-07			
Southern Cross	3909 Southern Cross Drive	23B	33G01	KNW	Yes	83-06-05-10			
Patterson Ave	3902 Patterson Avenue	24	33G03	KNW	Yes	83-06-05-03			
Aiken Avenue	7829 Aiken Ave Near Taylor	41	28A10	NSE	Yes	33-93-03-00			Original CD elimination deadline was 3/20/2018. East Branch Herring Run Relief Sewer construction project in construction. Time extension request submitted on 1/4/2022 to eliminate the overflow structures by December 4, 2023.
Queen Anne Dr	Queen Anne Dr. & Hillcrest Ave.	129	28A10	NSE	Yes	33-92-00-00			
Marnat Rd	Marnat & Hatton Rd	113	25J11	OSW	Yes	45-10-22-01			Original CD elimination deadline was 9/20/2016. Extension requests with undefined SSO elimination date submitted on 6/22/2016. Second time extension with a defined SSO elimination date will be submitted after the County receives from the City the proposed downstream sewer improvements and associated construction schedule. Continuing post-construction flow monitoring.
Nunnery Lane	North of Frederick Road	116	41G02	GNW	Yes	81-52-00-00			
Briarwood Rd	North of Frederick Rd	117	41G02	GNW	Yes	81-54-00-00			
Overbrook Rd	Overbrook Near Medwick Garth	118	41H02	GNW	Yes	81-50-01-00			





## **Attachment B – Flow Monitor Summary**



Sewershed	Manhole ID	Comments
West Low Level	371	Overbrook at Medwick Garth
Jones Falls	707	RO 6078 Falls Rd
Patapsco	3376	IFO 5562 Ashbourne Rd
West Low Level	7368	Nunnery Ln_ultrasonic SSO
Redhouse Run	38847	Chesaco Park PS
Jones Falls	45222	Old Falls Rd at Light Rail
Jones Falls	47403	Lakeside Dr and Old Falls
Patapsco	901976	McTavish Pump Station Overflow
West Low Level	902029	SSO 117 Briarwood Alley
Patapsco	10141	New York & Baltimore ST
Dead Run	10632	Charring Cross
Gwynns Falls	10954	Montbel
Gwynns Falls	11060	Southern Cross Dr @ Alter
Gwynns Falls	11060	Southern Cross Dr @ Alter
Herring Run	11481	Aiken Avenue
Herring Run	11481	Aiken Avenue
Patapsco	12881	Michigan & Baltimore West
Patapsco	12881	Michigan & Baltimore North
Patapsco	12883	Vermont & Baltimore
Patapsco	15963	Oak Forest PS
Jones Falls	16379	Jones Falls Interceptor
Gwynns Falls	16432	Patterson
Gwynns Falls	16432	Patterson
Gwynns Falls	16837	Southern Cross "A" U/S
Gwynns Falls	16837	Southern Cross "A" U/S
Gwynns Falls	17802	Southern Cross "A"
Patapsco	1907	Frederick Rd PS Overflow
Stemmers Run	2199	IFO 3021 Texas Ave
West Low Level	296	Edmondson Ave
Herring Run	32117	Falkirk
Delmar	3216	Side of 700 Platinum Ave
Herring Run	32927	Interceptor south of Taylor Avenue
Patapsco	3374	IFO 1309 Elm Ave
West Low Level	347	IFO 2 HILLSIDE RD
West Low Level	34894	Edmonson Ave.
West Low Level	371	Overbrook Rd. @ Medwick Garth
Dead Run	3838	Westhills Parkway
West Low Level	410	Frederick Rd @ Nunnery Ln
Jones Falls	43819	Joppa Rd
Jones Falls	44223	Falls Rd, RO Valley Inn
Gwynns Falls	47179	Purnell Dr
Herring Run	6566	Perring Parkway
Herring Run	6572	Interceptor @ Racquet Club
Herring Run	6584	Berrywood 12"
Jones Falls	6883	Jones Falls Interceptor
Jones Falls	6886	Dogwood Rd (Flo-Dar)
Herring Run	694	Queen Anne & Hillcrest
Herring Run	694	Queen Anne & Hillcrest SSO



<b>Sewershed</b>	<b>Manhole ID</b>	<b>Comments</b>
Herring Run	71591	Walker Ave
West Low Level	7368	Nunnery Ln.
Jones Falls	793	Marnat
Jones Falls	793	Marnat
Gwynns Falls	8070	Powder Mill City
Patapsco	8435	IFO 5601 Ashbourne
Dead Run	8666	Dogwood Road
Patapsco	900335	IFO 5625 Ashbourne
Gwynns Falls	901891	Southern Cross Dr. "B"
Gwynns Falls	901891	Southern Cross Dr. "B"
West Low Level	902029	Briarwood Alley
Patapsco	SV1178	Elm Rd and Oakland Ave





## **Attachment C – List of Illegal Stormwater Discharges**



**Illegal Stormwater Discharges  
Discovered During Inspection Process**

<b>Date of Observation</b>	<b>Street</b>	<b>Sewer ID</b>	<b>Problem Description</b>	<b>Repair Date</b>
7/30/2020	216 OSBORNE AVE	LL233889	Sump Pump	3/31/21
9/1/2020	8807 CHESAPEAKE AVE	LP231102	Area Drain	4/13/21
9/1/2020	2801 12TH STREET	LP347448	DR-Roof Leader/Drain	4/26/21
11/17/2020	7319 GEISE AVE	LP230237	Foundation Drain	5/7/21
11/17/2020	7310 HUGHES AVE	LP285847	Foundation Drain	4/27/21
11/18/2020	7304 BAY FRONT RD	34334-34331	DR-Roof Leader/Drain	4/22/21
11/16/2021	3302 SMITH AVE	9872-9871	Sump Pump	
11/16/2021	3311 SMITH AVE	9873-9872	Plumbing in Building	
11/16/2021	7606 LORRY LANE	14055-14054	Plumbing in Building	
11/17/2021	3204 HATTON ROAD	NA	Basement Drain	
11/17/2021	3210 NORTHBROOK ROAD	LP3246406	Plumbing in Building	
11/17/2021	3309 NORTHBROOK ROAD	NA	DR Roof Leader/Drain	
11/17/2021	3301 MARNAT RD	NA	Basement Drain	
11/18/2021	3225 MARNAT RD	794-793	Plumbing in Building	



## **Attachment D – List of Deficiencies found during the Inspection of Pumping Stations**





Station	Sewer-shed	Date	Equipment	Problem	Nature of Repair	Completed date	Priority	Reason for Delay if Open > 6 Months
Windlass Run	Bird River	1/4/2021	Pump 3	Leaking bypass cylinder	Repaired cylinder	1/27/2021	2	
Beachwood Estates	Gray Manor	1/10/2021	Generator	Leaking radiator	New sensor installed	3/16/2021	2	
Back River Neck	Duck Creek	1/27/2021	Pump 1	Replace pump	New pump installed	2/8/2021	2	
Patapsco	Patapsco	2/7/2021	Cone Valve Pump 1	Inoperable	Debris removed from valve	2/8/2021	2	
Windlass Run	Bird River	2/9/2021	Cone Valve Pump 1	Leaking cylinder	Cylinder repaired	3/9/2021	2	
Harewood Park	Bengies	2/15/2021	Check Valve Pump 1	Check valve slams	Made valve adjustments	2/16/2021	2	
Vogts Lane	Duck Creek	2/16/2021	Pump 2	Bad bearings	Repaired shaft	2/17/2021	2	
Dundalk	Dundalk	2/17/2021	Pump 4	Bad bearings	Repaired pump	6/2/2021	2	
Springdale 1	Texas	2/24/2021	Motor 1	Bad bearings	Bearings replaced	3/19/2021	2	
Orems Road	Orems	2/27/2021	Grinder #2	Bad bearings	Installed new grinder	3/2/2021	2	
Windlass Run	Bird River	3/9/2021	Cone valve 2	Leaking cylinder	Cylinder rebuilt	3/22/2021	2	
Old Stemmers Run	Stemmers Run	3/10/2021	Pump 3	Bad wear ring	Wear ring replaced	3/23/2021	2	
Stansbury Manor	Orems	3/10/2021	Pump 1	Bad front head	Front head replaced	3/11/2021	1	
Bauernschmidt	Duck Creek	3/15/2021	Generator	Inoperable generator	Reset the controller	3/19/2021	1	
Texas	Texas	4/9/2021	Pump 5	Damaged impeller and wear ring	Repaired pump	6/22/2021	2	
Delmar	Delmar	4/16/2021	Switchgear	Replace UPS	Installed new UPS	4/21/2021	2	
Vogts Lane	Duck Creek	4/19/2021	Pump 1	Bad drive shaft	Repaired drive shafts installed	4/25/2021	2	



Station	Sewer-shed	Date	Equipment	Problem	Nature of Repair	Completed date	Priority	Reason for Delay if Open > 6 Months
Forge Acres	Bird River	4/25/2021	Pump 2	Broken valve	Rebuilt valve	4/26/2021	2	
Merrymans Branch	Texas	4/29/2021	Motor 1	Bad bearings	Bearings replaced	5/20/2021	2	
Hawthorne 1	Orems	5/3/2021	Pump 1	Seal failure	Repaired pump	6/23/2021	2	
Texas	Texas	5/3/2021	Pump 3	Seal failure	Repaired pump	11/9/2021	2	Delay in receiving vendor parts
Corsica	Duck Creek	5/18/2021	Pump 2	Bad bearings	Repaired shafts	5/24/2021	2	
Richlyn Manor	White-marsh	5/18/2021	Generator	Replace water pump	Replaced radiator and water pump installed	9/7/2021	2	
Lynhurst	Gray Manor	6/7/2021	Generator	Frequency alarm	Replaced speed sensor	6/10/2021	2	
Patapsco	Patapsco	6/10/2021	VFD 4	Replace IGBT	Replaced IGBT	7/2/2021	2	
Veronica	Delmar	6/19/2021	Pump 1	Damaged power and sensor cables	Repaired pump	6/21/2021	2	
New Stemmers Run	Stemmers Run	7/6/2021	Motor 4	Oil leak	Motor installed	8/23/2021	2	
Chesaco Park	Red House Run	7/17/2021	Automatic Transfer Switch	ATS inoperable	Replaced ATS switch	7/20/2021	2	
Gray Manor	Gray Manor	7/17/2021	Back up PLC	PLC inoperable	Replaced analog cards	7/19/2021	2	
Gray Manor	Gray Manor	7/17/2021	Switchgear	Inoperable tie breaker	Installed new power sensing relay	7/30/2021	3	
Red House Run	Red House Run	7/17/2021	VFD 3	Inoperable VFD	Repaired VFD	8/9/2021	2	
Hyde Park	Duck Creek	7/26/2021	ATS Switch	Inoperable power transfer	Replaced micro-switches	8/9/2021	3	
Woodland Avenue	Patapsco	7/28/2021	VFD 1	Inoperable VFD	Installed new VFD	9/24/2021	2	
Prices Cove	Duck Creek	8/24/2021	Generator	Damaged generator	Repaired generator	11/2/2021	3	
Dundalk	Dundalk	9/1/2021	Pump 4	Seal failure	Repaired pump	11/19/2021	2	



Station	Sewer-shed	Date	Equipment	Problem	Nature of Repair	Completed date	Priority	Reason for Delay if Open > 6 Months
Greenhill Cove	Gray Manor	9/1/2021	Pump 1	Leaking pump	Replace pump		2	
Texas	Texas	9/14/2021	Pump 5	Inoperable Flygt MAS-711 Monitoring System	Replace MAS unit		2	
Old Stemmers Run	Stemmers Run	9/15/2021	Motor 1	Bad bearings	Replaced bearings	11/8/2021	2	
Gray Manor	Gray Manor	9/17/2021	Pump 3	Damaged cone valve	Replace hydraulic cylinder		2	
Bengies	Bengies	9/23/2021	Pump 1	Damaged drive shaft	Replaced bearings	11/9/221	2	
Stanton Wood	Jones Falls	9/27/2021	Pump 1	Seal failure	Replace pump		2	
Woodland Avenue	Patapsco	10/15/2021	Generator	Main breaker trips	Added generator coolant	10/21/2021	2	
Texas	Texas	10/20/2021	Pump 5	VFD fault	Waiting to schedule a site visit to investigate the issue		2	
Texas	Texas	10/26/2021	Pump 4	Pump coolant leak	Repair pump		2	
Lynch Point	Delmar	10/26/2021	Pump 2	Pump shut down	Replace pump after Pump1 repaired		2	
Veronica	Delmar	10/26/2021	Pump 1	Pump shut down	Repaired pump	11/9/2021	2	
Lynch Point	Delmar	10/30/2021	Pump 1	Pump shut down	Repair pump		2	
Duck Creek	Duck Creek	11/4/2021	Pump 3	Broken mechanical seal	Replace seal		2	
Frederick Road	Patapsco	11/4/2021	VFD 3	VFD fault	Replace VFD	11/18/2021	2	
Long Quarter	Long Quarter	11/7/2021	VFD 2	VFD fault	Replace pressure sensor		2	
Texas	Texas	11/24/2021	Pump 3	Motor going out	Repaired motor	12/2/2021	3	
Frederick Road	Patapsco	12/1/2021	Pump 3	Bad O-ring seal	Repaired pump	12/8/2021	2	





The pump station deficiencies listed below were outstanding in the 2019 Annual Report:

Station	Sewershed	Date	Equipment	Problem	Nature of Repair	Completed date	Priority	Reason for Delay if Open>6 Months
Gray Manor	Gray Manor	2/1/2019	Aux suction valve Pump 1	Replace cylinder	Replaced cylinder	5/20/2021	2	Incorrect equipment ordered. Correct equipment ordered and installed
New Stemmers Run	Stemmers Run	7/1/2019	VFD 3	Damaged VFD	Replace VFD		2	VFD series discontinued. Requires mechanical/ electrical reengineering.
Long Quarter	Long Quarter	12/3/2019	Pump 3 suction gate	Missing sealing gasket	Replaced sluice gate	9/13/2021	2	Needed contractor to bypass station and delay in receiving vendor parts
Long Quarter	Long Quarter	12/3/2019	Pump 3	Bad pressure ring	Repaired pressure ring	9/13/2021	2	Waited for station bypass to complete repair
Long Quarter	Long Quarter	12/20/2019	Aux suction valve Pump 1	Bad positioner	Replaced cylinder	5/21/2021	2	Delay from vendor in receiving new cylinder

The pump station deficiencies listed below were outstanding in the 2020 Annual Report:

Station	Sewershed	Date	Equipment	Problem	Nature of Repair	Completed date	Priority	Reason for Delay if Open>6 Months
Marlyn Avenue	Essex	8/3/2020	Pump 2	Pump shut down	Repaired pump	2/2/2021	3	
Dundalk	Dundalk	8/4/2020	Pump 4	Pump shut down	Repaired pump	1/28/2021	3	
Rettmans Lane	Gray Manor	11/18/2020	Pump 1	Bad mechanical seal	Repaired pump	3/3/2021	2	
Dundalk	Dundalk	11/25/2020	Pump 1	Bad bearing	Repaired pump	4/7/2021	3	
Duck Creek	Duck Creek	12/16/2020	Pump 5	Bad bearing	Replaced bearing	2/10/2021	2	
Stanton-wood	Jones Falls	12/24/2020	Pump 1	Water in motor	Replaced pump	6/10/2021	2	



## **Attachment E – Building Backups**



### Building Backups

ADDRESS	ZIP CODE	DATE	WORK ORDER	CAUSE	VOLUME (gallons)
515 ALLEGHENY AVE	21204	4-Jan-21	808193	ROOTS	62
3482 MCSHANE WAY	21222	7-Jan-21	808821	CLEANING	OTHER <sup>1</sup>
1303 GLENMONT RD	21239	12-Jan-22	899095	UNKNOWN/OTHER	UNKNOWN/OTHER <sup>1</sup>
99 WILLOW SPRING RD	21222	14-Jan-21	809611	CLEANING	UNKNOWN/OTHER <sup>1</sup>
97 WILLOW SPRING RD	21222	14-Jan-21	809614	CLEANING	UNKNOWN/OTHER <sup>1</sup>
3418 JOPPA RD	21234	9-Feb-21	811735	DEBRIS	8
355 UPPERLANDING RD	21221	17-Feb-21	812699	CLEANING	1
2214 PLEASANT DR	21228	22-Feb-21	813230	ROOTS	UNKNOWN/OTHER <sup>1</sup>
7614 LHIRONDELLE CLUB RD	21204	23-Feb-21	813370	GREASE	UNKNOWN/OTHER <sup>1</sup>
7819 CHESTNUT AVE	21234	1-Mar-21	814140	GREASE	UNKNOWN/OTHER <sup>1</sup>
4200 WILKENS AVE	21229	20-Mar-21	816564	GREASE	UNKNOWN/OTHER <sup>1</sup>
308 TOWNLEIGH RD	21136	2-Apr-21	818136	CLEANING	5
967 HOMBERG AVE	21221	14-Apr-21	819584	CLEANING	1
24 MCCORMICK AVE	21206	24-Apr-21	890349	CLEANING	UNKNOWN/OTHER <sup>1</sup>
19 EASTSHIP RD	21222	1-May-21	821713	GREASE	40
1660 MERRITT BLVD	21222	17-May-21	823795	HIGH WATER	4 feet of water in basement
2528 CHESHAIRE DR	21244	17-May-21	823790	GREASE	50
1122 GREEN ACRE RD	21286	28-May-21	825400	CLEANING	UNKNOWN/OTHER <sup>1</sup>
9602 BROOKBEND RD	21236	28-May-21	825394	CLEANING	OTHER <sup>1</sup>
1821 WILDWOOD AVE	21234	10-Jun-21	826860	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
2500 WENTWORTH RD	21234	10-Jun-21	826883	HIGH WATER	1355.9
2509 HILLCREST AVE	21234	10-Jun-21	826884	HIGH WATER	737.6
7837 HIGHPOINT RD	21234	10-Jun-21	826885	HIGH WATER	1092
3011 1/2 TEXAS AVE	21234	10-Jun-21	826887	HIGH WATER	7.5
3007 TEXAS AVE	21234	10-Jun-21	826889	HIGH WATER	30
8448 OAKLEIGH RD	21234	11-Jun-21	826986	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
2500 WYCLIFFE RD	21234	11-Jun-21	826988	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
2600 MANOR AVE	21219	15-Jun-21	827460	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
2600 MANOR AVE	21219	17-Jun-21	829526	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
3702 KINGS POINT RD	21133	13-Jun-21	827048	GREASE	UNKNOWN/OTHER <sup>1</sup>
1878 YAKONA RD	21234	29-Jun-21	832583	RAGS	UNKNOWN/OTHER <sup>1</sup>
18 HOLMEHURST AVE	21228	6-Jul-21	833307	ROOTS	40
6403 CRESTWOOD RD	21239	8-Jul-21	833803	CLEANING	OTHER <sup>1</sup>
2004 OAKLAND RD	21220	10-Jul-21	833995	ROOTS	UNKNOWN/OTHER <sup>1</sup>
1200 64TH ST	21237	21-Jul-21	837944	GREASE	UNKNOWN/OTHER <sup>1</sup>
1907 MADISON RD	21222	27-Jul-21	874798	GREASE	OTHER <sup>1</sup>
1902 MADISON RD	21222	27-Jul-21	838489	GREASE	UNKNOWN <sup>1</sup>





ADDRESS	ZIP CODE	DATE	WORK ORDER	CAUSE	VOLUME (gallons)
5514 MEDWICK GRTH N	21228	29-Jul-21	838692	DEBRIS	UNKNOWN/OTHER <sup>1</sup>
5512 MEDWICK GRTH N	21228	29-Jul-21	838719	DEBRIS	UNKNOWN/OTHER <sup>1</sup>
10615 REISTERSTOWN RD	21117	31-Jul-21	838829	GREASE	25
312 S TAYLOR AVE	21221	1-Sep-21	842053	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
7736 NORTH POINT RD	21219	1-Sep-21	842042	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
7600 NORTH POINT RD	21219	1-Sep-21	842044	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
7531 NORTH POINT RD	21219	1-Sep-21	842048	HIGH WATER	UNKNOWN/OTHER <sup>1</sup>
3 FOREST DR	21228	15-Sep-21	869237	RAGS	31
2024 EDMONDSON AVE	21228	15-Sep-21	870292	ROOTS	248
6312 LA GRANGE LN	21212	7-Aug-21	839630	ROOTS	10
1122 LINDEN AVE	21227	12-Aug-21	840319	ROOTS	5
1118 LINDEN AVE	21227	12-Aug-21	840320	ROOTS	UNKNOWN/OTHER <sup>1</sup>
1114 LINDEN AVE	21227	12-Aug-21	840321	ROOTS	5
3015 TEXAS AVE	21234	17-Aug-21	840677	CLEANING	1
1114 CORD ST	21220	30-Aug-21	841758	CLEANING	OTHER <sup>1</sup>
29 VINCENT AVE	21221	1-Oct-21	875074	CLEANING	OTHER <sup>1</sup>
214 COVE RD	21221	5-Oct-21	875987	CLEANING	OTHER <sup>1</sup>
1932 CHURCH RD	21222	15-Oct-21	878631	CLEANING	0.5
212 COVE RD	21221	19-Oct-21	879476	RAGS	UNKNOWN/OTHER <sup>1</sup>
216 COVE RD	21221	19-Oct-21	879480	RAGS	UNKNOWN/OTHER <sup>1</sup>
214 COVE RD	21221	26-Oct-21	880637	RAGS	29.9
216 COVE RD	21221	26-Oct-21	880638	RAGS	15.7
8203 FISCHER RD	21222	26-Oct-21	881169	CLEANING	8
218 WORTHMONT RD	21228	9-Nov-21	885026	CLEANING	OTHER <sup>1</sup>
1648 RIVERWOOD RD	21221	15-Nov-21	885638	GREASE	UNKNOWN/OTHER <sup>1</sup>
1404 GLENWILDE RD	21228	7-Dec-21	891663	CLEANING	UNKNOWN/OTHER <sup>1</sup>

(1) County not granted access to verify quantities.

